

THE YEARS OF CONSTRUCTION & TRANSFORMATION

DUBAI
from small Village
to Global City

Qassim Sultan

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DUBAI: From small village to global city

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Introduction

- This book reviews the history and achievements of Dubai Municipality from its creation in 1954 until the end of 2002, tracing the development of the Municipality itself as well as of its various projects, and linking these to the growth of Dubai.

- It has not been possible to undertake exhaustive studies of every aspect, and these have been left for a future date. However, if we are to understand the reality of what has so far been achieved, it is necessary to study and learn from the past. This book, therefore, is presented as a beginning on the road towards opening up future horizons.

- Any study of the history of Dubai over the last forty years that looks at its development in social, economic and administrative aspects reveals that the Municipality has been responsible for administering both the city itself and the Emirate as a whole in a variety of areas. Ever since it was created, the Municipality has sought to stay abreast of the latest developments in municipal administration and to fulfil the responsibilities assigned to it, in accordance with the vision of His Highness the late Sheikh Rashid bin Saeed Al Maktoum, the founder of modern Dubai. Today, of course, credit for the continued process of achievement is due to the man who has inspired the modern development of Dubai, H.H. Sheikh Maktoum bin Rashid Al-Maktoum, and his honoured brothers.

- In this book, I seek not only to describe current conditions but also, through statistical data, to portray the nature of the development that has taken place, thus reflecting the enormous strides that have been made by the city and by the Emirate as a whole. This data will help readers to understand the exciting transformation through which Dubai has passed, by providing first-hand and documented information.

- The objective of this book is to provide information to current and future generations on the efforts exerted and the achievements made in Dubai's development, in the hope that it will facilitate research and continued progress, so as to help achieve the city's vision of becoming a global centre for commerce and industry.

- A key focus of the book is the period between 1985 and 2002, a period of less than twenty years which has seen an enormous change in the nature of the work undertaken by the Municipality. Over that seventeen year period, the Municipality has, as this book shows, attained and, at times, surpassed, the standards of similar bodies in some of the world's most advanced cities.

* This book is dedicated to...

The soul of the late

Sheikh Rashid bin Saeed Al-Maktoum

Founder of Modern Dubai



The soul of the late

Sheikh Maktoum bin Rashid Al-Maktoum



And to His Highness

Sheikh Mohammed Bin Rashid Al-Maktoum

Vice President and Prime Minister of UAE and Ruler of Dubai



And to His Highness

Sheikh Hamdan bin Rashid Al Maktoum

Deputy Ruler of Dubai, UAE Minister of Finance and Industry

And Chairman of Dubai Municipality



Acknowledgements

In preparing this work, I have sought to concentrate my attention on a period of particular importance in the history of Dubai Municipality, during which major development programmes have been achieved that have not only met the aspirations of our forefathers, but have also secured the needs of future generations.

I extend my thanks to all those who have contributed, in a variety of ways, to the production of this book. I acknowledge, also, the efforts of those who have shared my belief in the importance of compiling and maintaining statistical data and of selecting the appropriate material, so that the book may meet its objective of telling the real story of the Municipality and the role it has played, from its establishment in 1954 and, in particular, its work during the period from 1985 to 2002. I hope that its contents will prove of use to researchers and other interested readers.

Note:

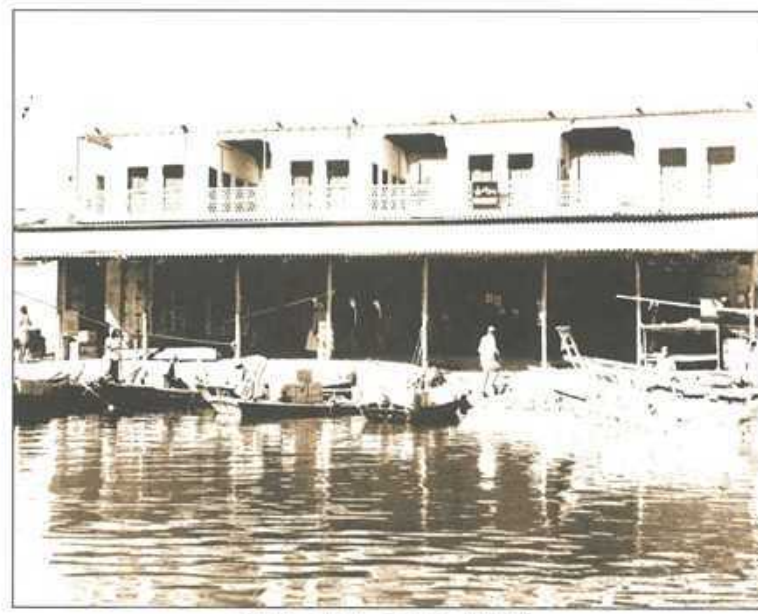
We offer our apologies for any unintentional error in the statistics and information. Every possible effort has been made during the process of research and revision to locate and to include accurate data, although this was hampered by the fact that a detailed archive for the 1980s is lacking. Some data is complete only up to the end of 2001. However, in such cases, no significant changes occurred during 2002. All statistics are from the various departments of the Municipality.

The Emirate of Dubai is one of seven that together comprise the federation of the United Arab Emirates. It is the second largest in terms of size, after Abu Dhabi, and is the UAE s commercial and economic centre.

The city of Dubai is divided by the Creek (Khor Dubai), which separates it into Bur Dubai and Deira.

The Emirate as a whole has an area of 3,987 sq. km, most of which is flat desert, with the exception of the small mountain enclave of Hatta. Its coastline stretches for a distance of 66 km., between the Emirates of Sharjah, to the north-east, and Abu Dhabi, to the south-west.

The history of the city of Dubai stretches back to over 4,000 years ago, when Bronze Age settlements from what was known as the Umm al-Nar period existed in the Al-Sufouh area, in the south-west of todays city. Other important archaeological sites have been found at Qusais, from the Iron Age, dating to around 1300 BC to 300 BC, and in central Jumeirah, during the early centuries of the Christian era, both before and after the becoming of Islam. Then, as today, the people of Dubai seem to have derived their living from external trade, with Khor Dubai (Dubai Creek), one of the citys most prominent geographical features, playing a key role as a safe harbour.



Old Dubai Municipality Building

By the late 18th Century, Dubai was a thriving trading settlement, and an important focus of the pearling trade, with its fort, now the home for Dubai Museum, being built around this time.

The emergence of the modern Emirate of Dubai can be dated to 1833, when many families of the Al Bu Falasah sub-section of the Bani Yas tribe, moved to settle along the shores of the Creek. With their skills in fishing, the pearling industry and in sailing dhows that were used for trading throughout much of the Indian Ocean, as well as the leadership provided by the Al Maktoum family, the twin settlements of Dubai and Deira, on either side of the Creek, thrived, laying the foundations for the successful international commercial centre of today.

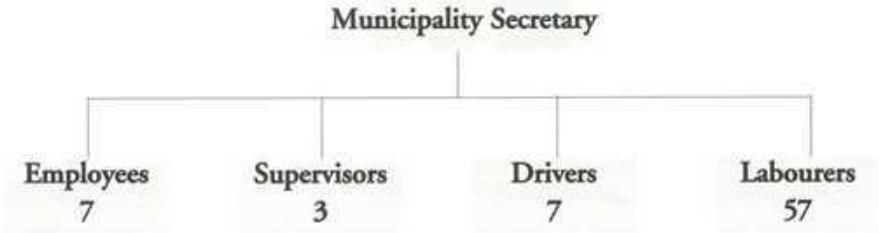
In the nineteenth century, most dwellings were made of plastered coral and stone blocks or palm-leaves (Arish). They were divided by narrow alleyways (Sikik), which were wide enough for people and the animals used to transport goods and drinking water brought from nearby wells.

In the early 1950s, the Government of Dubai decided to establish a number of institutions to

provide services to people throughout the Emirate. Among these was the Dubai Municipality, whose initial task was to improve the cleanliness of the city.

The nucleus of the Municipality was set up by the former Ruler of Dubai, H.H. Sheikh Rashid bin Saeed Al-Maktoum, in 1954. It initially comprised three employees operating from a single room at the Customs Department Building. The first proper office for the Administration of the Municipality was allocated in 1956 and then, due to the gradual increase in duties and an corresponding increase in employees, in 1957, it moved to a small two-storey building in the Souk area (Bander Talib). On 28th February 1957, an Emiri decree was issued formally establishing the Municipality, with twenty-three prominent local personalities and merchants being appointed as members of the Municipality Council.

The Council held its first meeting in March 1957, under the chairmanship of HH Sheikh Rashid, and meetings thereafter were generally held at monthly intervals.



In 1959, HH Sheikh Rashid instructed that an aerial survey of Dubai was to be carried out. This was followed, in 1960, by the first Development Plan, laying down the general guidelines for the development of the city. This included the outline for the future road network, to cope with the increasing number of vehicles.



H.H. the late Sheikh Rashid bin Saeed Al-Maktoum chairing a Municipality Council Meeting.

In January 1961, another Emiri decree laid down the administrative structure of the growing Municipality, the thirteen articles of the decree being divided into three sections, covering general activities, general health purposes, and buildings & planning. This was followed in 1962 by the setting up of a number of committees, as follows:

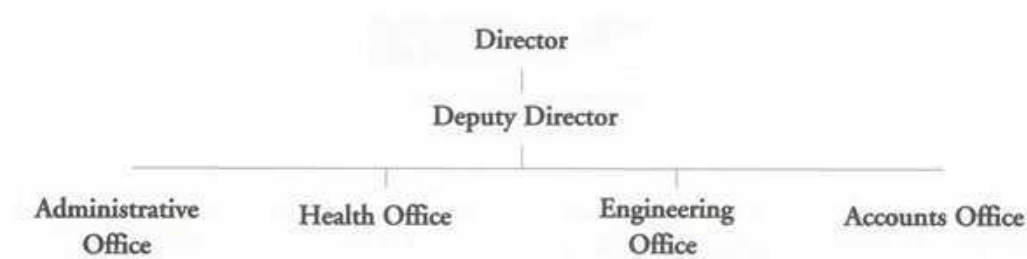


H.H. the late Sheikh Rashid bin Saeed Al-Maktoum at the opening of Al-Maktoum bridge in May 1963

1) Planning and Buildings Committee
2) Financial Committee
3) Personnel Committee
4) General Health Committee
5) Compensations and Valuation Committee
6) General Purposes Committee
7) Public Library Committee

One early and important development was the construction of Al Maktoum bridge, the first bridge to be built in the Emirates. Approximately 28 feet wide, with two lanes, it was inaugurated on 23rd May 1963 by H.H. the late Sheikh Rashid in the presence of his brethren, the Rulers of the other Emirates, and other dignitaries. A toll was imposed for those who wished to cross it, of a quarter of an Indian rupee, the currency then in use in the Emirates. This was abolished in 1965.

Organisation Chart of the Municipality's Administration in 1962



With the rapid growth of Dubai in the early 1960s, the Municipality became increasingly busy, being allocated a growing number of tasks. Among the most important of its duties were:

1) Organising and cleaning public areas and inspecting hotels.
2) Taking care of public health and inspecting outlets selling food and beverages
3) Planning the city and monitoring the implementation of the general planning.
4) Licensing buildings and supervising craftsmen.
5) Establishing and inspecting slaughterhouses and shops.
6) Paving public roads and maintaining them as well as building public squares and bridges.
7) Establishing and supervising public bus services.
8) Planting trees along roads and in public parks and sports grounds
9) Fire-fighting and operating fire stations
10) Establishing and supervising graveyards.

In order to provide the committees with the necessary authority to perform their functions, a total of 12 Local Orders were issued in 1961. No. 12 gave the Municipality the responsibility for fire-fighting in the City, following which the first fire-stations were built. It continued to perform this task until the issuing of Decree No. 4 for 1976 by the Federal Supreme Council of Rulers, which established the Civil Defence General Directorate, and gave it the duty of protecting persons and public and private property. This was followed by the issue of Federal Law No 3 for 1979 on Civil Defence in the United Arab Emirates whereby responsibilities for fire fighting were transferred to the Ministry of Interior.



A meeting of one of the Council s Committees, chaired by H.H. Sheikh Hamdan Bin Rashid Al-Maktoum

However, the Municipality continued to be involved, participating in Civil Defence Committees within the Emirate in accordance with Article No 10 of the above-mentioned Federal Law, in particular with regard to of building regulations.

In 1965, H.H. the late Sheikh Rashid bin Saeed Al-Maktoum issued a decree appointing H.H. Sheikh Hamdan bin Rashid Al-Maktoum as Head of the Municipality, and in 1969, he further decreed that the authority and jurisdiction allocated to the Municipality Council in 1961 were to be transferred to H.H. Sheikh Hamdan bin Rashid.

Following the discovery of oil offshore Dubai and the beginning of oil production, as well as the formation, in 1971, of the federation of the United Arab Emirates, Dubai grew to become a significant economic force, and became an important commercial and business centre. This led to development both in terms of the economy and in terms of construction, leading the Municipality to carry out a number of major infrastructure projects during the 1970s. Among the most important of these were

- 1971 Dubai International Airport
- 1972 Port Rashid (Mina Rashid)
- 1973 Rashid Hospital
- 1975 The Shindagha Tunnel
- 1975 The Deira Corniche and sea front
- 1975 Establishment of the Construction Committee
- 1979 Deepening of the Creek
- 1979 Building of the Dry-Dock
- 1979 The Dubai Commercial Centre
- 1980 Opening of the Jebel Ali Power Station
- 1979 Building of Jebel Ali Port (Mina Jebel Ali)

With these projects, as well as its other growing responsibilities, it was decided that a new structure needed to be created. In July 1974, a decree was issued to create the Dubai Municipality as an official department of the Government of Dubai, replacing the old Municipality Council which had been created in 1961.



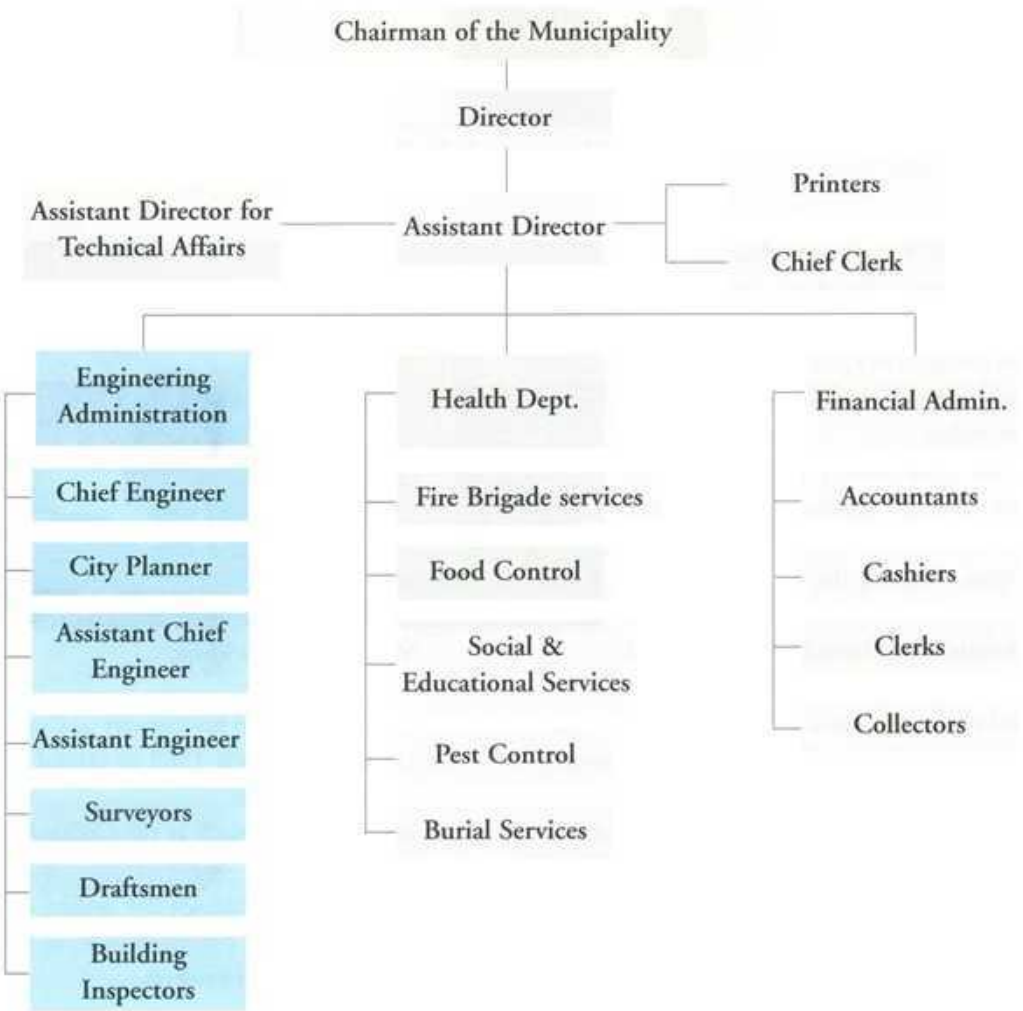
Port Rashid

The new Municipality was given authority throughout the Emirate, and was made responsible to H.H. the Ruler of Dubai for carrying out its duties.

Under the terms of the 1974 decree, a Municipality Council was established, with 32 members appointed by H.H. the Ruler for a three year period. The Head of the Municipality became Head of the Municipality Council, aided by the Director of the Municipality and his assistants. The duties of the Municipality were specified, 44 in total, divided into eight groups:

- Financial Affairs
- Social services, excluding education
- General Services
- Beautifying and planning of cities and other urban areas
- General Health
- Shops and Commercial Licences
- Fire-fighting services
- Other Activities

Organisation Chart for Dubai Municipality in 1974





H.H. the late Sheikh Rashid bin Saeed Al-Maktoum with H.M. Queen Elizabeth II during the inauguration of the Municipality Building.



Municipality Building

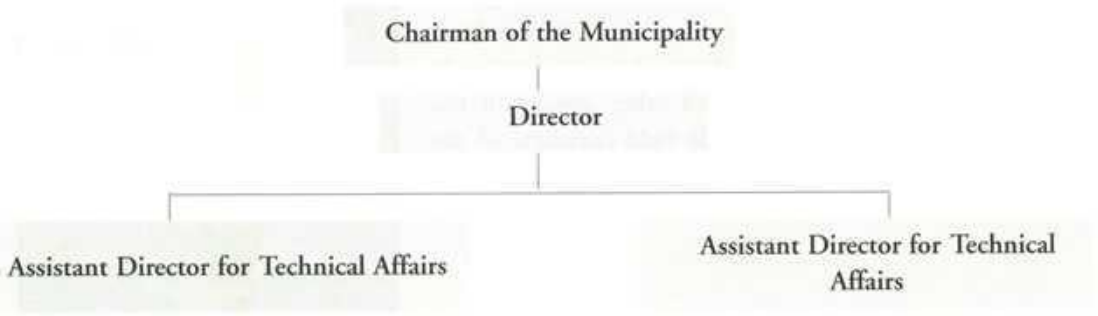
In 1979 a new Municipality headquarters building, overlooking Baniyas Street, was inaugurated in the presence of Queen Elizabeth II of the United Kingdom. It remains in use today.

On 23rd March 1980, H.H. the late Sheikh Rashid issued Emiri decree No. 6 for 1980 re-forming the Dubai Municipality Council, with 31 members headed by H.H. Sheikh Hamdan bin Rashid, with members to serve a term of two years. At the end of the two years, H.H. Sheikh Maktoum bin Rashid Al-Maktoum, in his capacity as Crown Prince and Deputy Ruler of Dubai, issued Decree No 11 on 21st March 1982 to extend the authority of the Council for a further month, to end on 20th April 1982.

Some committees continued their work for a further limited period, such as the Committee for Planning and General Purposes and the Committee for Rents.

Throughout its lifetime, the Council has played an important role through the issuing of a number of rules and regulations dealing with areas within the authority delegated to it, as well as through its overseeing of the launching and completion of a variety of projects.

Organisation Chart for the Municipality in 1986



• The late Abdullah bin Jem'an was the first person to be appointed in charge of the Municipality, while the first Secretary was the late Ali Al-Bustani, assisted by Mr. Abdulghafar Hussein. Later, Kamal Hamza arrived from Sudan as a consultant, subsequently becoming first Secretary and then Director. He was assisted by. Abdulghafar Hussein.

• Compared to other countries in the region, the Emirates was slow to develop its own media sector, with several journals being started, but only surviving for a short while. In Dubai, the Municipality launched its first periodical, Dubai News, on 16th January 1965. This was a two-page tabloid, containing the Municipality's monthly report and news of invitations for tenders.

Gradually, it extended its scope, to include not only news of the Municipality but also details of decrees issued by H.H. the Ruler and some local (Emirates) news. It was initially weekly, issued on Mondays, this being changed to Thursdays from 1973.

H.H. Sheikh Hasher bin Maktoum Al-Maktoum ran the Information Department of the Municipality from the time it was established until 1973. This Department played an important role in developing the publication into a regular weekly magazine published on Saturdays.

Its 8,500 copies, printed in Dubai, were distributed both inside and outside the Emirate.

Its contributors included both local and expatriate Arab writers, many of whom were teachers, chartered accountants or doctors. Among these were Abdulghafar Hussein, Yaqout Al-Sahwi, Adnan Saadeddeen and Omar Al-Deesi, who was also in charge of the magazine's



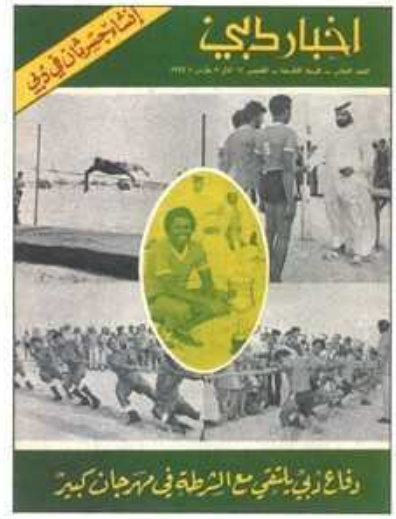
Fifth Edition, issued on 7 February 1974



Twenty Ninth Edition, issued in July 1974

management.

Besides articles on international, Arab and regional news, writers also tackled issues of public interest, in both the political and social sphere. Articles frequently discussed the state of roads and other services in the Emirate and, on occasion, made bold criticisms of the activities of the Municipality, this continuing until 1980.



Tenth Edition, issued on 14 March 1974

The Transformation of Dubai Municipality from 1985 onwards

Over the past four decades, since 1961, Dubai Municipality has been able to overcome many and varying challenges in its drive to provide essential services for the modern and fast-developing city. This task has been particularly challenging because of the rapid increase in the size of the city.

In particular, the period from the mid-1980s onwards has seen a complete transformation of the Municipality, and of all aspects of its duties and responsibilities, requiring a thoroughgoing overhaul of its administrative structure while, at the same time, continuing to develop the essential services needed to transform Dubai into a modern city, meeting the needs of its inhabitants. The year 1985 was a turning point, and the beginning of some fundamental changes.

These changes were focused first on the development and restructuring of the planning of the city itself and, secondly, on the re-structuring of the Municipality's own organisation.

In order to devise a better form of organisational and administrative structure and to ensure its implementation, the Municipality asked for assistance from the UN Centre for Human Settlements, part of the United Nations Development Programme, UNDP. The Centre responded promptly, preparing a programme that would not only support the organisational capability of the Municipality but which would also make it more self-reliant. This was done by carrying out a study of the existing situation and ways in which it could be developed as well as by proposing amendments to the Municipality's organisation chart, classifying the various administrative positions, sections and divisions to enable them to cope with the development that was required. In order to promote self-reliance, the project concentrated on the nature of employment, the provision of suitable training for a group of young Emirati employees and proper classification of positions, as well as introducing better working practices to improve performance and efficiency.

The UN team included a number of consultants with various fields of expertise, headed by Senior Administrative Consultant Kidane Alemayehu.

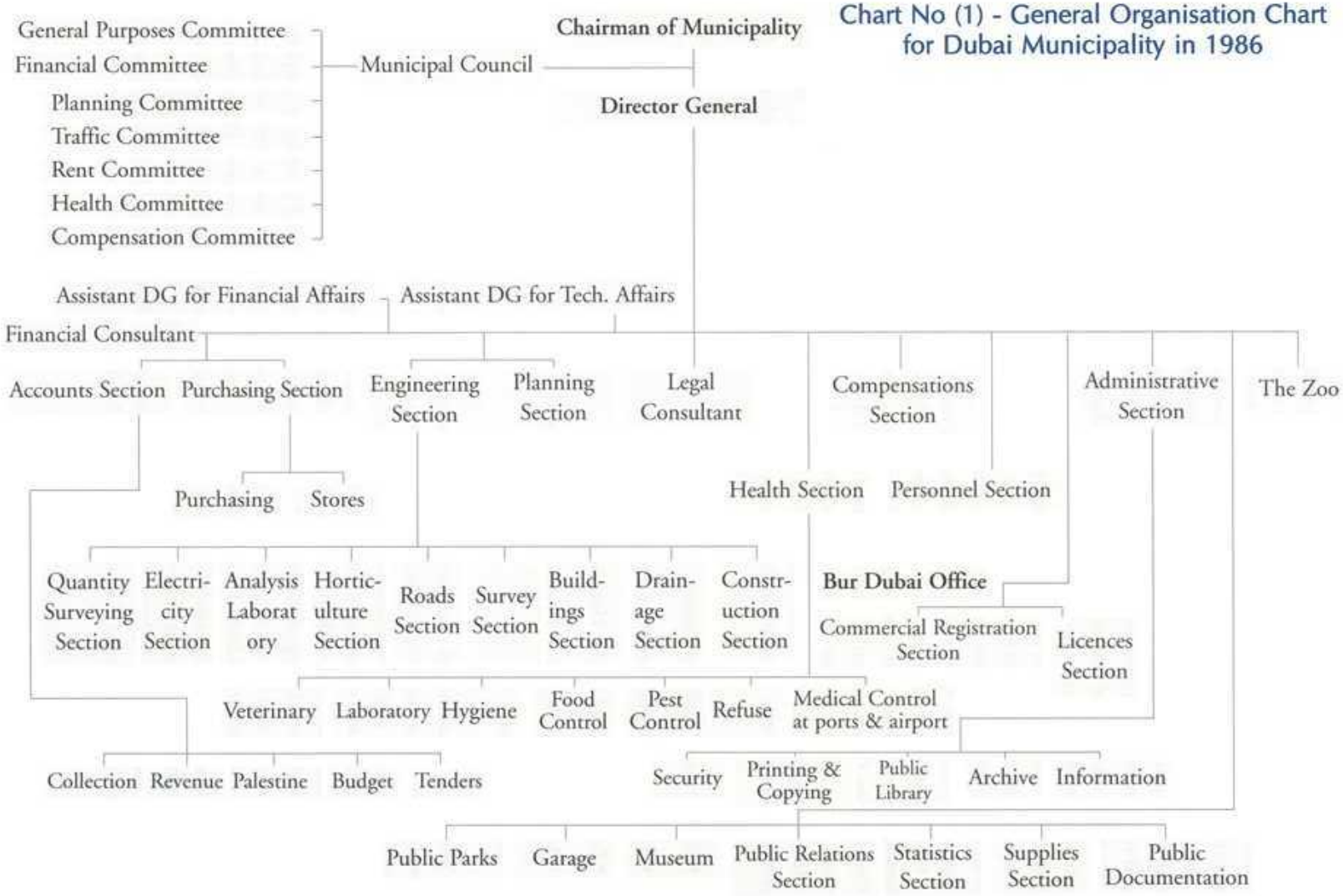
A full list can be found on page 60.

One of the first tasks specified by the Municipality was the need for appropriate amendment of the Organisation Chart, so as to permit the proper planning to be carried out with the help of the consultants. This work began with the definition of the activities or objectives of each of the larger departments, with these then being sub-divided into smaller units, each with their own characteristics and features, so as to benefit from specialisation and a division of work.

In 1986, the Organisation Chart of the Municipality contained 35 departments and divisions, as noted in Chart No. 1. In 2002, a revision of the Organisation Chart meant that there was a consolidation to 20 departments, with 70 sections and 190 divisions. Over the period from 1985 to 2002, reflecting the growth in the Municipality and its functions, the total number of employees rose from 5,070 to 10,926.

To ensure that Municipality policies continued to be properly prepared and implemented, a number of new rules and regulations were adopted that specified all aspects of Municipality work, with particular relation to the administrative organisation and description of job functions and duties. A policy was also put in place for a regular, biennial review of organisational units, including manpower and equipment, in order to ensure that the Municipality kept abreast of technological developments as well as global changes in management and administrative systems.

Chart No (1) - General Organisation Chart for Dubai Municipality in 1986



To oversee this process, the Administrative Development Office was created. This included a number of the consultants supplied by the UN, as well as some young Emiratis to act as their under-studies and to learn from their experience, thus gaining experience and preparing to assume the continued development of the organisation in the future.

In order to ensure that modern scientific methods of administration were introduced and in order to improve the level of services, systems were introduced for the delegation of authority and to promote decentralisation. These included delegation of authority from the top right the way down through the organisation. Department Managers and Section heads were also given more authority to co-ordinate between various units and to simplify monitoring procedures, this helping to reduce cost and to ensure the best possible use of resources and manpower.

It was also decide to introduce gradual changes to the organisation chart with the ultimate objective of creating twelve departments, each with its own simple organisation, as well as six support offices, each with its own clearly-defined lines of involvement.

Preparation of the Authorisation Manual in the Municipality was linked with the approved procedure guidelines for the organisational units, as became apparent with the 1994 Organisation Chart, shown in Chart 2. This divided units into sectors that included most of the work related to them, thus simplifying the process of co-ordination and the production of the relevant paperwork. Use was made of the latest Information Technology to improve Municipality services, so as to satisfy its customers and clients. Five key sectors were identified:

- Planning and Buildings Sector
- Roads and General Projects Sector
- Environment and Public Health Sector
- Administrative Affairs and General Services Sector
- Financial Sector

This led to fundamental changes in the organisation, with the revision and updating of the Organisation Chart and the implementation of changes in job descriptions so as to conform with the target of achieving continuous improvement.

The administrative structure of the Municipality remained largely the same throughout 1996 and 1997 and into 1998, with minor amendments, where appropriate being introduced. Then, as a result of the broadening of the scope of work of a number of sectors, and in order to simplify their procedures and to decentralise and expand the provision of services, a new technical services sector was established. This included the IT Department, the Transport Department and the Dubai Central Laboratory Department. These became the responsibility of the Assistant D.G. for Technical Services as illustrated in Charts No 2, 3 and 7. The introduction of this new sector represented a further phase in the continuing process by the Municipality to satisfy those who deal with it, and to keep abreast of the latest technological and other developments.

Chart No 2 – General Organisation Chart for Dubai Municipality for 1994

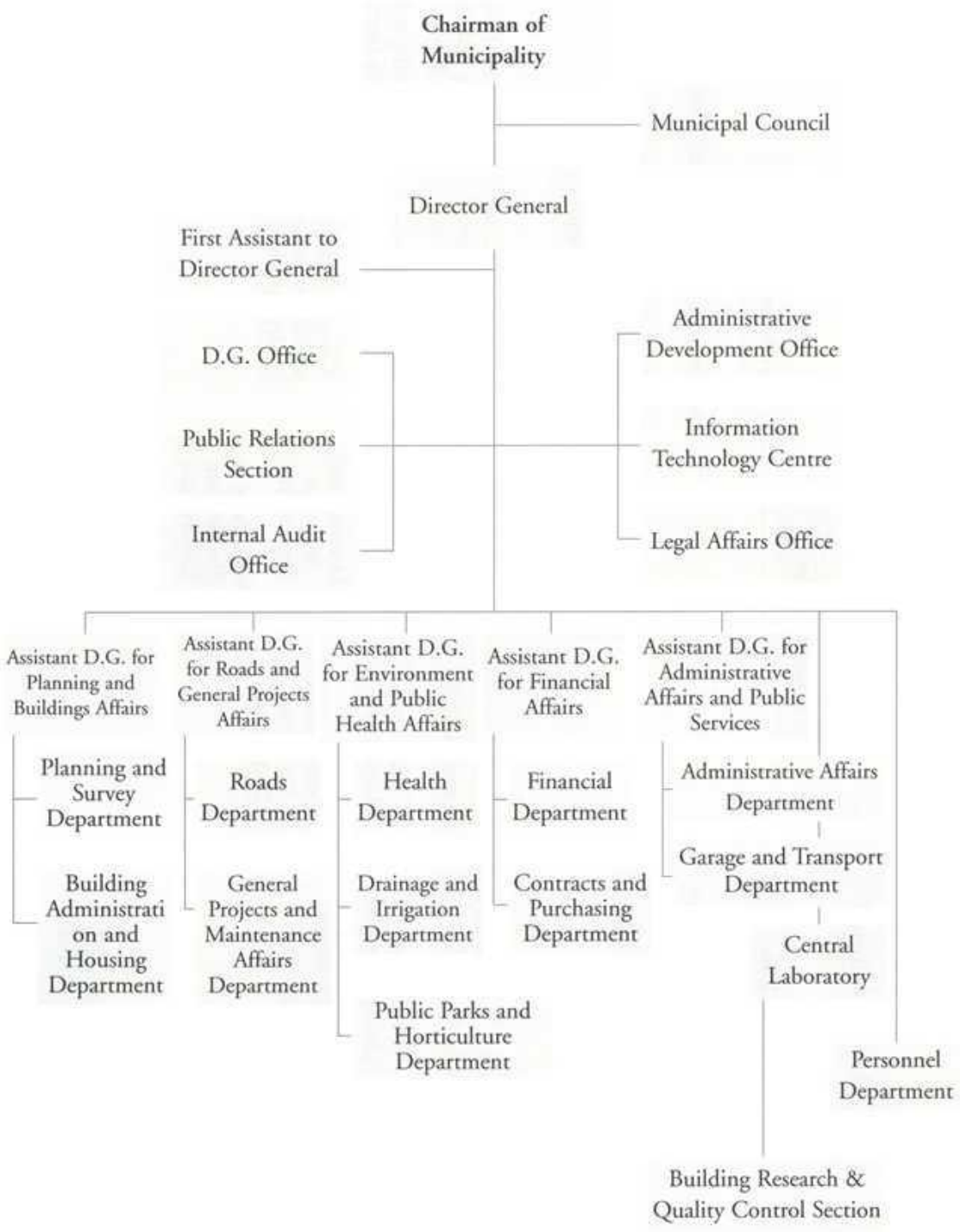


Chart No 3 – General Organisation Chart for Dubai Municipality for 1996

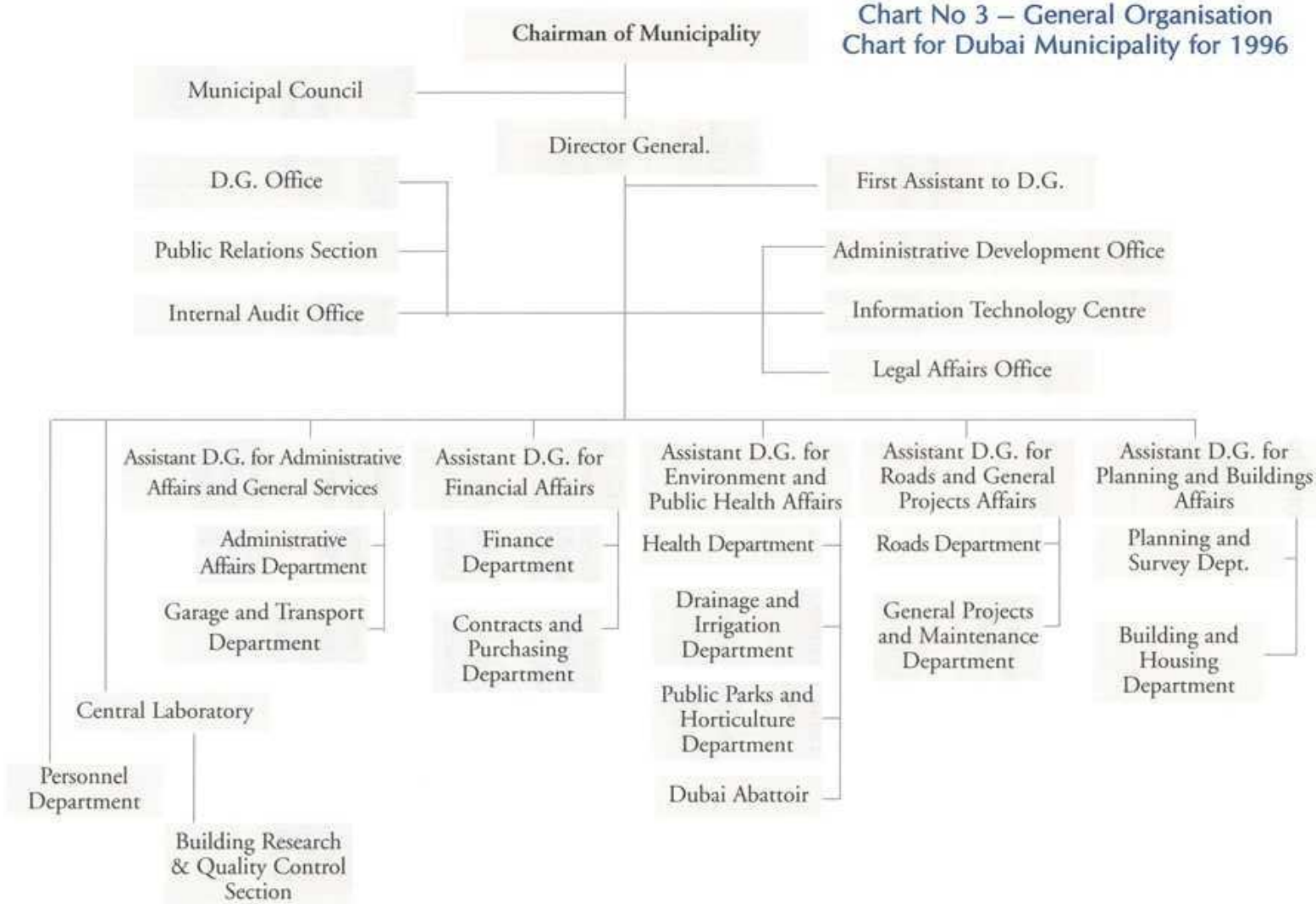


Chart No 4 – General Organisation Chart for Dubai Municipality for 1997

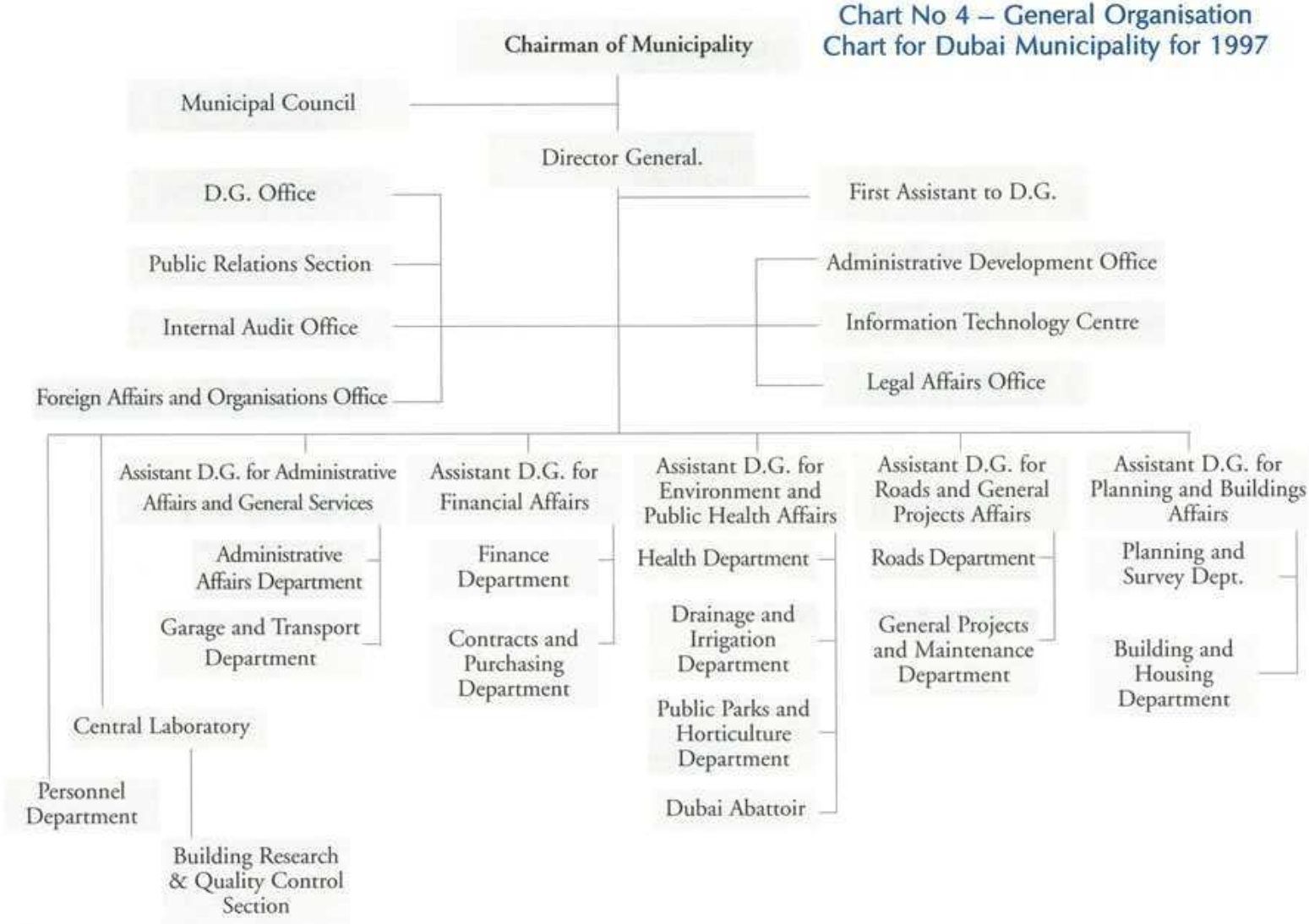


Chart No 5 – General Organisation Chart for Dubai Municipality for 1998

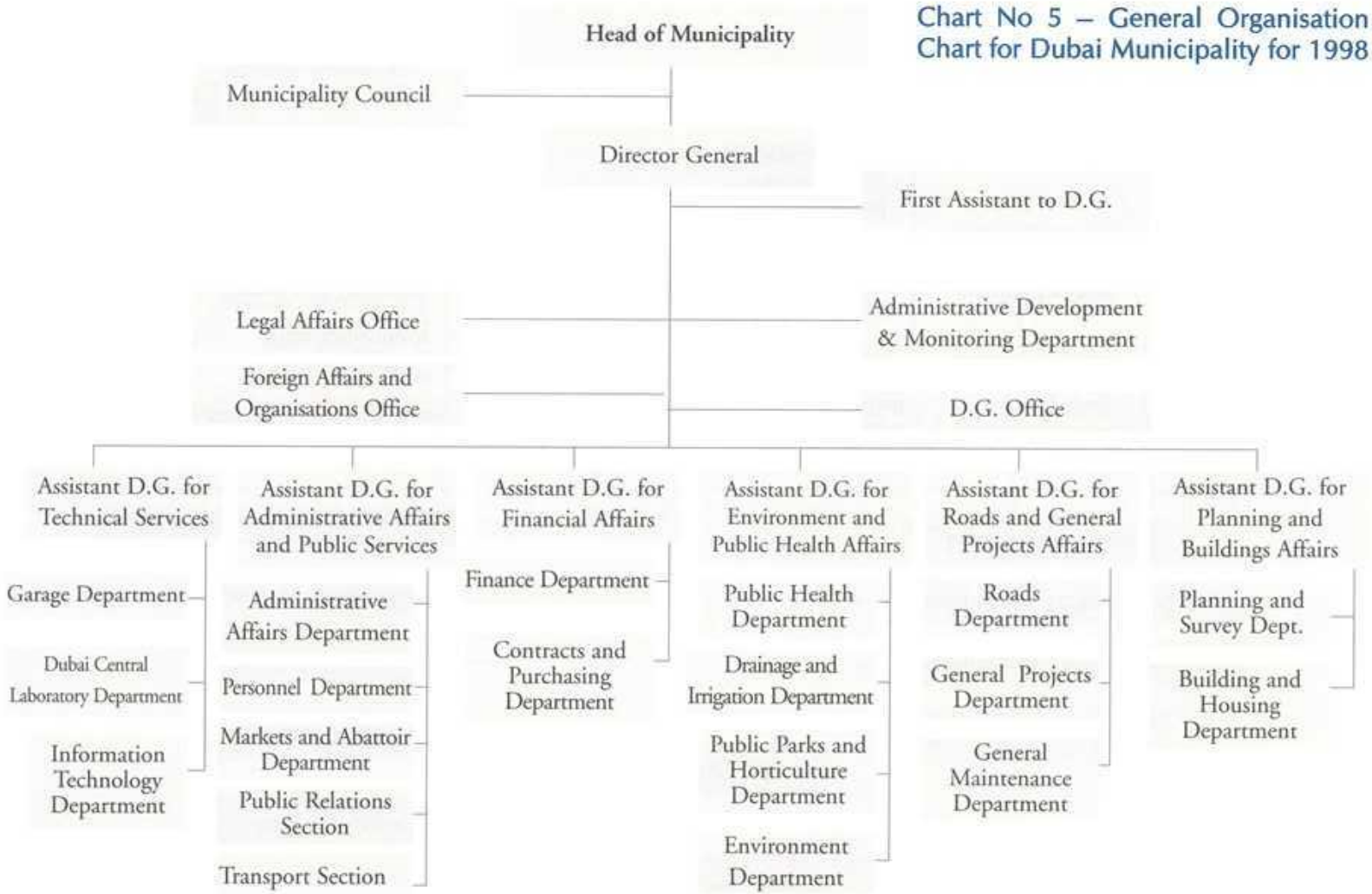


Chart No 6 – General Organisation Chart for Dubai Municipality for 1999

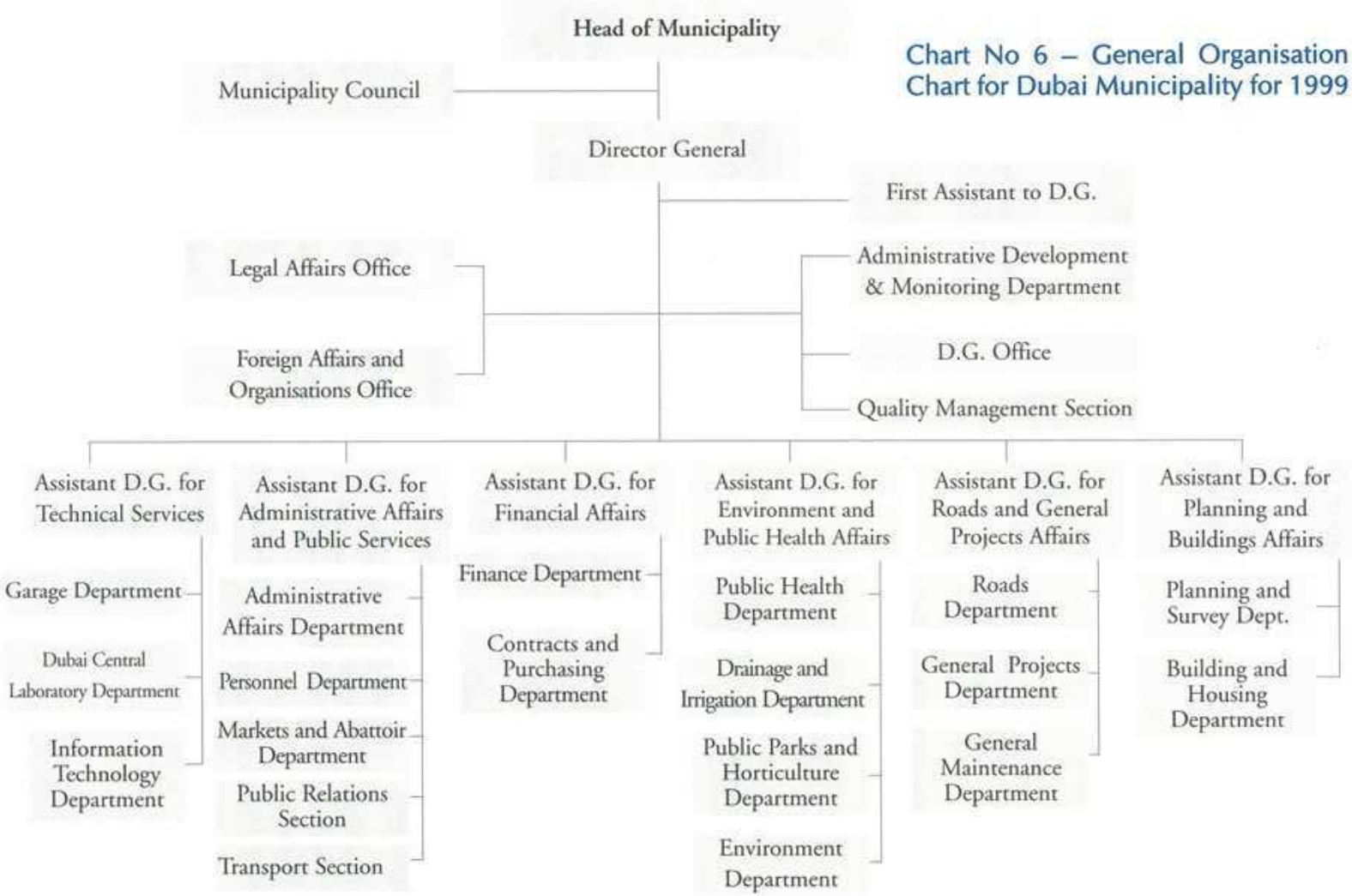
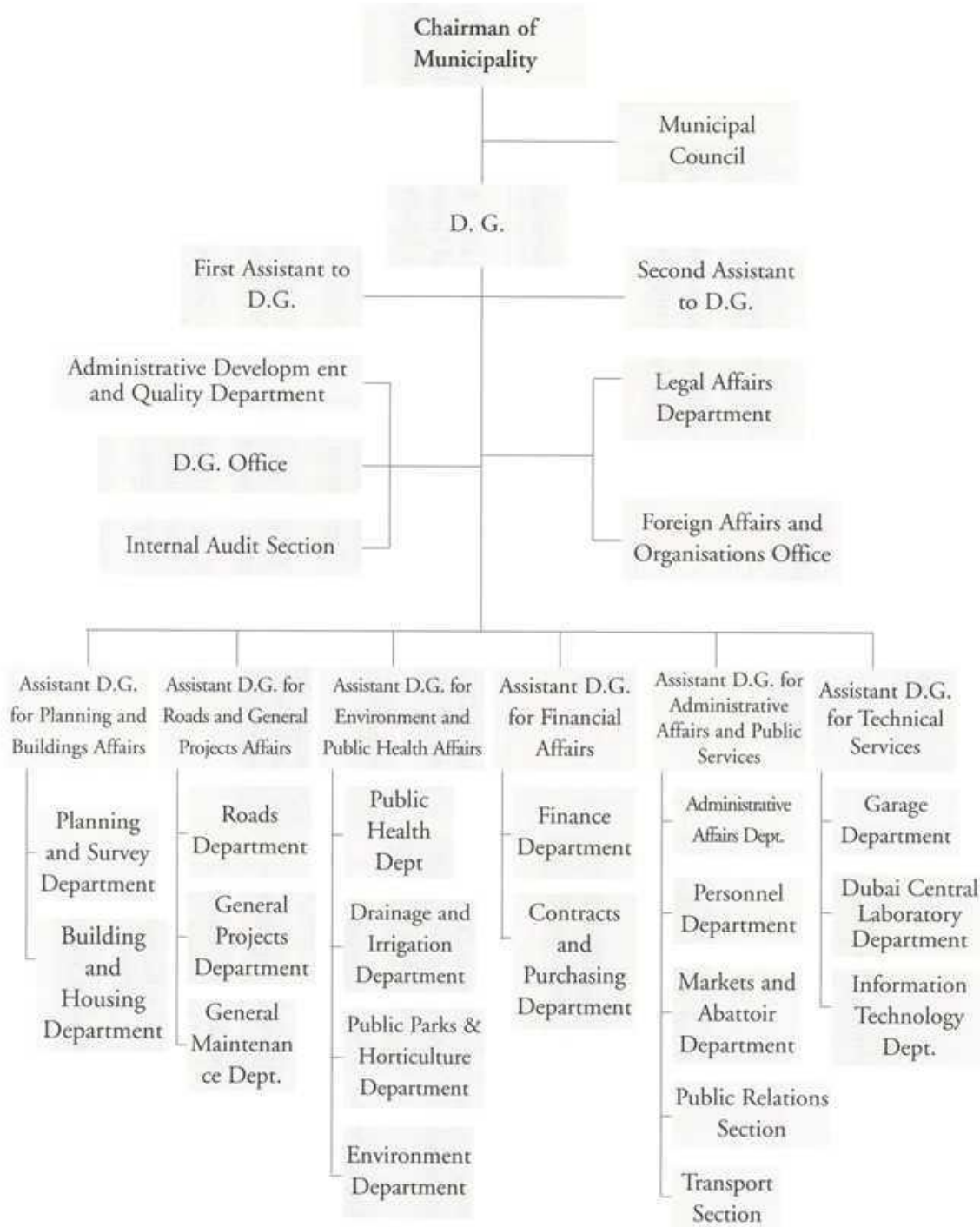
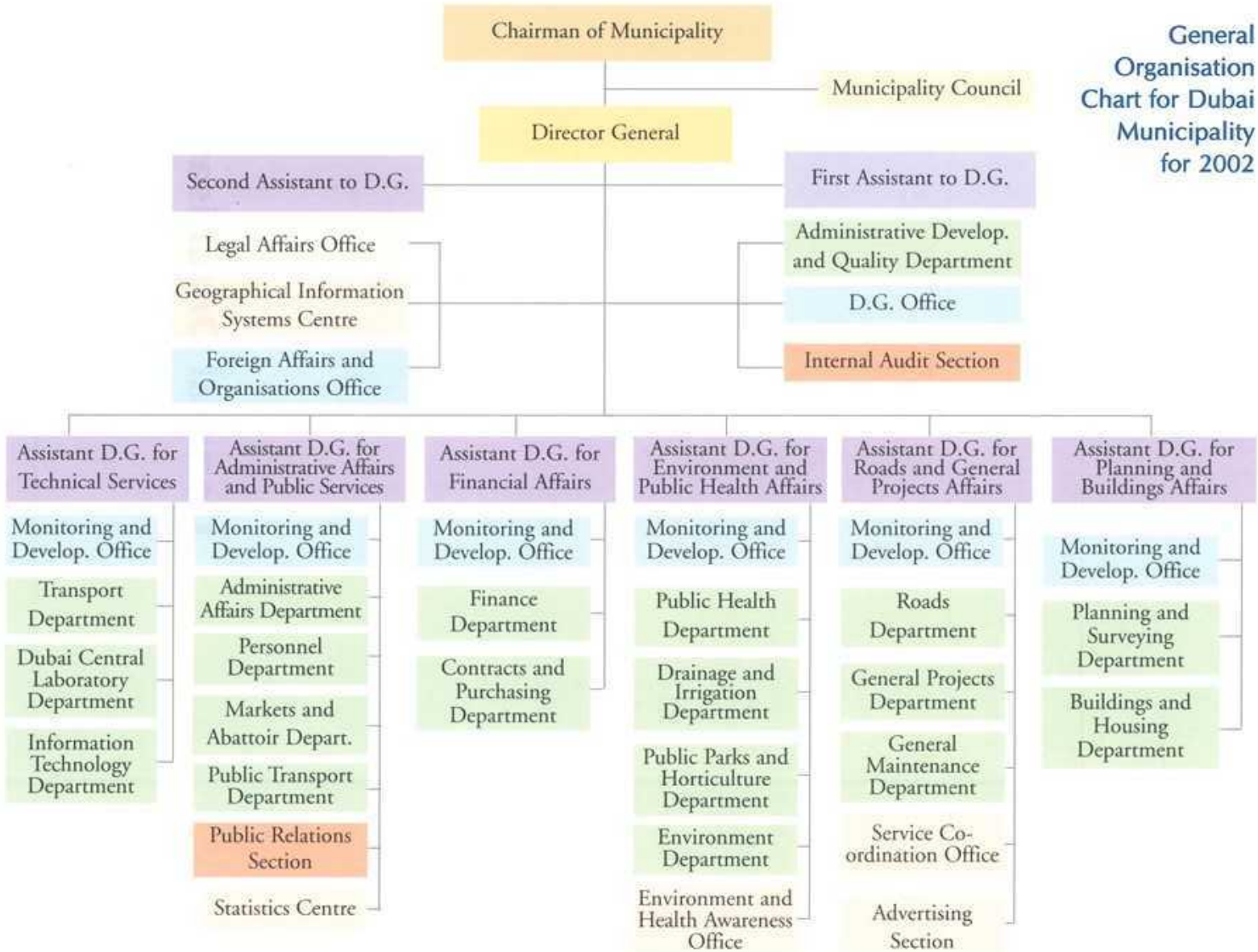


Chart No 7 – General Organisation Chart for Dubai Municipality for 2000



General Organisation Chart for Dubai Municipality for 2002

General Organisation Chart for Dubai Municipality for 2002



Item	Description	Number
1	Director General's Assistants	8
2	Administrations	20
3	Sections	70
4	Centres	3
5	Offices	22
6	Divisions	190
7	Organisational Units Affiliated to the Director General	12

In order to tackle tasks related to the development and modernisation of the city, the Municipality sought the assistance of a group of consultants and technicians from the United Nations Centre for Human Settlements and also appointed consulting firms to address a number of aspects. The aim was to secure the necessary expertise and technical advice to assist the Municipality in executing the strategic plan which was scheduled to begin in 1985, and to last for a period of twenty years. This plan sought to achieve development in the field of planning, land use and modernisation of the infrastructure within the Emirate, with a process of review every five years, or less, if necessary. The appropriate criteria and control procedures were put in place to control the quality of performance so that the objectives could be achieved at the least possible cost.

The plan also included the development of public health services, sewerage, protection of the environment and the development of laboratory testing as well as the development of the Municipality's transport services and the expansion of the use of modern technology. Also included were improvement of the infrastructure and a complete range of social and environmental services, these covering items such as the road network, bridges, tunnels, public parks, cultural centres, sports centres and entertainment centres.

This represented the beginning of a real transformation within Dubai Municipality in a variety of aspects.

With the issuing of laws and regulations relating to high quality specifications, devised by the Government of Dubai and implemented by the Municipality, the quality of modern buildings, hotels and commercial centres improved. This, of course, helped Dubai to become an ideal city in which to live and work and to win international recognition in various fields.

The Municipality's mission, duties and main functions

Prior to 1988, there was no clear organisation chart for the Municipality and its administration while there was no written schedule or job descriptions for Departments and their employees.

At the beginning of 1988, documents specifying the duties of departments as well as their various affiliate divisions were issued. Job descriptions were also issued for many positions, these being supplemented by a work procedures manual issued at the beginning of 1991.

The Municipality's mission can be characterised as the task of translating into reality the visions and strategies relating to the Emirate of Dubai, this being done through planning, construction, maintaining and developing the infrastructure and public services, as well as

through the provision of the best possible services by the Municipality to the local community, through the implementation of best practices and the best use of administrative, financial and technical tools.

The main duties and functions of Dubai Municipality

The following are the main functions and duties of the Municipality:

1) to suggest and implement policies, legislation, laws, rules and suitable procedures in all aspects relating to the Municipality's work within the Emirate.

2) to undertake comprehensive and detailed planning of construction for the Emirate, to specify the land use, to organise construction work and to monitor and supervise, and to provide assistance with government housing.

3) to establish the infrastructure, public facilities and utilities such as sewerage networks, irrigation networks, rainwater drainage systems and water treatment stations, in addition to their administration, supervision and maintenance.

4) to organise and administer matters relating to public roads within the Emirate such as opening new roads, asphalting, the construction of bridges and tunnels and public parking areas in addition to supervising and maintaining them, as well as the introduction of modern traffic systems to simplify use and control.

5) to achieve a high level of public and professional health and safety and to protect the environment in its various aspects, in accordance with local and international specifications.



Dubai Creek (Khor Dubai) showing both banks

6) to establish markets and abattoirs and to develop, monitor and supervise them to ensure they meet UAE requirements and needs.

7) to establish public parks and gardens, to increase the planted area, including roadsides, and to preserve, supervise and monitor the public beaches in the Emirate.

8) to support cultural and social activities in the Emirate through the establishment and supervision of public libraries, the provision and monitoring of social clubs and the setting up of centres, clubs and other cultural activities.

9) to monitor the implementation of specifications and standards relating to construction, building materials, foodstuffs, consumables and other items, as well as to develop and modernise these specifications and standards through the provision of laboratories and the carrying out of tests and the necessary research and studies, in addition to the provision of certificates of conformity and accreditations.

10) to preserve Dubai's architectural heritage through the restoration and maintenance of historical buildings and archaeological sites and the establishment of museums.

11) to carry out areal planning, comprehensive censuses and internal and external opinion polls, as well as undertaking, economic and social studies within the Emirate and issuing publications on the results.

12) to prepare a comprehensive geographical information system to contribute to planning, the implementation of projects and various priority services within the Emirate.

13) to develop and support the Municipality's internal and external relationships, both within the country and outside, through playing an active role in organisations and Arab and International bodies and through participating in fairs and conferences that relate to its activities, as well as encouraging and implementing the best sustainable practices for urban development and improving living conditions at all levels.

14) to provide public transport services for the people in Dubai and to set up bus terminals for public transport.

15) to organise and to monitor roadside advertising within the Emirate.

16) to eradicate begging and itinerant salesmen from the Emirate.

17) to supervise and monitor a variety of vocational activities, and to specify the requirements for the practice of these activities within the Emirate.

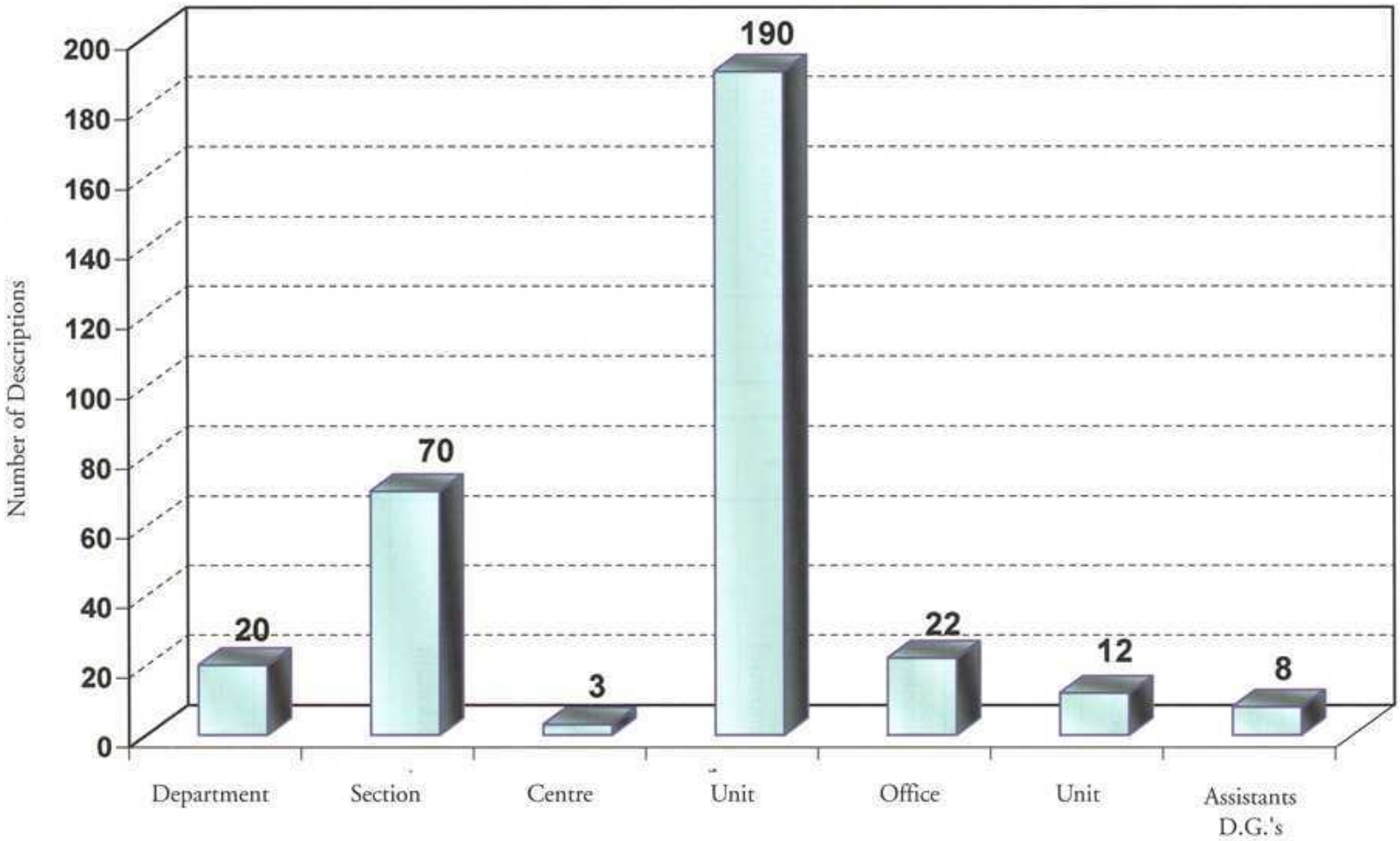
18) to participate in the provision of investment opportunities for the private sector as well as to encourage its participation in development within the Emirate.

19) to participate in developing and promoting tourism within the Emirate.

Description of the responsibilities of organisational units within Dubai Municipality – 2002

S No	Department/Division	Dep.	Sect.	Unit	Off.	Unit	Cent.	Assistant D.G's
1	Administrative Develop. & Quality Depart.	1	3	6	1	_	_	_
2	Legal Affairs Department	1	3	_	1	_	_	_
3	Planning and Surveying Department	1	4	11	_	_	_	_
4	Buildings and Housing department	1	3	10	1	1	_	_
5	General Projects Department	1	3	8	_	_	_	_
6	Roads Department	1	5	12	1	_	_	_
7	General Maintenance Department	1	2	6	1	1	_	_
8	Public Health Department	1	4	11	_	_	_	_
9	Environment Department	1	3	9	_	2	_	_
10	Drainage and Irrigation Department	1	3	11	1	1	_	_
11	Public Parks and Horticulture Depart.	1	4	12	1	1	_	_
12	Contracts and Purchasing Department	1	3	5	_	3	_	_
13	Finance Department	1	5	8	_	_	_	_
14	Administrative Affairs Department	1	4	13	_	_	_	_
15	Personnel Department	1	4	10	1	_	_	_
16	Markets and Abattoir Department	1	3	7	_	_	_	_
17	Public Transport Department	1	2	6	1	_	_	_
18	Dubai Central Laboratory Department	1	4	12	2	_	_	_
19	Transport Department	1	2	8	_	1	_	_
20	Information Technology Department	1	4	12	1	_	_	_
21	Geographical Information Systems Centre	_	_	3	_	_	1	_
22	Statistics Centre	_	_	3	_	_	1	_
23	Internal Audit Section	_	1	2	_	_	_	_
24	Public Relations Section	_	1	3	_	2	_	_
25	First Assistant to Director General	_	_	_	_	_	_	1
26	Second Assistant to Director General	_		_	_	_	_	1
27	Director General's Assistants for Planning and Buildings, Roads and General Projects Affairs, Environment Affairs, Public Health, Financial Affairs, Administrative and Public Services Affairs & Technical Services.	–	–	–	–	–	–	6
28	Director General's Office	_	_	_	1	_	_	_
29	Co-ordination and Development Office, affiliated with the Second Assistant to the D.G.	–	–	–	1	–	–	–
30	Foreign Affairs and Organisations Office	_	_	_	1	_	_	_
31	Environmental Awareness and Health Office, affiliated to Assistant D.G. for Environment and Public Health Affairs	–	–	–	1	–	–	–
32	Service Co-ordination Office, affiliated to Assistant D.G. for Roads and General Projects Affairs	–	–	–	_	–	1	–
33	Monitoring and Develop. Offices, affiliated to both Assistant Director General	–	–	–	6	–	_	–
	Total	**20**	**70**	**190**	**22**	**12**	**3**	**8**

Numbers of approved job descriptions for Dubai Municipality up to 2002



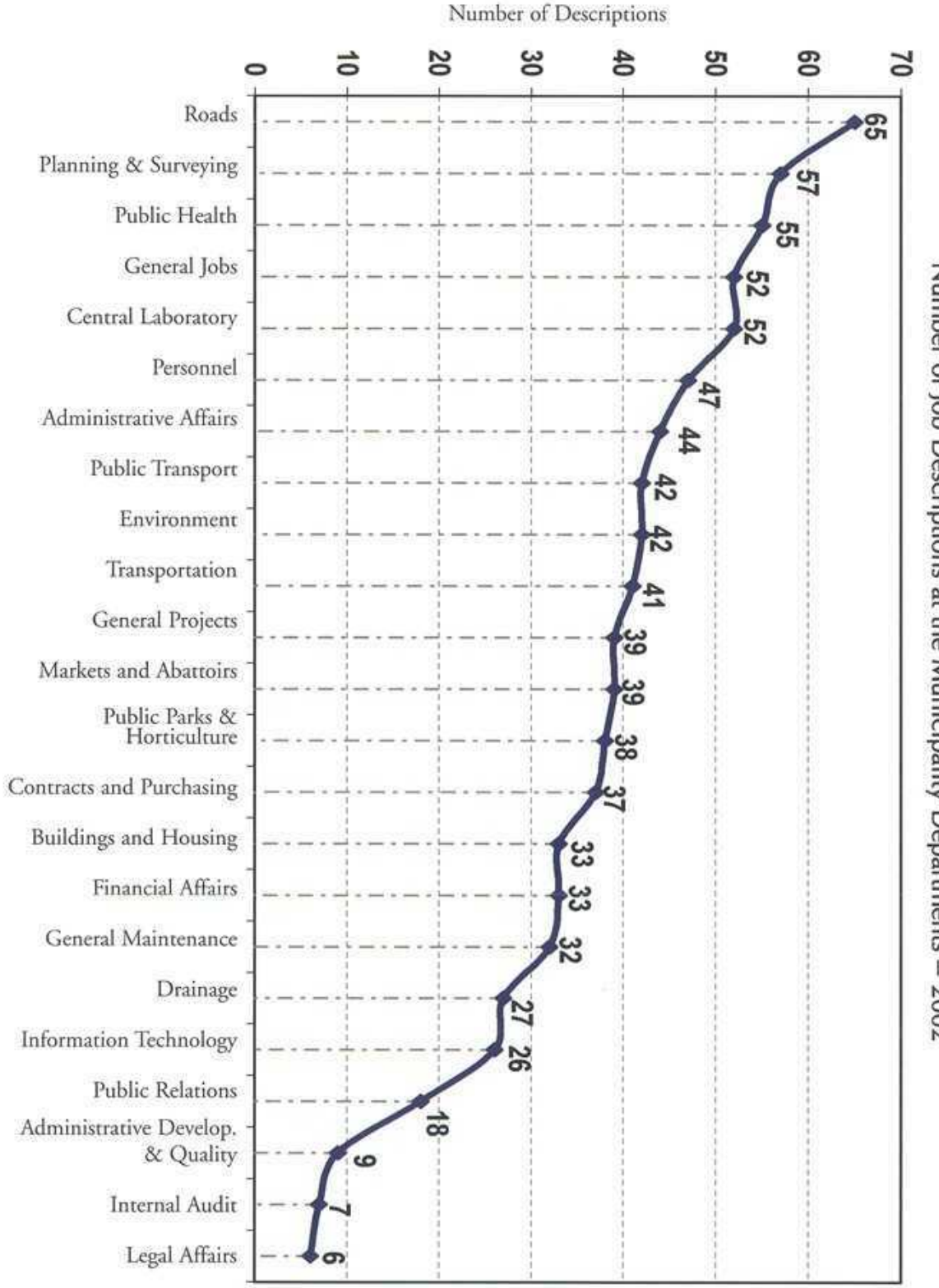
Job Descriptions and total numbers at Dubai Municipality – 2002

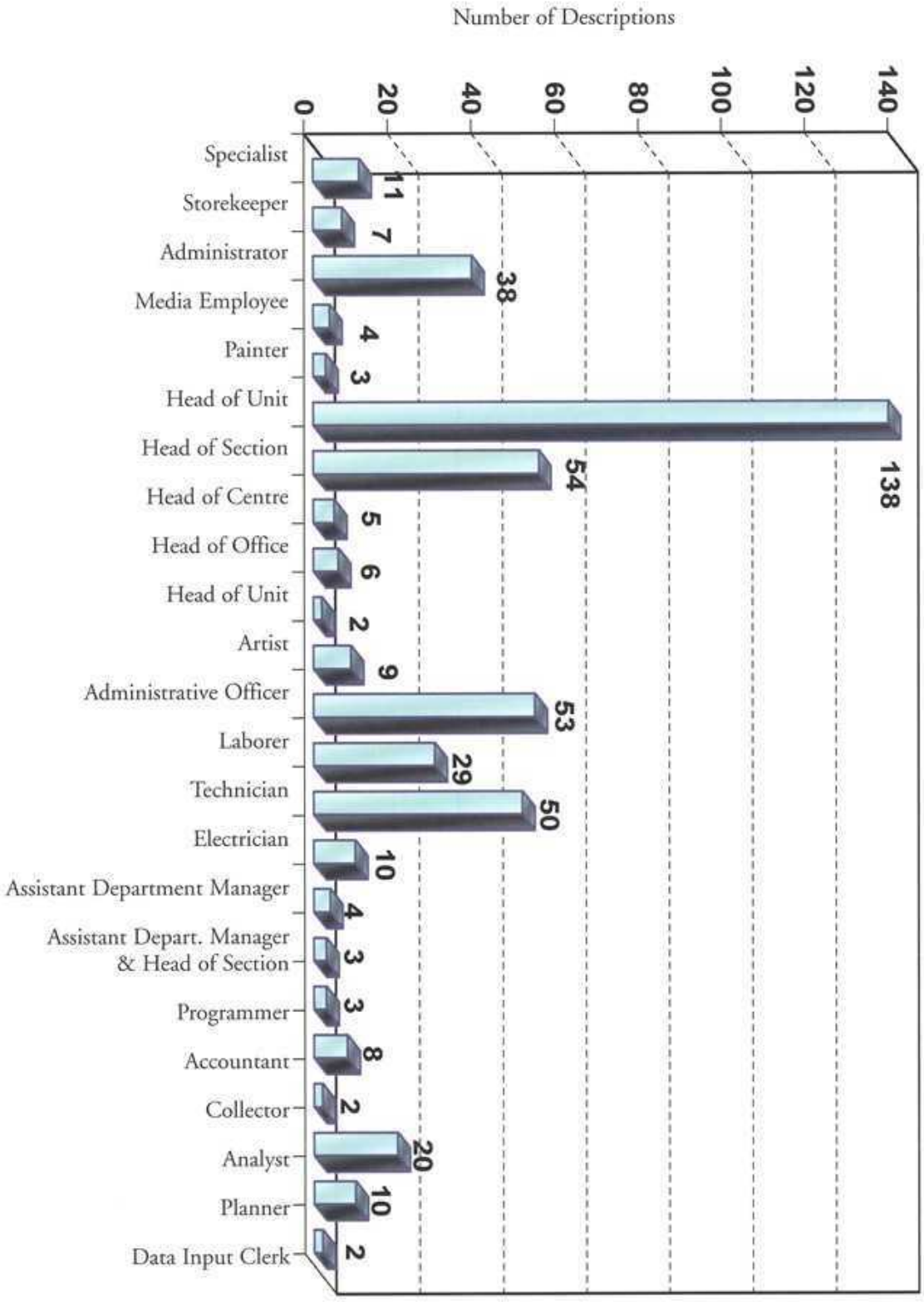
Serial	Position	No.
1	Specialist	11
2	Cashier	1
3	Storekeeper	7
4	Librarian	1
5	Statistician	1
6	Administrator	38
7	Media Personnel	4
8	Imam (Muslim Clergyman)	1
9	Historian	1
10	Builder (Restoration)	1
11	Assistant Builder (Restoration)	1
12	Ticket Vendor	1
13	Blacksmith	1
14	Calligrapher	1
15	Calligrapher and Artist	1
16	Painter	3
17	Head of Division	138
18	Head of Department	54
19	Head of Centre	5

Serial	Position	No.
20	Head of Office	6
21	Head of Unit	2
22	Artist	9
23	Public Bus Driver	1
24	Barge Driver	1
25	Painter	1
26	Administrative Officer	53
27	Operations Officer	1
28	Veterinarian	1
29	General Practitioner	1
30	Labourer	29
31	Traffic Enumerator	1
32	Technician	50
33	Legal	1
34	Butcher	1
35	Assistant Butcher	1
36	Electrician	10
37	Vehicle Welder	1
38	Assistant Administrative Manager	4

Serial	Position	No.
39	Assistant Administrative Manager and Head of Division	3
40	Programmer	3
41	Accountant	8
42	Collector	2
43	Analyst	20
44	Planner	10
45	Data Input Clerk	2
46	Trainer	2
47	Auditor	4
48	Administrative Manager	15
49	Financial Reviser	1
50	Reviser of Purchase requisitions and orders	1
51	Foreign Correspondent	1
52	Controller	35
53	Surveyor	4
54	Assistant Head of Division	5
55	Assistant Pharmacist	1
56	Assistant Technician	1
57	Assistant Administrative Support Officer	5
58	Assistant Director General	3

Serial	Position	No.
59	Assistant Engineer	3
60	Supervisor	29
61	Operator	10
62	Tyre Repair Employee	1
63	Advertisement Designer	1
64	Photographer	4
65	Undertaker	1
66	Inspector	55
67	Indexer / Classifier	1
68	Purchasing Committee Rapporteur	1
69	Nurse	1
70	Passport Representative	1
71	Price Requisition Representative	1
72	Purchasing Representative	1
73	Lifeguard	1
74	Engineer	36
75	Mechanic	7
76	Carpenter	5
TOTAL		730


Number of Descriptions
0
10
20
30
40
50
60
70
Roads
Planning & Surveying
Public Health
General Jobs
Central Laboratory
Personnel
Administrative Affairs
Public Transport
Environment
Transportation
General Projects
Markets and Abattoirs
Public Parks & Horticulture
Contracts and Purchasing
Buildings and Housing
Financial Affairs
General Maintenance
Drainage
Information Technology
Public Relations
Administrative Develop. & Quality
Internal Audit
Legal Affairs
65
57
55
52
52
47
44
42
42
41
39
39
38
37
33
33
32
27
26
18
9
7
6
Number of Job Descriptions at the Municipality Departments – 2002


Number of Descriptions
0
20
40
60
80
100
120
140
Specialist
11
Storekeeper
7
Administrator
38
Media Employee
4
Painter
3
Head of Unit
138
Head of Section
54
Head of Centre
5
Head of Office
6
Head of Unit
2
Artist
9
Administrative Officer
53
Laborer
29
Technician
50
Electrician
10
Assistant Department Manager
4
Assistant Depart. Manager & Head of Section
3
Programmer
3
Accountant
8
Collector
2
Analyst
20
Planner
10
Data Input Clerk
2
Number of Job Descriptions at Dubai Municipality – 2002

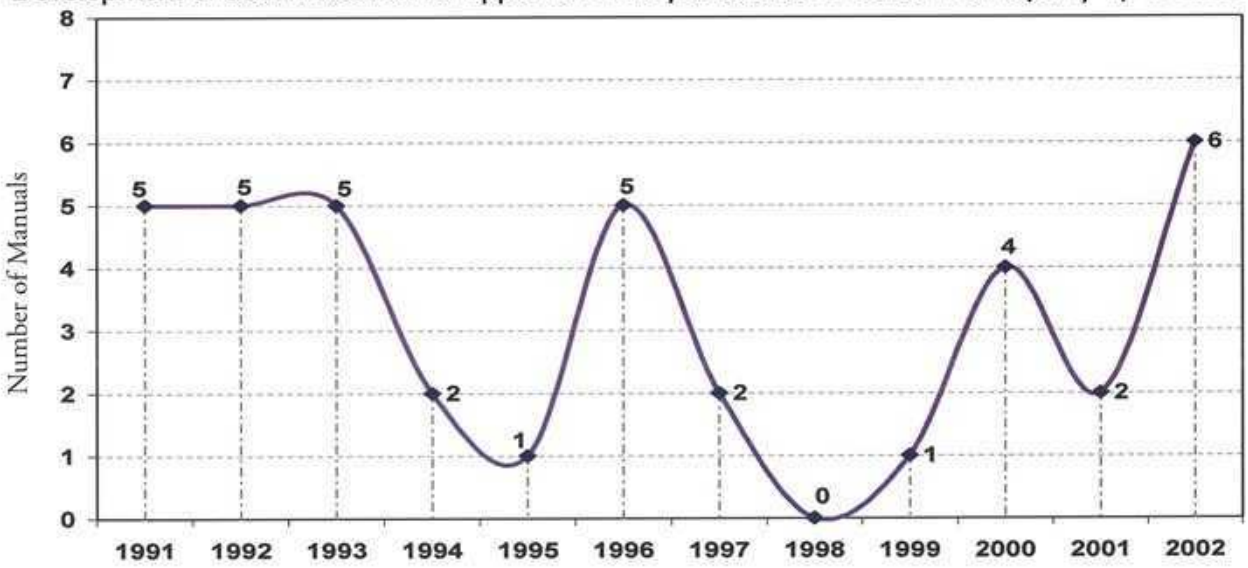
Documentation of Work Procedures in Dubai Municipality From 1991 to 2002, by Year of Issue and Department

Name of Manual	Department	Order No.	Date of Issue
Inspection of meat for human consumption in Dubai	Public Health Department	20/91	12/01/1991
Car parks used for organisations and establishments and procedures for fees and monitoring	Finance Department	171/91	8/6/1991
Work procedures for Purchasing Section within the Contracts and Purchasing Department	Contracts and Purchasing Department	173/91	10/6/1991
Work procedures for Purchasing Section within the Contracts and Purchasing Department	Contracts and Purchasing Department	189/91	29/6/1991
Use of external areas of restaurants, cafeterias & cafes plus specifying allocations of car parks, moving vehicles, equipment and tools.	Roads Department	199/91	3/7/1991
Manufacture, preparation, print, storage, loading, transportation and selling of foodstuffs for human consumption within the Emirate of Dubai	Public Health Department	20/92	3/2/1992
Inspection of Poultry	Public Health Department	55/92	30/3/1992
Work procedures in Revenue Collection Section within the Finance Department	Finance Department	196/92	23/9/1992
Work procedures in Licencing Section within the Licencing Department	Licensing Department	202/92	29/9/1992
Procedures for the collection of cash in the Libraries Section	Finance Department	223/92	12/10/1992
Work procedures in the Treasury Section	Administrative Affairs Depart.	327/93	3/5/1993
Personal Safety	Public Health Department	330/93	28/7/1993
Communication Services procedures	Administrative Affairs Depart.	511/93	17/10/1993
Procedures for renting Dubai Municipality property	Administrative Affairs Depart.	542/93	17/11/1993
Direct Summoning of external consultants for the development of work methods and systems	Administrative Develop. and Quality Development	278/93	9/12/1993
Use of area plus office furniture for Dubai Municipality Employees	Administrative Affairs Department	55/94	24/2/1994
Inventory procedures for fixed assets and formation of inventory committee in the organisation	Contracts and Purchasing Department	149/94	13/6/1994
Procedures for the Evaluation of Employees	Personnel Department	8/95	7/1/1995
Procedures for the receipt and importation of cash collections for the Transport Section	Garage and Transport Department	72/96	10/2/1996
Procedures for the Stores Section within Contracts and Purchasing Department	Contracts and Purchasing Department	311/96	20/5/1996
Insurance Procedures	Contracts and Purchasing Department	818/96	21/10/1996
Work Procedures in the Administrative Development Office	Administrative Development and Quality Department	819/96	21/10/1996
Work Procedures in the Libraries Section within the Administrative Affairs Department	Administrative Affairs Department	830/96	24/10/1996

Continued/ Documentation of Work Procedures in Dubai Municipality

Name of Manual	Department	Order No.	Date of Issue
Work of the Internal Audit Office	Internal Audit Office	133/97	3/2/1997
Compensation Procedures for land and buildings affected by planning projects	Planning and Survey Department	910/97	2/7/1997
Cost Calculation in Dubai Municipality	Administrative Developm. and Quality Depart.	119/99	2/6/1999
Documentation issued by the Planning and Survey Department (Preparation of traffic studies manual, user manual, manual on average trips created and average car park)	Planning and Survey Department	36/2000	1/3/2000
Performance Criteria in Dubai Municipality	Administrative Developm. and Quality Depart.	150/2000	28/6/2000
Work Procedures Documentation in General Projects Department	General Projects Depart.	238/2000	18/9/2000
Work Procedures in Transport Section	Public Transport Depart.	289/20006	21/11/2000
Manual/ Work Procedures within Transport Department	Transport Department	0/2001	24/3/2001
Manual Supplement - Work Procedures at Public Transport Depart.	Public Transport Depart.	288/2001	22/9/2001
Work Procedures for Markets and Abattoir Department	Markets and Abattoirs Department	341/2002	29/12/2002
Work Procedures for Contracts and Purchasing Department	Contracts and Purchasing Department	305/2002	28/10/2002
Road works within right of way and specification of sale price	Roads Department	292/2002	20/10/2002
Work procedures within Personnel Development Section	Personnel Department	274/2002	24/9/2002
Work Procedures within Public Libraries Section	Administrative Affairs Department	199/2002	20/7/2002
Work procedures within the Environment Department	Environment Depart.	130/2002	9/6/2002

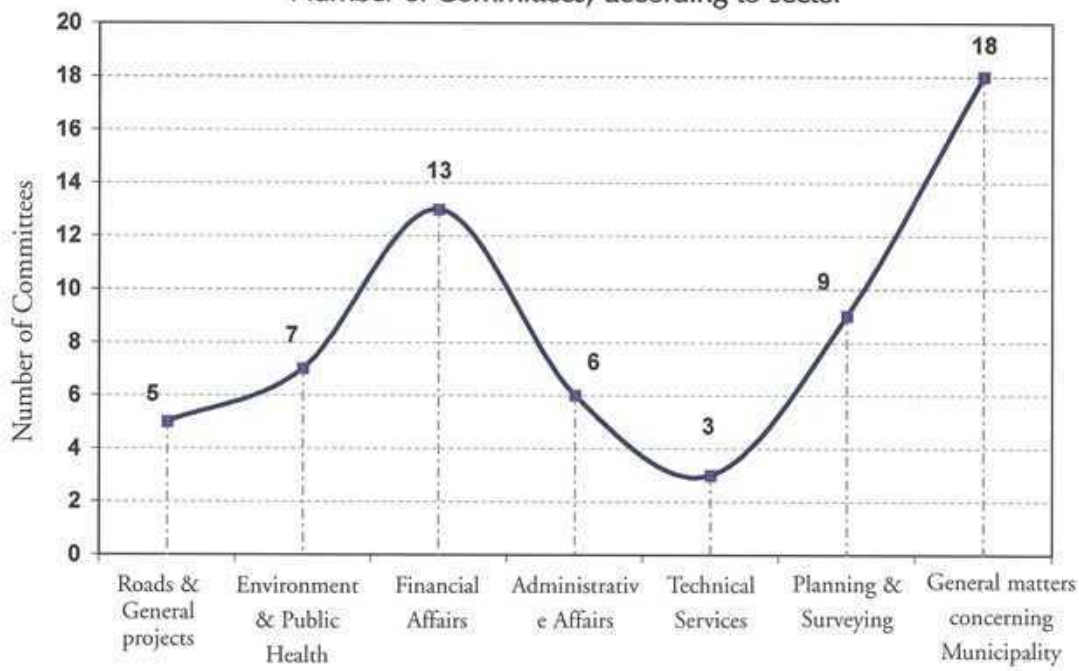
Development of documentation for approved work procedures in Dubai Municipality up to 2002



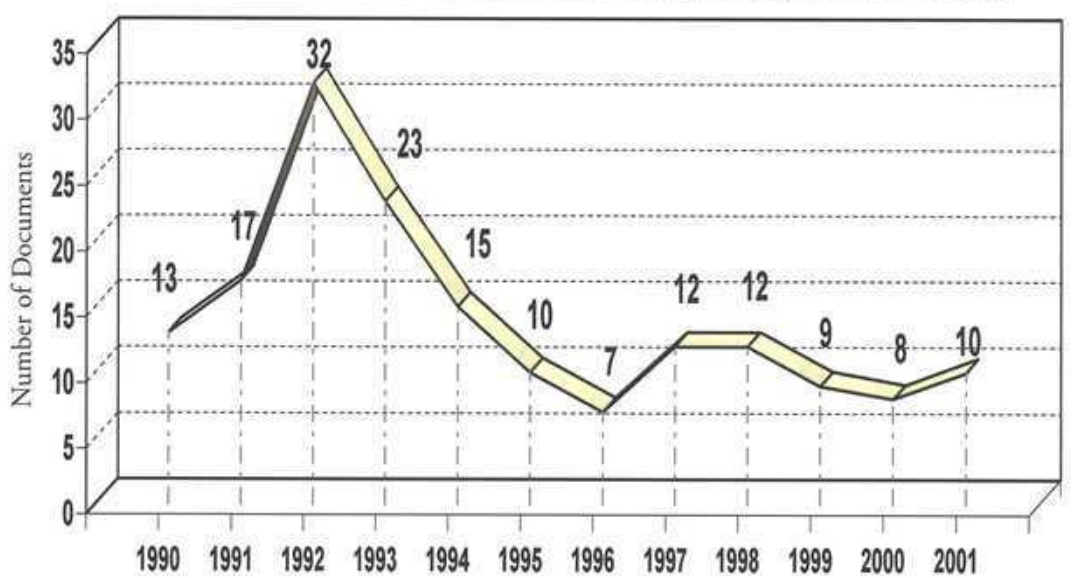
Statistical Data

A number of permanent committees were formed to oversee administrative and technical matters and provide support and co-ordination between the various administrations of the Municipality. Of these, the most important is the Technical Committee.

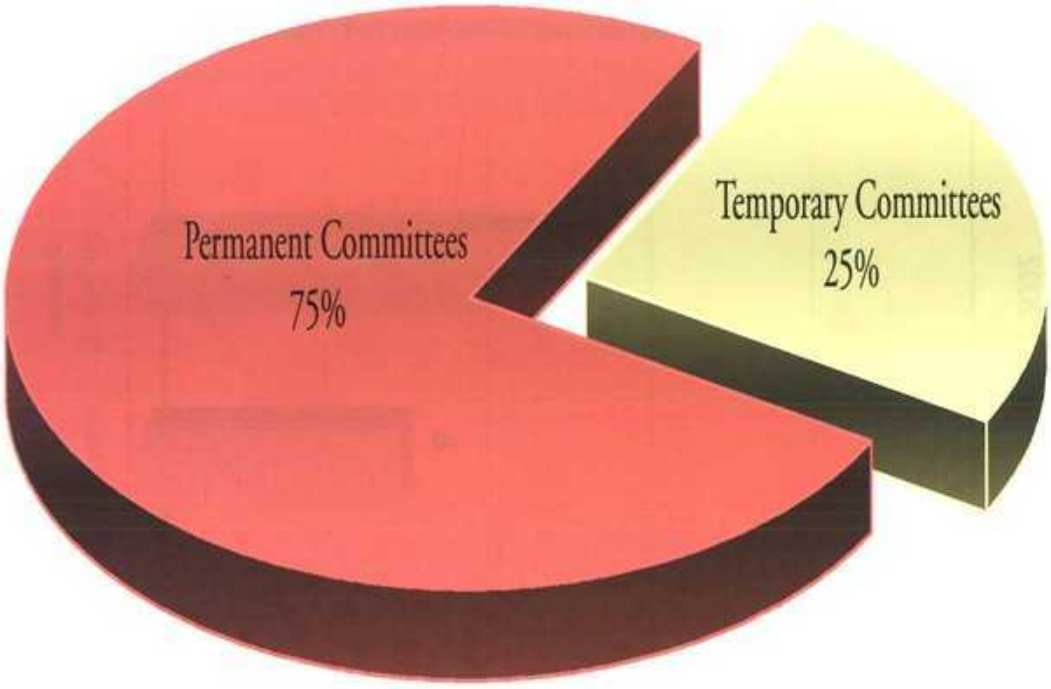
Number of Committees, according to sector



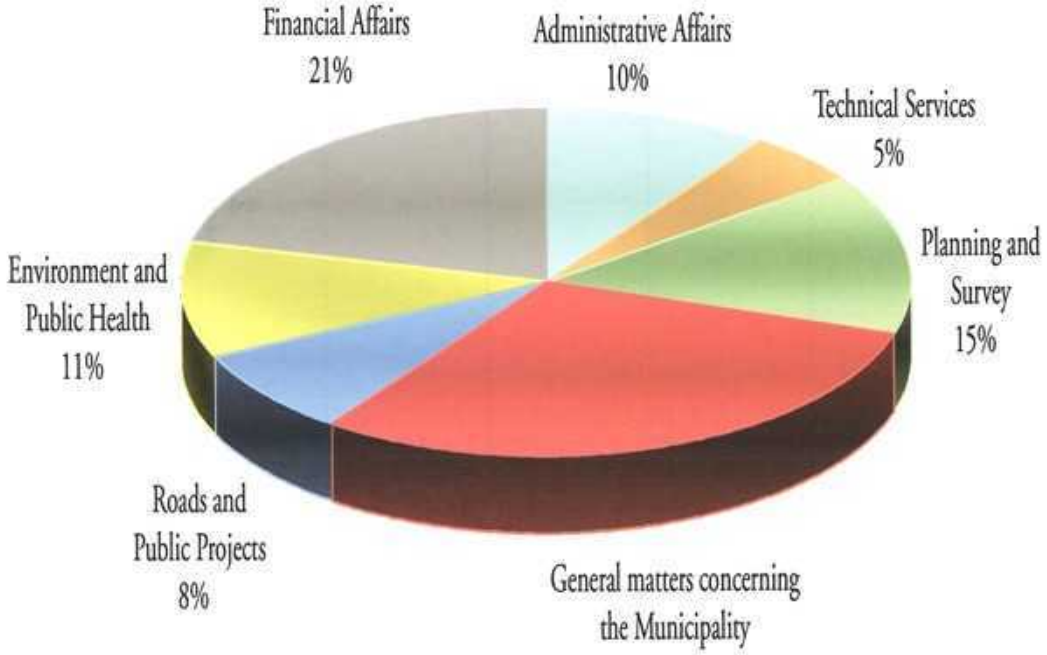
Number of Committees formed in the Municipality from 1990 to 2001

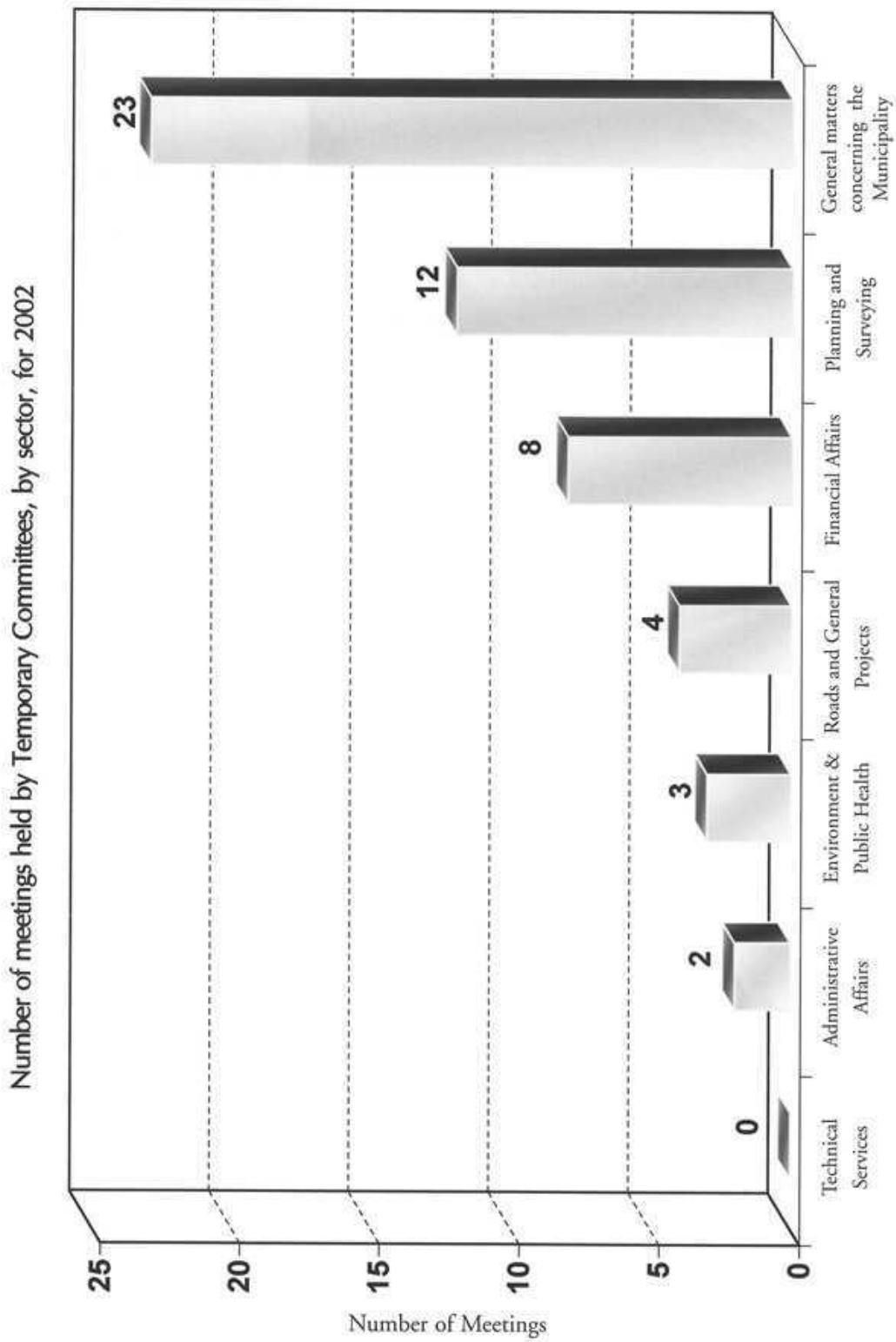


Committees working in the Municipality

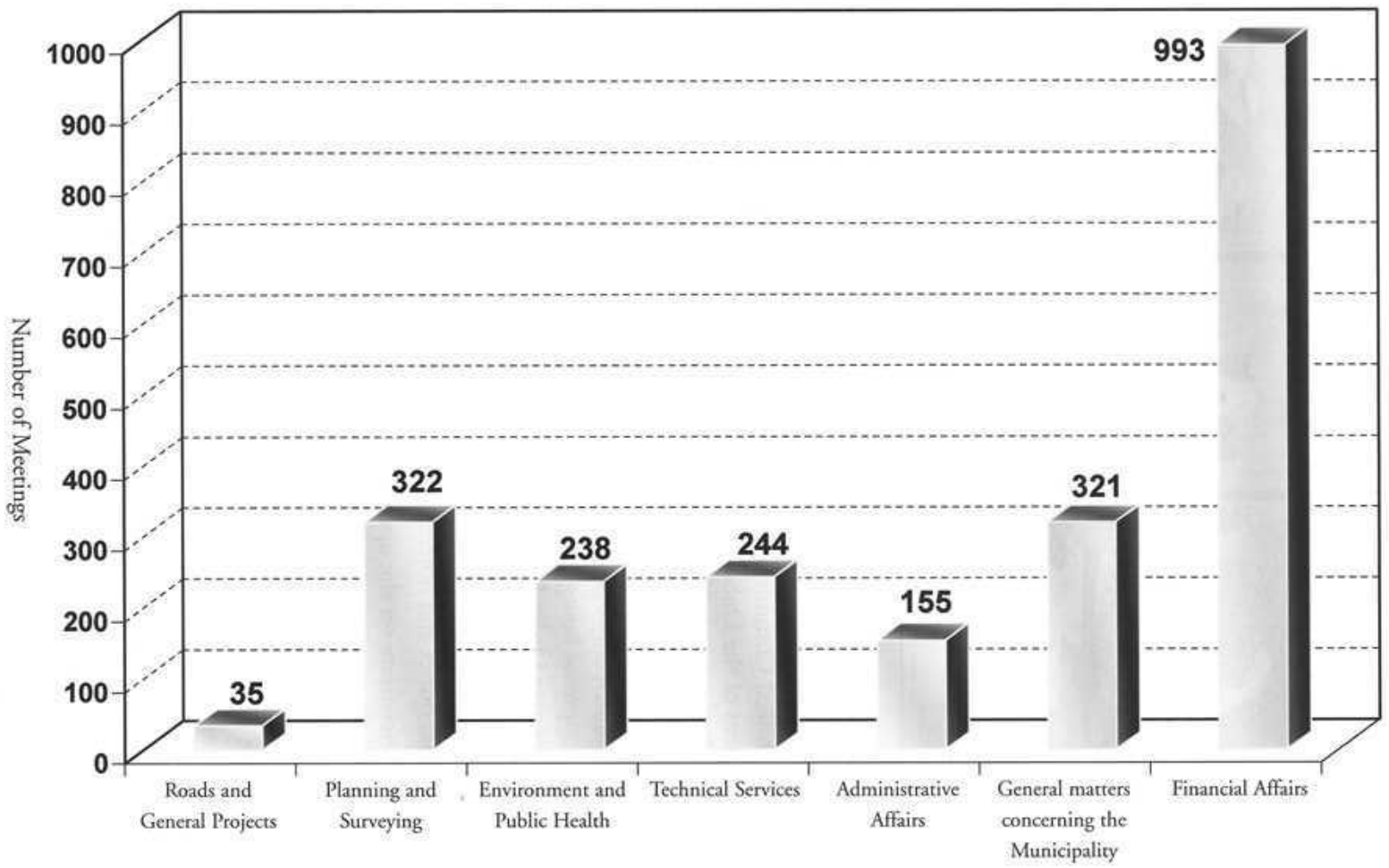


Working Committees according to sector




Number of meetings held by Temporary Committees, by sector, for 2002
Number of Meetings
25
20
15
10
5
0
0
2
3
4
8
12
23
Technical Services
Administrative Affairs
Environment & Public Health
Roads and General Projects
Financial Affairs
Planning and Surveying
General matters concerning the Municipality

Number of meetings held by Permanent Committees in 2002





A meeting of the Technical Committee

Technical Committee

The Technical Committee is considered to be one of the most important committees of the Dubai Municipality. Its aims are to achieve objectives forming part of the future plans and to improve the type of services offered by the Municipality. It was formed on 13th July 1984, in accordance with Administrative Order No 65, which gave the Committee the task of examining all the Municipality's projects to make sure they conform to sound principles, prior to approval being given for them to be carried out. It was re-constituted by Administrative Order No. 914, issued on 1st January 1995.

This Committee, headed by the Director General, comprises a group of senior Municipality officials and holds weekly meetings, on Mondays.

Its specific duties and objectives include the following:

1- To concentrate on the updating of development requirements and objectives for the Emirate in addition to monitoring the latest changes in planning and the scheduling of large projects for road networks and drainage networks.

2- To adopt standards and criteria relating to the appraisal of offers presented from consultants and contractors.

3- To study projects intended for implementation and to approve designs and estimated costs.

4- To provide consultants and contractors with the relevant support to enable them to carry out their work

5- To provide the highest possible level of co-ordination between the Municipality's Departments, so as to prevent overlapping during implementation of projects.

Methods of work of the Technical Committee

The Technical Committee adopts a methodical approach and a balanced style of work during its weekly meetings, in accordance with the significance of the topics being discussed, such as issues raised by various Departments on important projects.

When disagreements are voiced during meetings, the Committee Chairman provides an opportunity for all members to express their opinion, and, where necessary, a vote is taken.

Since it was formed, the Committee has met 475 times, and has discussed a total of 2,481 individual items of its agenda, as outlined below.

The number of subjects discussed and the Minutes of Meetings prepared between 9th January 1989 and 31st December 2002.

Sequence	Period		Number of subjects discussed	Number of approved Minutes of Meetings
	From	To		
1	9/1/1989	25/12/1989	209	39
2	8/1/1990	31/12/1990	186	41
3	7/1/1991	23/12/1991	221	38
4	6/1/1992	28/12/1992	167	32
5	18/1/1993	27/12/1993	222	39
6	3/1/1994	26/12/1994	222	41
7	2/1/1995	25/12/1995	213	40
8	8/1/1996	30/12/1996	170	38
9	13/1/1997	29/12/1997	181	35
10	12/1/1998	14/2/1998	126	26
11	11/1/1999	20/12/1999	87	21
12	17/1/2000	25/12/2000	138	26
13	22/1/2001	24/12/2001	176	26
14	9/1/2002	31/12/2002	163	33
TOTAL			2,481	475

Note: Records of meetings held prior to 1989 are not available, and are therefore, not included above.

The following is a list of experts and consultants who worked on developing the work practices of the Municipality, including both those who were employed directly and those employed through the United Nations Development Programme.

Sequence	Name	Task
1	Dr. Stephen Magginti	Tenders and Contracts Consultant
2	Dr. Ghassan Ghassoub	IT Consultant
3	Dr. Anthony Russell	Building Research and Quality Control Consultant
4	Dr. Peter Martin	Central Laboratory Consultant
5	Dr. John Woodson	Laboratory Expert
6	Dr. Mustapha Kamal Eissa	Statistical Expert
7	Dr. Shamsheer Taj	Human Resources Specialist
8	Dr. David McQueen	Public Health Specialist
9	Dr. John Woodward	Environment Expert
10	Mr. Ahmed Nusairat	Assistant to Human Resources Administrative Expert
11	Joe Tefrid Conjini	Consultant on Survey Development
12	Dr. Bahjet Samdouka	Financial Affairs and Commercial Licencing Expert
13	Dr. Sameeh Al-Benna	Information Technology Expert
14	Dr. Maher Steeno	Town Planning Expert
15	Dr. Farouk Khalifa	Roads Consultant
16	Dr. Mustapha Qurunfilla	Landscaping Expert
17	Dr. Nael Bunni	International Expert in Contracts Consultation
18	Dr. Mahmoud Ahmed Ateem	Consultant on Documentation and Information

Dubai:
from small village
to global city

When H.H. the late Sheikh Rashid bin Saeed Al Maktoum set out at the beginning in the 1960s to lay down an economic strategy and ambitious plans for future development, no-one could have imagined that Dubai would have become what it is today.

His first steps were to create a number of special organisations and departments that would bring a modern approach to the task of meeting the requirements of citizens in terms of improving their standard of living. These included the formation of the Municipality Council and restructuring of the Municipality Administration as well as the establishment of the "Registration Office', to register land and property ownership, and the creation of the Dubai Chamber of Commerce and Industry.

At that time, the most optimistic view was that Dubai would become the leading city within the seven emirates, which were, at that time, not yet joined together in the federation. Dubai then had a population of only around 40,000. Now, forty years later, it is over a million, with a day-time population, including commuters, of over 1.2 million, according to the latest estimates by the Municipality's Census Centre.

Table 1 shows the development of the population of the Emirate of Dubai as a whole, up to the year 2000.

Without question, the establishment in 1971 of the seven-member federation of the United Arab Emirates, with one flag, one constitution and one leadership, has been of the greatest importance in terms of the achievements, progress and prosperity of Dubai today. The birth of the UAE was not only a good omen – it also marked the beginning of a complete cultural transformation for the country's citizens.

Following on from the birth of the UAE, Dubai has become one of the most modern cities in the world, amongst the most advanced, the most sophisticated and the fastest developing. It is also a leader in relation to the services provided at its highly-acclaimed international airport and modern ports, as well as in terms of its social services and its clean environment. To these can be added the modern shopping and commercial centres as well as world-class sporting facilities, such as the Emirates Golf Club and the Creek Golf Club and the various horse-racing tracks, these all being venues for international events.

The well-developed infrastructure includes many gardens and other green areas, as well as a network of modern and safe roads and highways. By 2002, there were a total of 7,358 km. of roads in the Emirate as a whole, while in the developed area, roads and highways covered a total area of 220 sq. km., or 5.3 per cent of the entire area of the Emirate. Table No. 2 shows the length of the road network.

Parks and other green areas within the city amounted in 2002 to approximately 19.51 million square metres, or approximately 22 sq. m. per person. Table No 3 shows the total area of parks, gardens and other green areas.

Dubai is also noted for the quality, quantity and variety of the facilities available that are related to tourism and the business environment. These have led to the emergence of the city as a popular international centre for exhibitions, fairs and conferences.

The first real emergence of Dubai as an international conference centre dates back to 1994, when the city hosted the first conference of the Arab Towns Organisation, attended by representatives of 384 cities.

This was swiftly followed by other regional and international conferences and seminars, such as the Dubai International Conference in 1995, organised as part of preparations for the Human

Settlements Conference in Istanbul. During this meeting, the Dubai Charter was announced, as well as the Dubai International Prize for Best Practices, instituted by H.H. Sheikh Maktoum bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, and supervised by the United Nations.

The Prize was first awarded at the 1996 Human Settlements Conference in Istanbul, and was presented to winners by Dr. Boutros Ghali, then the Secretary-General of the United Nations.

Such initiatives helped to establish Dubai's recognition as a city of international importance. Following on from this, Dubai was selected for membership in a number of international bodies, including the UN Secretary General's High Level Advisory Board, which has representatives of 19 cities and international organisations and is the top global body dealing with human settlement. Dubai was also appointed as a member of the Advisory Board of the Arab Towns Organisation. This choice was no mere coincidence, but, was, rather, an acknowledgement of the way in which Dubai's development has paralleled that of other important international cities.

Dubai has also been awarded a number of Arab and international prizes. In 1999, for example, it was awarded the "Pioneer" Award from the International Council for Caring Communities, a body under the aegis of the United Nations, while it was also selected as winner of the Cannes International Prize for Water, awarded by the Cannes, France based Mediterranean Organisation for Water. This award was a recognition of the way in which Dubai has made use of recycled sewage water to expand the planted areas within the city, thus being able not only to ameliorate the harsh environment in the region but also to avoid wastage of water. In total, Dubai now recycles around 50 million gallons of water per day.

The massive projects undertaken in recent years by the Government of Dubai have made the city a focus of international attention.

These began with the launching of Emirates Airline, the UAE's leading national carrier, in



An aerial photograph of Dubai City



H.H. Sheikh Hamdan bin Rashid Al Maktoum, chairing a meeting of the steering committee of the IMF/World Bank conference in Dubai in 2003.

October 1985, which played a major role in making Dubai an international transport hub as well as a global centre of commerce.

This was followed in 1996 by the inauguration of the first Dubai Shopping Festival, which attracted thousands of tourists from throughout the world. Held twice a year, the Festival has become the leading event of its kind in the region.

Other key projects include Dubai Internet City and Dubai Media City, both of which have attracted many international companies to establish regional bases in Dubai from which they have expanded throughout the Middle East, Asia and Africa.

Finally, the introduction of an e-Government programme in all Government offices has ensured that procedures are simplified and that Dubai is abreast of the latest technological developments at the dawn of the new millennium and at the beginning of the new era of globalisation.

In 2003, Dubai was chosen to host the joint conference of the International Monetary Fund and the World Bank, one of the world's largest conferences, with delegates and visitors numbering between 15,000 – 20,000. The choice of Dubai to host the event, against strong competition from other major cities around the world, was further evidence of Dubai's global status.

Dubai today is an active city that never sleeps. It has been able to make remarkable progress from being a small village to becoming a city of global significance in a relatively short space of time. Enjoying a status of high distinction in all aspects, Dubai is a reflection of all that is brightest in the United Arab Emirates.

Table No. 1: Population estimates in the Emirate of Dubai

Year	Population	Comments	Source
1959	38,000	Estimate	Ministry of Planning
1968	59,092	Actual Census 1968	Census carried out by the Trucial States Development Council
1970	70,000	Estimate	Ministry of Planning
1975	183,187	Actual Census	Ministry of Planning
1978	229,400	Estimate	Ministry of Planning
1980	276,301	Actual Census	Ministry of Planning
1983	287,353	Estimate	Ministry of Planning
1984	298,847	Estimate	Ministry of Planning
1985	370,788	Actual Census	Ministry of Planning
1986	393,368	Estimate	Ministry of Planning
1987	417,356	Estimate	Ministry of Planning
1988	442,845	Estimate	Ministry of Planning
1989	469,931	Estimate	Ministry of Planning
1990	498,417	Estimate	Ministry of Planning
1991	529,303	Estimate	Ministry of Planning
1992	596,365	Estimate	Ministry of Planning
1993	610,926	Actual Census	Dubai Municipality/ Census Centre
1994	649,865	Estimate	Ministry of Planning
1995	689,420	Actual Census	Ministry of Planning
1996	695,000	Estimate	Ministry of Planning
1997	757,000	Estimate	Ministry of Planning
1998	805,000	Estimate	Ministry of Planning
1999	858,000	Estimate	Ministry of Planning
2000	862,387	Actual Census	Dubai Municipality/ Census Centre
2001	910,336	Estimate	Dubai Municipality/ Census Centre
2002	960,950	Estimate	Dubai Municipality/ Census Centre

Table No 2: Length of road network in the Emirate of Dubai (Course – Km.)

The development of the road network between 1980 – 2002 (according to data currently available)

Total Length in Km.	Length completed in Km.	Year
1,085	-	1980
1,237	152	1981
1,299	62	1982
1,597	298	1983
1,659	62	1984
1,809	150	1985
2,177	368	1986
2,570	393	1987
2,967	397	1988
3,061	94	1989
3,152	91	1990
3,443	291	1991
3,553	110	1992
3,793	240	1993
4,066	273	1994
4,235	169	1995
4,610	375	1996
4,828	218	1997
5,265	437	1998
5,420	155	1999
6,362	942	2000
6,910	548	2001
7,358	448	2002

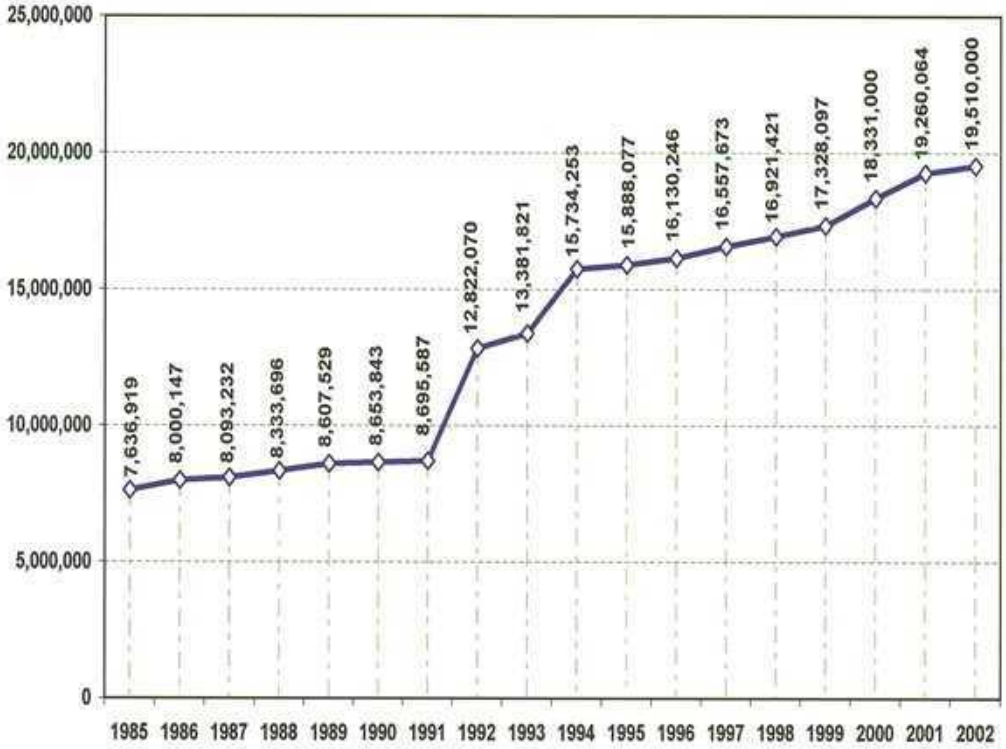
1. Total area of road network in 2002: 220 square kilometres

Table No. 3 Development of total planted area in square metres and the percentage of annual increase between 1985 – 2002

Year	Total area at year end in square metres	Annual increase in square metres	Percentage of annual Increase	Percentage of planted area in relation to urban area
1985	7,636,919	63,550	0.8 %	1.20 %
1986	8,000,147	363,228	4.8 %	1.30 %
1987	8,093,232	93,085	1.2 %	1.34 %
1988	8,333,696	240,464	3.0 %	1.38 %
1989	8,607,529	273,833	3.3 %	1.42 %
1990	8,653,843	46,314	0.5 %	1.43 %
1991	8,695,587	41,744	0.5 %	1.44 %
1992	12,822,070	4,126,483	47.5 %	2.12 %
1993	13,381,821	559,751	4.40 %	2.20 %
1994	15,734,253	2,352,432	17.6 %	2.60 %
1995	15,888,077	153,824	1.0 %	2.63 %
1996	16,130,246	246,169	1.50 %	2.67 %
1997	16,557,673	427,427	2.6 %	2.74 %
1998	16,921,421	363,748	2.2 %	2.80 %
1999	17,328,097	406,676	2.4 %	2.9 %
2000	18,331,000	1,002,903	5.8 %	3.03 %
2001	19,260,064	929,064	5.1 %	3.18 %
2002	19,510,000	250,000	1.3 %	3.23 %

* Total cultivated area in Dubai in 2002: 19,510,000 million square metres

Development of the total green area in square metres between 1985-2002





Safa Park

Foreign Relations and Organisations

Dubai Municipality has played a major role, as initiator and organiser, of many of the numerous conferences and regional and international forums held in the Emirate of Dubai. These have helped to display to the wider world the nature of current developments in Dubai and its human and urban development over the course of the last decade. The Municipality has also participated in many international fairs and exhibitions held in the city and has taken part in events overseas.

This process of winning international recognition for Dubai can be said to have really commenced with the organisation of the international Chess Olympiad in 1987, which, for the first time, placed Dubai firmly on the global map of sports events.

Following the success of the Chess Olympiad, Dubai has been able to attract many more events, both sporting and others, and has displayed its ability to cope with the administrative and organisational tasks associated with the hosting of major international conferences, exhibitions and sporting events.

Origins of the of Foreign Relations and Organisations Office

The first major regional conference to be held in Dubai was the 10th General Conference of the Arab Towns Organisation, ATO, held between 3rd and 7th April 1994, and attended by H.H. Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and Head of the Municipality. The largest of the ATO meetings held up to that time, it was attended by around 1200 participants, representing 380 cities and towns from throughout the Arab world. It is still considered to have been the most successful ATO conference ever held.



The Opening Session of the 10th General Conference of the Arab Towns Organisation, April 1994



The Dubai International Conference for Human Settlements, November 1995

International Conference for Human Settlements (Habitat 2)

The ATO conference was followed, on 19th-22nd November 1995, by the Dubai International Conference for Human Settlements, organised by the Municipality in conjunction with the United Nations Centre for Human Settlements, HABITAT, and held on the theme of 'Best Practices.'

Among those taking part was Dr. Wally N'Dow, Secretary General of the UN Human Settlements Centre and 914 others from a total of 95 countries, representing companies, organisations, various Government and private sector institutions and organisations as well as Government Ministers and the Mayors of a number of cities.

The focus of their discussions was the rapid transformation of urban growth in developing countries and associated economic and social issues, including the decline of living standards in rural areas.

It was agreed by those taking part that there was an urgent need for the re-evaluation of policies related to housing and urbanisation and that scientific and practical long-term answers needed to be found to the economic, social and environmental challenges posed by the changing patterns of human settlement. Among issues addressed were those of the administration of development, the provision of employment opportunities, the eradication of poverty, protection of the environment, the repatriation of displaced immigrants, the importance of equality between men and women, the need for social integration and equality for children and the right to obtain land and housing for all.

The conference drew up guidelines for a summit on towns to be included on the agenda of another summit, to be held in Istanbul in June 1996. It also adopted a Dubai declaration (see text on Page 88), and paved the way for the launching of the Dubai International Award (see Page 81).

Organisation Chart for Foreign Relations and Organisation Office

Director General of the Municipaity

Foreign Relations and Organisations Office

Year of joining the duty	Officials
November 1996	Head of the Foreign Relations and Organisations Office
April 2000	Assistant Head of Foreign Relations and Organisation Office
February 2000	Secretary

Tasks and Functions of Foreign Relations and Organisations Office

Besides the events in Dubai, the Municipality was also active overseas, taking part, for example, in the Arab and European Cities Conference, held in Valencia, Spain, in 1994 and the General Conference of the International Union of Local Authorities, held in The Hague, Holland, in September 1995.

By this time, it was apparent that Dubai Municipality needed a special unit to handle its overseas and international activities, and in late 1996, a Department of Foreign Affairs and Organisations, was set up, under the terms of Administrative Order No. 916 for 1996. It was initially composed of a Head of Department, reporting to the Head of the Municipality, who was joined in February 2000 by a secretary and in March 2000 by an Assistant Head of Department.

The Department was given the task of initiating and implementing a strategy for the development of the international relations of the Municipality, and to prepare the appropriate budget. It was also charged with providing support, both technical and administrative, to the Director-General in his work with relation to external organisations and meetings in which the Municipality is involved. These include the General Secretariat of the UAE Municipalities, the various bodies linked to the Gulf Co-operation Council, GCC, the Arab Towns Organisation and its affiliates, the Organisation of Islamic Capitals and Cities and its affiliated bodies, the United Nations and its specialised Agencies and Centres and the International Union of Local Authorities and any body linked to it.

This work involved the preparation of reports, agendas and minutes and following up on rec-



H. H. Sheikh Hamdan bin Rashid Al Maktoum with participants at the Dubai International Conference for Human Settlements

ommendations agreed by various meetings and also the initiation, through the office of the Director-General and diplomatic channels, of direct links with other cities, including twinning relationships.

The Department was also charged with responsibility for co-ordinating with the UN Centre for Human Settlements on matters related to the Dubai International Award for Best Practices on improvements in the living environment.

Other duties included the carrying out of work designed to stimulate media coverage, both at home and overseas, of the Dubai Declaration agreed at the 1995 Human Settlements Conference, preparing plans for official visits by Municipality delegations abroad, including the appropriate liaison with the Human Resources Department, maintaining close links with the Public Relations Section, identifying ways of promoting links and the exchange of information between the Municipality and cities and organisations overseas and monitoring foreign reports of interest to the Municipality and presenting summaries to the Director-General.

Its work also was to include the identification of regional and international events and activities of relevance to the Municipality and making recommendations for its participation, where appropriate, and then organising the relevant participation, as well as the presenting of regular reports on its work.



Signing the twinning agreement with the Gold Coast in Australia

External activities of the Dubai Municipality:

Since the Department was established, it has been responsible for organising Municipality participation in a wide range of international activities. One of the earliest was the involvement of the Municipality in the Second United Nations Conference for Human Settlements in Istanbul, Turkey in June 1996. prior to which it also took part in the founding conference of the World Associations of Cities and Local Authorities, WACLA-I), where recommendations made by the Municipality were adopted.

The Municipality delegation was also able to secure approval for a recommendation relating to habitats that derived from the principles of the Dubai Declaration.

Over the course of the last five years, important achievements by the Department have included the signing of twinning agreements with the cities of Casablanca, Detroit, Istanbul, Shanghai, Jerusalem and Australia's 'Gold Coast' and co-operation and friendship agreements with Canton, Damascus, Beirut and Geneva (see page 92) .

The Department has also arranged and hosted numerous conferences, seminars and other events, both regional and international in nature.

The growth of the activities designed to strengthen the international relations of the Municipality, and of the Emirate of Dubai as a whole, has been remarkable.

In 1997 and 1998, for example, delegations were sent to a meeting of the Management Committee for the 'Best Practices' Award, held in Rotterdam, Holland, in February 1997; the General Conference of the International Union of Local Authorities, in Mauritius, in April 1997; a meeting of the Commission for Sustainable Development at the United Nations in April 1997; the sixteenth meeting of the United Nations Conference for Human Settlements in Nairobi, Kenya, in May 1997; the eleventh General Conference of the Arab Towns Organisation, in Tunisia, in May 1997; the eighth General Conference of the Organisation of Islamic Capitals and Cities, in Tehran, Iran, in June 1997; the fifth international Habitat Conference, in Cali, Colombia, in November 1997; an urban forum designed to promote the Dubai International Award for Best Practices, held in Egypt in May 1998; the World Conference on International Cities and Citizens held in Japan in May 1998; the 20th meeting of the Administrative Council of the Organisation of Islamic Capitals and Cities, in Bahrain, in November 1998 and in a regional meeting held pursuant to the second United Nations Conference on Human Settlements (Habitat II), on "Implementing the Habitat Agenda in the Arab Region," held in Lebanon in November 1998.



The signing of the twinning agreement with Istanbul, in Turkey, in 1998

In June 1998, the Department also organised a visit by the Municipality delegation to Australia, which visited Melbourne, Sydney and cities on the 'Gold Coast', while in October 1998, a delegation visited Istanbul to attend the celebrations of the 75th anniversary of the foundation of the Turkish Republic. The twinning agreement between the two cities was signed during this visit. Also in October and November 1998, the Municipality took part in visits by leading Municipality officials from the GCC states to Kuwait and an Arab Towns Organisation delegation to a meeting of heads of the International Union of Local Authorities Council.

In 1999, the programme of activities continued. During that year, the Municipality took

on Water, in Cannes, while further planning for the Istanbul Plus Five conference and an appraisal of results emerging out of the 1996 conference (Habitat II), took pace at a meeting in New York in June.

At a regional level, the 6th meeting of GCC Ministers concerned with Municipalities and the 8th meeting of executive officers from GCC Municipalities also took place in June, in Bahrain.

In November, the Municipality attended a conference in Istanbul of all the cities with which the Turkish city was twinned and also took part in a seminar on Cities of the Future, held in Riyadh.

The first official visit to South America by a Municipality delegation since the establishment of the Foreign Affairs Department took place in November 2001, with a meeting of the management committee for the Dubai Best Practices Award project being held in Florianopolis, in Brazil.

In January 2002, the General Congress of the Arab Towns Organisation was held in Kuwait, followed by a meeting in Vancouver, Canada at the end of February of the Preparatory Committee for Local Authorities with relation to the World Summit on Sustainable Development, held in Johannesburg later in the year.

In April, Municipality delegations took part in the Third Forum of the World Alliance against Poverty in Belgium and the Third International Forum on Electronic Democracy held in Paris, France, while the 7th meeting of GCC Ministers and the 9th meeting of GCC Municipality executives was held in Muscat, Oman.

Other meetings attended during April and May 2002 included the 42nd meeting of the permanent bureau of the Arab Towns Organisation, in Amman, Jordan, two meetings in Nairobi, the 5th meeting of the United Nations Advisory Committee for Local Authorities (UNACLA) and an International Urban Forum, the 12th international conference on 'Protecting the Environment is a Necessity of Life', in Alexandria, Egypt, a meeting of the Technical Advisory Committee for the Dubai 'Best Practices Award, in Guangzhou, China, and the general conference of the Metropolis Organisation, in Seoul, South Korea.

In June, delegations from the Municipality attended the 4th International Forum on Water, in Cannes, France, the 3rd International Forum on City Information, in Shanghai, China, the Internet conference INET, in Washington, DC, and a meeting of the Technical Advisory Committee for the Dubai 'Best Practices' Award, in Naples, Italy.

In August and September, Municipality officials formed part of the UAE delegation to the World Summit on Sustainable Development in Johannesburg.

Other activities during 2002 included participation in December in a conference on Children and the City, and at the awards ceremony for the King Abdullah Award for Excellence, both in Amman, Jordan.

The work of the Department is not confined to organisation participation by the Municipality in conferences and visits overseas, however. It is also actively involved in organising, and in participating in, conferences held in Dubai. With the increasing recognition of Dubai as an international conference centre, this aspect of the Department's work has become of ever more importance.

The involvement of the Municipality in such regional and international meetings preceded the formal establishment of the Department. Thus in April 1994, for example, Dubai hosted the 10th General Conference of the Arab Towns Organisation, as noted earlier, while a GCC Conference on Healthy Cities took place in November 1995. This was followed by the Dubai International Conference on Human Settlements, held between 19th and 22nd November 1995.

Subsequent to the creation of the Department, a number of other international and regional events have been held in Dubai, in each of which the Department has been involved. The city hosted, for example, the 4th meeting of GCC Ministers concerned with Municipality affairs in May 1999, followed by the 2nd Urban Environment Forum for the Arab and Mediterranean region, held in November 1999.

In 2000, the Presidential Council for the International Union of Local Authorities Council met in Dubai in January while the Municipality was also involved in the 1st International Quality Control and Quality Assurance of Construction Materials Conference and Exhibition, in October, and an Industrial Investment Opportunities Symposium and Exhibition, in November.

In January 2002, a meeting was held to discuss the establishment of a Municipalities' executive office for the GCC states, while in February, the Municipality hosted a meeting of the United Nations Advisory Committee for Local Authorities (UNACLA). A meeting of the Administration Council of the Organisation of Islamic Capitals and Cities and its Co-operation Fund took place in March.

The Department also becomes involved, where appropriate, in events of a local or UAE nature which may be attended by guests and delegates from overseas. These have included, for example, a symposium on Cultural Achievements and Methods of Conservation in UAE cities, held in June 2001,



H.E. Sheikh Hamdan bin Rashid Al-Maktoum speaking during the 4th meeting of GCC Ministers in Dubai in November 1999

Municipality Membership of Regional and International Organisations

Much of the involvement of the Municipality in conferences and other events abroad, as is apparent from the list above, is due to the fact that it is a member in a number of regional and international organisations and committees.

Dubai Municipality was one of the founders, in 1967, of the Arab Towns Organisation, and is a member of its permanent bureau, based in Kuwait. It has been a member of the Jeddah, Saudi Arabia – based Organisation of Islamic Capitals and Cities since 1986, and has been a member of its Administrative Council since 1997.

Since 1998, the Municipality has been a member of the International Union of Local Authorities, IULA, which is based in The Hague, Holland. Prior to taking up membership, it attended general conferences of the Union in The Hague in 1995 and in Mauritius in 1997, and also attended the 1999 conference in Barcelona, Spain.

The Municipality was also the first Arab local authority to become involved with the International Internet Society, ISOC, based in Virginia, USA. It attended the ISOC general conference in San Jose, California, in 1998, took up membership in 1999 and attended the 2000 conference in Yokohama, Japan.

Since 1998, it has also been a member of the International Council of Monuments and Sites (ICOMOS), based in Paris, France, with the Historic Buildings Section playing an active part in ICOMOS activities.

Since 1997, the Municipality has been on the Board of Trustees of the Arab Institute for City Development, based in Saudi Arabia.

Dubai itself is also now the base for two international bodies, the Environment Centre for Arab Cities, a scientific institution created at the twelfth meeting of the Arab Towns Organisation, in 2000, and the Roads and Drainage Information Unit established in 1998 by the GCC Ministers concerned with Municipality affairs. This body operates under the aegis of the GCC Secretariat General.

Dubai International Award for Best Practices to Improve the Living Enviroment

In accordance with the directives of H.H. Sheikh Maktoum bin Rashid Al Maktoum, UAE Vice President and Prime Minister and Ruler of Dubai, the Dubai International Award for Best Practices to improve the living environment was established in November 1995, during the Dubai International Conference. In its first three years, the Award attracted 1,200 entries, and also set up a partnership with the United Nations Centre for Human Settlements.

In 2000, H.H. Sheikh Maktoum issued a formal decree, Decree No. 13, to establish the Award, and to lay down its organisational structure. In the same year H.H. Sheikh Hamdan bin Rashed Al Maktoum, UAE Minister of Finance and Industry, Deputy Ruler of Dubai and Head of the Dubai Municipality, issued Directive No. 15 to form the Award's Board of Trustees.

The Dubai International Award seeks to recognise and enhance awareness of outstanding and sustainable achievements in improving the living environment in accordance with the criteria laid down by the Second United Nations Conference on Human Settlements (Habitat II) and the Dubai Declaration.

It is presented on a biennial basis to ten entries selected from those submitted, and has a total value of 400,000 US dollars. Of this, US $ 300,000 is set aside for the ten prizes for Best Practices, and US $ 100,000 for management expenses, including travel and accommodation expenses for a delegation of up to two people from each of the selected winners.

Winners also receive a trophy and a commemorative certificate.

Dubai International Award for 1996 – First Award

During the first Award process, in 1996, the winners were selected from 700 submissions received from over 80 countries around the world. An independent Technical Advisory Committee (TAC) met in Rotterdam, The Netherlands, from 26th February 1996 to 1st March 1996 to assess the submissions' compliance with the three criteria for a Best Practice: impact, partnership and sustainability. The TAC identified 104 of the submissions as Best Practices and prepared a short-list of 43 submissions for consideration by the Best Practices jury.

This met in Toronto, Canada, from 28th to 29th March 1996 and selected the following twelve initiatives to receive the Dubai International Award for Best Practices in Improving the Living Environment and the Tokyo Award for Excellence. The Awards were presented during a special ceremony during the Habitat II Conference in Istanbul, Turkey, on 4 June 1996, held in the presence of former UN Secretary General Boutros Boutros Ghali.

The winners of the Dubai International Award were as follows:

1. Project on Sites and Services for Low-income Families, Buenos Aires, Argentina
2. Integration Council in the Favelas Rehabilitation Process, Fortaleza, Brazil
3. Metro Toronto's Changing Communities: Innovative Responses, Canada
4. Post-calamity Reconstruction of Anhui Province's Rural Areas, China
5. Successful Institutionalisation of Community-based Development, Ivory Coast
6. The Self Employed Women's Bank (SEWA), India
7. Shelter Upgrading in Agadir, Morocco



Boutros Boutros Ghali and the Director-General of the Municipality during the presentation of the Dubai International Award in Istanbul 1996.



General H.H. Sheikh Mohammed bin Rashid Al Maktoum presenting the Dubai International Award to the winners in 1998.

8. City Management in Tilburg, Holland
9. Local Initiatives Programme, Lublin, Poland
10. Community Information Resource Centre, Alexandra, South Africa
11. 'Don't Move, Improve!' Banana Kelly, South Bronx, New York, USA
12. City of Chattanooga, Tennessee, USA

Dubai International Award for 1998 – Second Cycle

A total of 470 entries from over 80 countries were received for the second Award.

The Technical Advisory Committee met in Vienna, Austria, from 7th-10th June 1999, to short-list 40 entries, these being examined by the international jury at a meeting in Dubai from 24th-26th July 1998. Ten winners were selected, who were presented with their awards by H.H. General Sheikh Mohammed bin Rashid Al Maktoum, UAE Minister of Defence and Crown Prince of Dubai, at a ceremony in Dubai on 5th October 1998.

The winners were as follows:

1. Comprehensive Improvement of the Urban Environment of Zhuhai, China

2. Urban Sub-centres for Citizen Life in the low-income areas of Medellin, Colombia
3. Household Solid Waste Management: Zabbaleen Garbage Collectors, Cairo, Egypt
4. Urban Governance in Environment and Public Health: Surat's Experience, India
5. The Kipepeo Project, Arabuko-Sokoke Forest, Kenya
6. Housing Programme for the Peripheral Areas of Xalapa, Vera Cruz, Mexico
7. Participatory Planning Initiatives in Naga City, Philippines
8. Programmes for Improving the Urban Environment in Malaga, Spain
9. Community Infrastructure Upgrading Programme, Dar-es-Salaam, Tanzania
10. Interface's Journey to Sustainability, Kennesaw, Georgia, USA

The Dubai International Award Laureates' Forum (DIALF)

In 1998, the Dubai International Award Laureates' Forum (DIALF) was established as a means of tracking progress made and further disseminating information on the results achieved by Award-winning best practices. The Forum includes all 26 winners from the past three Award programmes in addition to all future winners. Members of the Forum work to improve awareness of the Award and encourage the submission of entries of best practices from various communities around the world.

Dubai International Award for 2000 – Third Cycle

More than 740 'best practices', from over 115 countries, were submitted for the third Award programme. The independent Technical Advisory Committee met in Guangzhou on 5th-8th June 2000 to select 140 entries for the short-list.

The initiatives were selected from 700 plus submissions and updates received from more than 120 countries around the world. An independent Technical Advisory Committee (TAC) met in Shenyang, China, from 5 to 8 June 2000 to assess the submissions' compliance with the three criteria for a Best Practice: impact, partnership and sustainability. From the submissions, the TAC identified 100 Best Practices and prepared a short list of 40 submissions for consideration by the Best Practices jury.

These were then reviewed by the jury meeting in Dubai on 3rd-5th July. Ten winners were chosen, and were honoured at an Award ceremony held in Dubai in November 2000, in the presence of H.E. Sheikh Ahmed bin Saeed Al Maktoum, Head of the Dubai Civil Aviation Authority, and a number of high ranking officials from the UAE and United Nations.
The winners were as follows:

1. Luanda Sul Self-financed Urban Infrastructure, Angola
2. Public Security, Human Rights and Citizenship, Brazil
3. Creating a Sustainable Community, Hamilton-Wentworth Vision 2020/Air Quality, Canada
4. Comprehensive Re-vitalisation of Urban Settlements, Chengdu,, China
5. Democratisation of Municipal Management, Cotacachi Canton, Ecuador
6. Cost Effective and Appropriate Sanitation Systems, India
7. Women's Empowerment Programme, Nepal



H.E. Sheikh Hamdan bin Rashid Al-Maktoum with winners of the Dubai International Award for Best Practices in 2002

8. Spanish Greenways Programme, Spain
9. Shambob Brick Producers Co-operative, Sudan
10. Tourism and Coastal Zone Management, Cirali, Turkey

Dubai International Award for 2002 – Fourth Cycle

In 2002, the next Award programme got under way, with the Technical Advisory Committee meeting in Guangzhou, China to choose a short-list of 40 'best practices' from over 500 entries submitted from around 90 countries. The international jury met on Naples, Italy, on 22nd-26th May to choose the ten winners, who were presented with their awards by H.H. Sheikh Hamdan bin Rashid Al Maktoum, UAE Minister of Finance and Industry and Deputy Ruler of Dubai, at a ceremony held in Dubai on 3rd November 2002.
The winners were as follows:

1. Humanitarian News Agency, Argentina
2. Programmed' Assainissement et Protection de l'Environnement, Benin
3. Gender and Citizenship Programme, Santo Andre, Brazil
4. Liveable Region Strategic Plan for Greater Vancouver, Canada
5. Action Plan for Sustainable Guangzhou, China
6. Relocation of backyard tenants, Namibia
7. Women's contribution in sustainable rural development, Lebanon
8. Mother Centre International Network, Germany / International
9. Area-based assessment of property tax in Patna, India



UN Secretary General Kofi Annan during the ceremony to inaugurate the replica of the Dubai Best Practices trophy at the United Nations in 1999.

10. Protection and rehabilitation of the heritage site of Santiago de Compostela, Spain.

A 6-foot tall replica of the Dubai International Award for Best Practices trophy was unveiled in 1999 in the headquarters of the United Nations in New York. The unveiling ceremony was attended by Kofi Annan, the UN Secretary General, the Permanent UAE Representative to the UN and a number of UN officials.

Another replica was also unveiled in 1999 at the UN offices in Nairobi, Kenya in the presence of Klaus Topfer, the director of HABITAT.

A list of Arab and international awards won by the Municipality can be found at the end of this publication.

Honours received by the Director-General of the Dubai Municipality

In recognition of the role played by the Dubai Municipality at an international level, its Director-General has been selected on a number of occasions to chair conferences and has also been honoured in other ways.

Between 1994 and 1997, he served as President of the General Conference for Arab Towns, while he was placed on the Honour Register of HABITAT, the UN Human Settlements Centre, in 1995.

In 1998, he was chosen as the President of the World Assembly of Cities and Local Authorities (WACLA) and of the Arab Towns Organisation during discussions on sustainable development that took place in association with the UN General Assembly, while in 2000, following a rec-



Streeing Committee of Dubai International Award for 1998

ommendation from HABITAT, he was selected as an Ambassador of Goodwill for the organisation, the only Arab to be so honoured. In the same year, he was appointed as a member and founder of the United Nations Advisory Committee on Local Authorities, set up to offer the necessary support and advice to the UN Secretary General on Local Authorities.

Also in 2000, in April, he was chosen as a member and founder of the General Congress of the Arab Towns Organisation, and was appointed as a member of the Germany-based Arab-European Cooperation Centre. In May 2000, the Director-General was among 10 Arab figures to be presented with the 'Environment Award' during the 'Protection of the Environment is a necessity of life' conference organised by the Arab-European Cooperation Centre, Alexandria University and the International Science Foundation (ISF).

He has acted as chairman of conference plenary sessions and committee sessions at a wide variety of events.

The Dubai Declaration

The Dubai Declaration was adopted during the Dubai International Conference for Human Settlements, held between 19th and 22nd November 1995. The official text follows.

The Dubai Declaration was originally formulated at the Dubai International Conference on Best Practices to Improve the Living Environment organized by the Dubai Municipality in association with the United Nations (UNCHS/HABITAT) in Dubai, U.A.E. during 19 – 22 November, 1995. 95 countries and 914 participants from all over the world attended the Conference. 28 best practices were presented at the conference by industrialized as well as developing countries and thus gave the first flavour of the vast international potential for practical mutual assistance through the sharing of transferable and replicable expertise and achievements of excellence.

The Dubai Declaration was later formally adopted by the UNCHS/HABITAT conference in

New York during February 1996. The Dubai Declaration has been adopted by the United Nations as well as by the World Association of Cities and Local Authorities (WACLA) at the HABITAT II Conference held in Istanbul, Turkey during 3 – 14 June, 1996. The Declaration is referred to in both the HABITAT Agenda (Istanbul Declaration) and the WACLA (Istanbul Declaration). It can be truly said that the Dubai Declaration gave birth to the international concept of sharing Best Practices for the accelerated development of the human settlements section. The Declaration represents a clear expression of the aspirations, hopes and strategies by Governments, Local Authorities, NGOs and CBOs for the improvement of the living environment for the benefit of humanity well into the 21st century through the application of an international system of recognizing and disseminating best practices.

The Dubai Declaration is noteworthy for another extremely important outcome, namely, the establishment of the Dubai Award for Excellence in Improving the Living Environment. This Award is referred to in item 7 of the Dubai Declaration and was established under the directive of H.H.Sheikh Maktoum bin Rashid Al Maktoum, Vice-President and Prime Minister of the United Arab Emirates and Ruler of Dubai. The Award comprises of a total of U.S.$ 400,000 to finance the biennial event honouring the Best Practices to be chosen by a UNCHS Technical Advisory Committee as well as an international jury of eminent personalities. The first Award took place in Istanbul on June 4, 1996 as part of the HABITAT II Conference's main events.

Dubai Municipality is pleased to be associated with the international effort in responding positively to the immense challenges of human settlements issues in the 21st century. The Dubai Declaration will give a momentum to this effort and galvanize the achievement of meaningful exchange of expertise and co-operation among governments, local authorities, NGOs and CBOs for the common good of humanity.

The Dubai International Conference for Habitat II on Best Practices in Improving the Living Environment, having brought together over 900 delegates from governments, United Nations Agencies, international organizations, local authorities, non-governmental organizations (NGOs), community-based organizations (CBOs), professional associations and the private sector, from 19th to 22nd November, 1995 and having reviewed a selection of 28 Best Practices documented for the Habitat II Conference:

BACKGROUND AND GUIDING PRINCIPLES:

1. Recalling Agenda 21 adopted by the United Nations Conference on Environment and Development (Rio de Janeiro, 1992) and particularly its Chapters 7 and 28 which highlight the essential linkages between human settlements and sustainable development.

2. Also recalling the United Nations Conferences on the Rights of the Child (New York, 1991), Population and Development (Cairo, 1994), Social Development (Copenhagen, 1995) and Women and Development (Beijing, 1995) which highlighted major human development issues: unsafe and unhealthy environment, violence and the differentiated effects each has on men and women.

3. Desirous to explore the full implications of the recommendations of these conferences for sustainable urban development.

4. Recognizing the importance of the call of the General Assembly to forge a positive vision of an urbanizing world and the goals of Habitat II – 'The City Summit': adequate shelter for all and sustainable human settlements development in an urbanizing world.

5. Recognizing that human settlements are where sectoral issues addressed at previous conferences intersect in daily life and that Habitat II represents the convergence of on-going local and global concerns as well as an opportunity for the confirmation and consolidation of earlier plans of actions.

6. Recognizing the recommendations and decisions of the Preparatory Committee for Habitat II calling upon all national committees and the Secretariat to identify and disseminate best practices as an integral part of the preparatory process and establishing guidelines and criteria for this purpose.

7. Concerned with finding practical and sustainable solutions to the social, economic and environmental challenges facing an urbanizing world, including: management of development, employment creation and poverty elimination, access to land and security of tenure, management, protection and rehabilitation of the environment, efficient use of resources, prevention of crime and all forms of violence, rehabilitation of refugees and displaced persons, equality for all men and women, social integration and equality for children, the elderly and the disabled, empowerment of local communities, and access to shelter, basic services and finance.

8. Equally concerned with the need for the Habitat Agenda resulting from the 'City Summit' to guide and inspire concrete actions in solving shelter and human settlements problems in an integrated and sustainable way for the first two decades of the 21st century.

9. Recognizing that special attention has to be given to the situation of poor countries in assuring balance between urban and rural development and the continuing need for international cooperation for shelter and basic infrastructure.

10. Believing that the worldwide promotion of effective mechanisms for extending the exchange of best practices will significantly contribute towards empowering local communities to shape their futures.

11. Acknowledging the various institutional, financial and human resources constraints may limit local capacity to take full advantage of and contribute to such best practice exchanges and that these constraints particularly the need for human resources development and adaptation, also be addressed in this context.

12. Expressing appreciation for the invaluable contribution of Dubai Municipality, United Arab

Emirates, in sponsoring and hosting the International Conference on Best Practices in Improving the Living Environment and providing assistance to partners in developing countries to facilitate the documentation of their case studies.

13. Commending the leadership of UNCHS (Habitat) in providing technical assistance and disseminating guidelines, nomination criteria and unified format to facilitate the compilation and exchange of best practices, including the innovative methodology adopted to analyze and document their gender impact, as a major component of the Habitat II process.

14. Taking note of the efforts underway by UNCHS (Habitat) and its partners to disseminate the best practices through electronic, printed and audio-visual media to the largest possible audience, updated electronic catalogue of best practices.

15. Believing that ready access in all parts of the world to such information will contribute to more effective and meaningful partnerships between and among governments, local authorities NGOs/CBOs, and the professional, academic and private sectors in addressing the challenges of sustainable human settlements development.

RECOMMENDATIONS AND FOLLOW-UP ACTIONS

1. Calls for a co-ordinated strategy to be implemented by UNCHS (Habitat II) in collaboration with other United Nations agencies and all appropriate stakeholders, designed to empower action, influence policy at the local level, and promote real synergy between local, national and international development initiatives, and to strengthen communication between national and local authorities and their constituencies.

2. Stresses that any international effort for collecting and exchanging best practice information on human settlements development must be transparently designed and implemented with the organizations representing local authorities and other stakeholders, building upon their extensive international and national networks and expertise.

3. Recommends to the Preparatory Committee and the 'City Summit' that the following considerations be added to complement the already adopted criteria of tangible impact, partnerships and sustainability for selecting those practices worthy of global dissemination:

   a. Leadership in inspiring action and change, including change in public policy;
   b. Promotion of accountability and transparency;
   c. Empowerment of people, neighbourhoods and communities and incorporation of their contributions;
   d. Acceptance of and responsiveness to social and cultural diversity;
   e. Potential for transferability, adaptability and replicability;
   f. Appropriateness to local conditions and levels of development;
   g. Promotion of social equality and equity.

4. Further suggests that the following be incorporated to strengthen the unified reporting process to enhance best practice dissemination:

   a. Ready and user-friendly access in all major languages to concise summary information outlining the elements and giving contact details for follow-up inquiries;
   b. Formation of international networks to assess innovation, creativity and transferability of practices at various levels of development;
   c. Establishment with the international associations of local authorities and other stakeholders of national and regional focal points to advice on the usefulness and on-going refinement of the system;
   d. Formation of international network to assess the extent to which participatory processes are used and diverse interests and needs, particularly those related to gender differences are assessed;
   e. Development and use of indicators for participatory planning, implementation, monitoring and evaluation, disaggregated by gender and age.

5. Welcomes the steps being taken by UNCH (Habitat) in developing a global electronic catalogue on best practices, in its various forms including the Internet, CD-ROM, diskette and printed forms, as well as other practical means of facilitating access by policy makers and practitioners to the experience of their counterparts in addressing common problems.

6. Encourages all governments, United Nations Agencies, local authorities and their associations, NGOs/CBOs and professional associations to work toward common reporting formats and processes and to establish direct and cross referencing links with each others' systems and with the UNCHS (Habitat) electronic catalogue of best practices in order to greatly enhance and facilitate the transmission of information, experience and expertise to their respective end-users.

7. Calls upon UNCHS (Habitat), in partnership with governments, other United Nations agencies, associations representing local authorities, the private, public, non-governmental, professional and voluntary sectors to explore mechanisms for compilation, systematic analysis and assessment of best practices as an integral part of the follow-up process beyond Habitat II, for the purpose of:

   a. Developing best practice initiatives as sites of learning for sharing their experiences and knowledge base with the global community;
   b. Using and disseminating best practice case studies as training, management and organizational development materials;
   c. Further developing the best practices catalogue as a means of matching supply and demand for technical co-operation at all levels;
   d. Compiling and disseminating an international roster of experience, expertise and knowledge based on those persons, institutions and organizations directly responsible for implementing the best practices;
   e. Promoting the transfer and adaptation of environmentally sound, socially-responsive, eco-

nomically viable technologies, products and services;

f. Furthering the transfer and adaptation of practical solutions for capacity-building, including staff exchange programmes, at the international, regional, national and local levels.

8. Welcomes, with appreciation, the establishment by Dubai Municipality of the Dubai Award for Best Practices which will be administered in collaboration with UNCHS (Habitat).

9. Calls upon UNCHS (Habitat) to make the presentation of the Dubai Declaration a part of the official events of the Istanbul Conference.

Twinning, Cooperation and Friendship Agreements between Dubai Municipality and other Arab and foreign cities

No.	City	Date of Agreement
1	Casablanca – Morocco (Twin City)	03/04/1994
2	Gold Coast – Australia (Twin City)	12/03/1997
3	Istanbul – Turkey (Cooperation Protocol)	22/03/1997
4	Detroit – Michigan (Twin City) *	25/04/1998
5	Shanghai – China (Twin City)	30/05/2000
6	Canton (Guangzhou) – China (Cooperation & Friendship Agreement)	01/06/2000
7	Damascus – Syria (Cooperation and Friendship Agreement)	17/10/2000
8	Geneva – Switzerland (Cooperation and Friendship Agreement)	15/11/2000
9	Jerusalem – Palestine (Fraternity Charter/Agreement)	13/02/2001
10	Beirut – Lebanon (Cooperation and Friendship Agreement)	05/04/2001

The Twin City Agreement was signed again in 2002 in the presence of the Detroit Mayor

Publications

The Department has issued a number of booklets related to the Dubai International Award for best practices and the Dubai Declaration, including a historical summary of the award, details of the winners, and a manual on how to enter the award competition, this being updated for each Award, as well as the text of the Dubai declaration and the concluding report of the Dubai International Conference for Human Settlements (HABITAT II).

Establishment and Development of the Public Relations Section

The Dubai Municipality believes that public relations has an important role to play in communicating information, through the media and other channels, locally, in the Gulf as a whole and internationally. Moreover, a successful public relations operation by the Municipality can help to create a sense of co-operation with the public that, in turn, will help the Municipality in its task of serving the community.

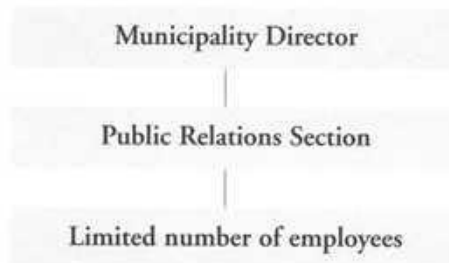
In recognition of this fact, the Public Relations Office was established in 1978 as one of the Municipality's administrative units. Before then, public relations activities were undertaken only upon the specific request of the Director, with only three employees being allocated to these tasks.

The new office was given the following functions:

1- to receive official delegations, visitors and guests.
2- to organise award ceremonies.
3- to take part in social events.
4- to supply the newspapers and radio with Municipality news.

The Public Relations Office was directly linked to the Municipality Director as illustrated in Chart No (1).

Chart No. 1: Organisation Chart for the Public Relations Office in 1978



In 1985, the Public Relations Section was given an additional three employees. At the time, it was divided into three separate Administrative Units, the Media and Publications Unit, the Improvement of Services Unit and the personnel Affairs Unit.

Since that time, the Public Relations Section has undergone many changes, as a result of the organisational and administrative improvements introduced by the Municipality in response to its growing need to undertake various duties and responsibilities within the Emirate.

Thus on 27th February 1986, Administrative Order No. 57 was issued, providing for a two-stage revision of its administration.

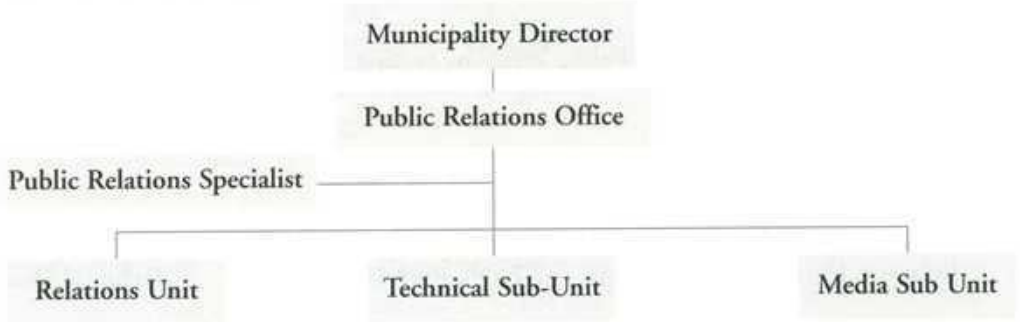
This involved, firstly, a classification of employees carrying out similar duties, so that they could be allocated to the Units best suited to their work, and, secondly, the implementation of administrative and organisational improvements, including the adding of new structures, such as those dealing with training and aspects of organisation and methods of work, which are key

factors in achieving the prescribed objectives specified for each Section in a capable and efficient manner.

In doing this, the responsibilities and duties both of Administrative Affairs and of the Public Relations Section were taken into account.

On 22nd July 1992, Administrative Order No. 62 for 1992 re-organised the Public Relations Office. The new Organisation Chart was as follows:

Chart No. 2. Organisation Chart for the Public Relations Office in 1992



In 1993, in accordance with Administrative Order No. 55, the section was renamed the Public Relations Department, with three separate sub-sections, the Relations Unit, the Media and Publications Unit and the Technical Unit.

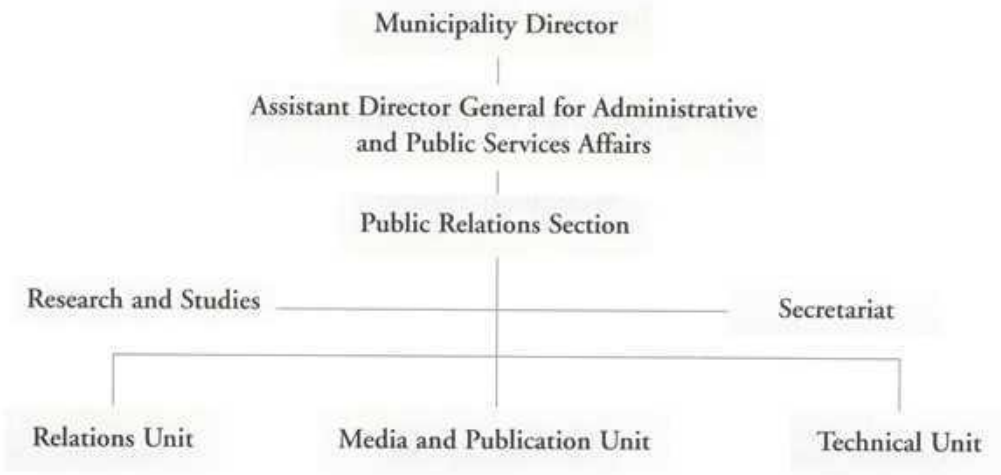
Later the same year, a new administrative unit dealing with Research and Studies was established, responsible directly to the Head of Department, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Public Relations Office in 1993



In 2000, the Public Relations Department was moved from the Office of the General Director of the Municipality to the Administrative and Public Services Affairs Sector, as shown in Chart No. 4. .

Chart No. 4. Organisation Chart for the Public Relations Office in 2000



Employees in the Public Relations Section (1990 -2001)

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
No. of Employees	14	15	15	16	18	21	20	22	23	25	28	34

Responsibilities of the Units of the Public Relations Office

Relations Unit

The Unit is responsible for the following:

- Receiving official and unofficial delegations (local and foreign).
- Hospitality
- Hotel bookings for delegations and visitors.
- Booking halls for conferences and forums.
- Preparing presents and certificates of appreciation for delegations and individuals being honoured, and similar tasks
- Social relations (visiting to present congratulations, attending funerals etc).
- Sending telegrams on special events or occasions
- Organising awards ceremonies.
- Preparing the material for participation in local and foreign fairs and exhibitions and organising their despatch (by post, freight, or as appropriate)

- Supervising the Municipality Projects Exhibition which includes models of the Municipality's projects, prizes and plaques won by the Municipality.
- Distributing posters, leaflets and printed material to the public and visitors.
- Organising trips.
- Visiting ill people.
- Organising sports tournaments.
- Preparing a daily report on newspaper news and monitoring live television and radio broadcasts.

Work undertaken by the Relations Unit (1994-2001)

Duties	1994	1995	1996	1997	1998	1999	2000	2001
Reception at Airport (employees)	89	76	51	111	102	104	47	112
Reception of official delegations	20	8	4	15	15	45	35	52
Receiving VIPs	40	98	93	102	96	63	199	166
Booking City Hall	47	26	30	85	47	90	133	24
Booking the Municipality Council Hall	41	26	52	12	43	21	94	68
Visiting Projects Exhibition	-	249	850	1,118	1,778	1,148	1,809	1,807
Preparing comments and observations about live broadcasts	97	86	58	19	29	16	8	-
Feasts and Parties	48	144	163	197	186	365	693	767
Visiting the ill, offering condolences and sending telegrams	3	18	45	76	51	62	122	153
Distributing publications	-	9,598	113,135	7,637	1,756	10,143	9,536	14,435
Distributing gifts (plaques, watches etc.)	-	355	945	160	180	174	267	136



An event organised by the Relations Unit

Accomplishments of the Relations Unit during 2001

As the Municipality increased its participation in local and foreign conferences and forums and its membership of Arab and international organisations, this led to a related increase in the duties and responsibilities of the Section. These were related, in particular, to the involvement of the Municipality in the following:

- Meetings of the Council of the General Secretariat of the UAE Municipalities
- Local and international occasions celebrated by the Municipalities (Afforestation Day, campaigns to eradicate smoking and to protect the environment, etc)
- Conferences of the Arab Towns Organisation, the most important of which was held in Dubai in 1994.
- Conferences and activities of the Organisation of Islamic Capitals and Cities (local and international).
- Activities of the Municipality and its various administrations (new projects, preserving architectural heritage, International Chess Festivals and local shopping festivals)

Media and Publication Unit

The Media and Publication Unit is responsible for the following:

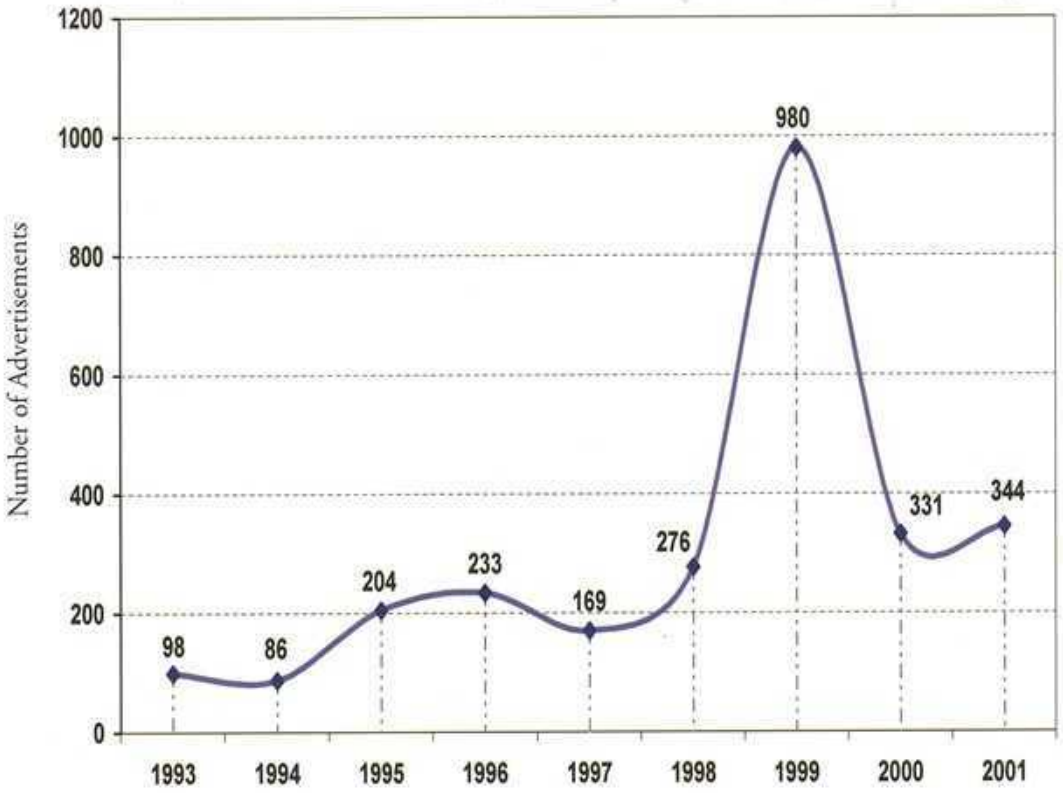
- Preparing media reports on the Municipality's accomplishments and activities for publication or broadcasting in newspapers, radio and television.
- Preparing a report on what is published in the newspapers for the Director General and the various administrative units within the Municipality.
- Preparing responses to comments which appear in local newspapers in co-ordination with the Municipality administrations concerned.
- Printing books, documentary and educational publications relating to the activities of various departments.
- Printing stickers and posters relating to occasions and activities in which the Municipality participates.
- Linguistic revision of various publications, and revision of text accuracy prior to issuing publications in their final form.
- Carrying out print and radio interviews with a selection of guests and visitors in preparation for publication or broadcast.
- Issuing of the monthly Employee Forum publication which includes news on important activities by the Municipality' as well as contributions and suggestions from employees.
- Following up on the Municipality's activities and gathering information from the relevant officials.
- Organising gatherings and meetings with newspaper representatives and conducting press conferences at the media centre in the Unit.
- Preparing advertisements and arranging for their publication in newspapers.

The Media and Publication Unit also monitors the Municipality's advertisements in co-ordination with various Municipality administrations and local as well as international newspapers. The Municipality placed numerous advertisements in the media between 1993 and 2001.

Newspaper Advertisements placed between 1993 and 2001

Year	Number of Advertisements placed	Year	Number of Advertisements placed
1993	98	1998	276
1994	86	1999	980 *
1995	204	2000	331
1996	233	2001	344
1997	169		

Newspaper Advertisements placed between 1993 and 2001



* The significant increase in 1999 is related to the Municipality's activities during the Dubai Shopping Festival and the Dubai International Best Practices Award as well as an increase in the number of newspapers used for advertising.

As part of its work during 2001, the Media and Publication Unit prepared a total of 4,781 news items on Municipality activities as well as other activities in Dubai.

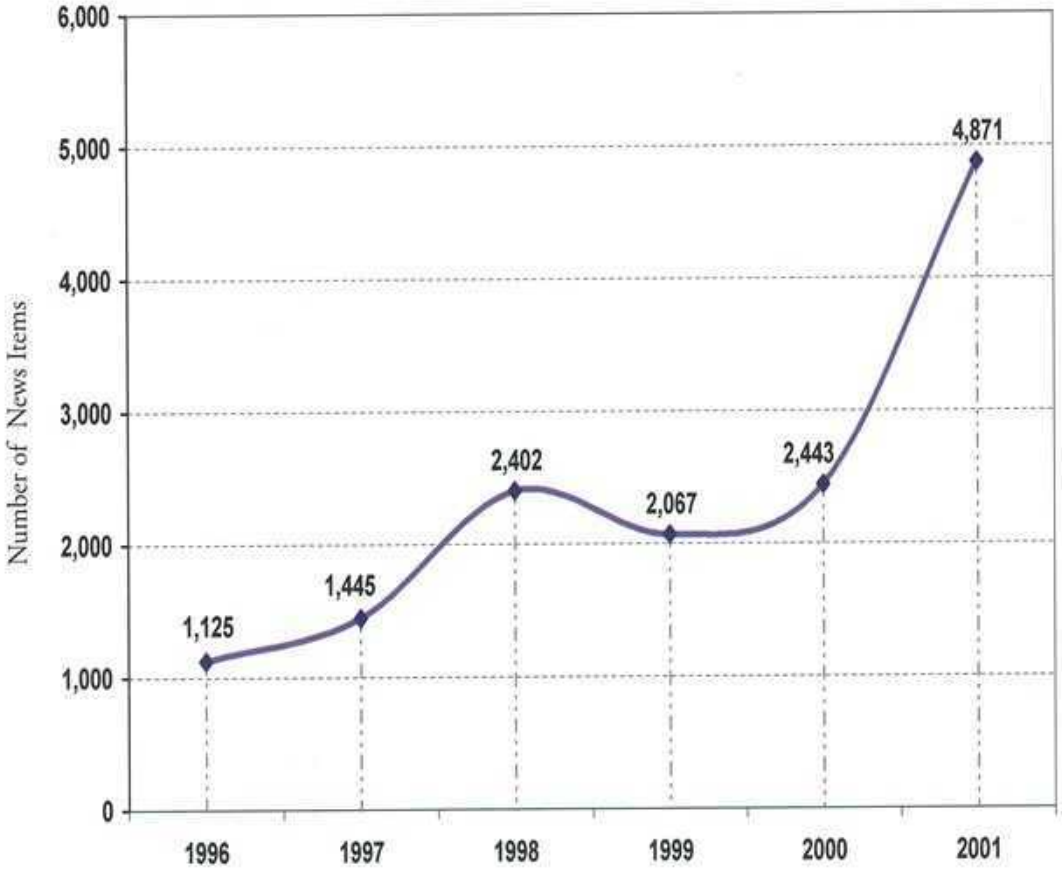


Samples of publications issued by the Municipality under the supervision of the Public Relations Section, in co-ordination with various departments.

Number of publications issued between 1991 and 2001

Year	Number	Year	Number
1991	18	1997	55
1992	-	1998	40
1993	23	1999	38
1994	33	2000	76
1995	20	2001	111
1996	48		

News items prepared between 1996 and 2001



The following table illustrates the news items covering the Municipality departments and Units between 1996 and 2001.

Department/ Unit	1996	1997	1998	1999	2000	2001
Director General	143	207	317	347	304	878
Roads Department	118	124	215	223	275	361
General Projects Department	40	89	91	68	38	137
Planning and Surveying Department	8	37	58	19	13	61
Public Health Department	238	305	537	157	221	422
Environment Department	-	-	17	223	322	527
Administrative Affairs Department	78	74	77	66	104	184
Public Parks and Horticulture Department	111	128	240	222	257	286
Drainage and Irrigation Department	38	33	34	36	46	54
Personnel Department	54	78	137	55	47	87
Building and Housing Department	30	97	73	101	142	229
Public Relations	14	13	48	32	44	60
Market and Abattoir Department	12	9	37	86	109	159
Statistics Centre	4	6	18	13	29	43
Transportation Department	22	13	39	46	2	3
Information Technology Department	14	15	24	27	29	121
Technical Committee	2	7	29	9	3	-
Administrative Development Department	-	-	-	9	6	78
Dubai Central Laboratory	8	9	17	27	23	92
Finance Department	6	6	19	15	30	81
Legal Affairs	1	-	-	-	1	97
Contracts and Purchasing Department	-	-	1	-	3	36
General Secretariat of Municipalities	65	61	112	79	127	289
Public Transport	-	-	-	-	42	140
Dubai Municipality Club	-	-	-	-	26	41
General Maintenance Department	-	-	-	-	31	36
Shopping Festival	60	100	163	69	84	233
National Day	37	32	5	14	-	-
Dubai Summer Surprises	-	-	23	98	14	136
Dubai International Best Practices Award	22	2	60	20	71	-
Dubai Government Excellence Award	-	-	11	6	-	-
Total	**1,125**	**1,445**	**2,402**	**2,067**	**2,443**	**4,871**

Technical Unit

The Technical Unit is responsible for the following:

- Filming of interviews, conferences, projects, visits by VIPs and all activities undertaken by the Municipality.
- Photographing of activities by various departments and Units within the Municipality, using digital and other cameras.
- Producing and directing educational and other short films, in co-operation with other Units.
- To prepare and undertake work on the video library in the Unit which includes many documentary films, programmes and films recording the Municipality's activities.
- To establish a unique photo library, which includes slides and negatives, and to introduce and manage electronic archiving systems to preserve them and to make them easily retrievable.
- To supervise the organisation and operation of Municipality halls.
- To prepare and produce television commercials.



Production of a documentary film.

Activities of the Technical Unit (1993-2001)

Activities	1993	1994	1995	1996	1997	1998	1999	2000	2001
Photography	7,056	7,612	5,526	6,582	3,873	4,560	7,502	9,822	5,887
Slides (Transparencies)	3,297	3,728	1,979	5,179	4,978	2,146	1,845	5,475	3,403
Television Footage (in hours)	-	-	-	-	151	370	569	188	157
Copying Films	-	-	-	-	444	214	289	428	370
Short Films & Commercials	57	56	63	17	20	45	135	89	50
Preparation of Halls	-	-	-	-	22	63	104	133	88

The Research and Studies Unit undertakes the following duties:

- To design and carry out research and studies, as required, in order to achieve the Unit's objectives.
- To assist in organising media campaigns and to prepare and present the research information required prior to the launch of these campaigns, which seek to promote the Municipality's activities and services (such as promoting knowledge of a service presented by the Municipality, car park tariffs and public transport, including services crossing the Creek, etc.)
- Studies to appraise and develop an existing service and investigate any shortcomings, as well as suggestions related to it.
- Studies relating to new services, including the gathering of the views of the public, and collecting public views on the acceptability of such services, if applicable, as well as analysis of the results and preparation of appropriate recommendations.
- Preparing and implementing training programmes and refresher courses to develop and improve the public relations skills of Municipality employees.
- Preparation of monthly and annual reports to detail the accomplishments of the Unit, to identify shortcomings and to make the appropriate suggestions.
- To prepare the Unit's budget and the annual employment budget.
- To research information required by the Section on the Internet, in particular any information relating to development, environment, public health, the latest technological developments, administration sciences and communications.
- Preparation of material for the Municipality's website, in both English and Arabic.

The services of the Public Relations Section are constantly being improved, with new ideas being introduced by staff designed to enhance the overall quality of the department's perfor-

mance. In recent years, these have included:

- Monitoring the completion and implementation of studies allocated to specialist companies in contractual agreement with the organisation, as well as ensuring they abide by the agreed schedules.
- Studying the job satisfaction of employees within the organisation with the aim of identifying the degree of job loyalty to the organisation and its departments and Units, so as to identify points of weakness and problems in relationships between the employees and the organisation in order that these may be addressed.

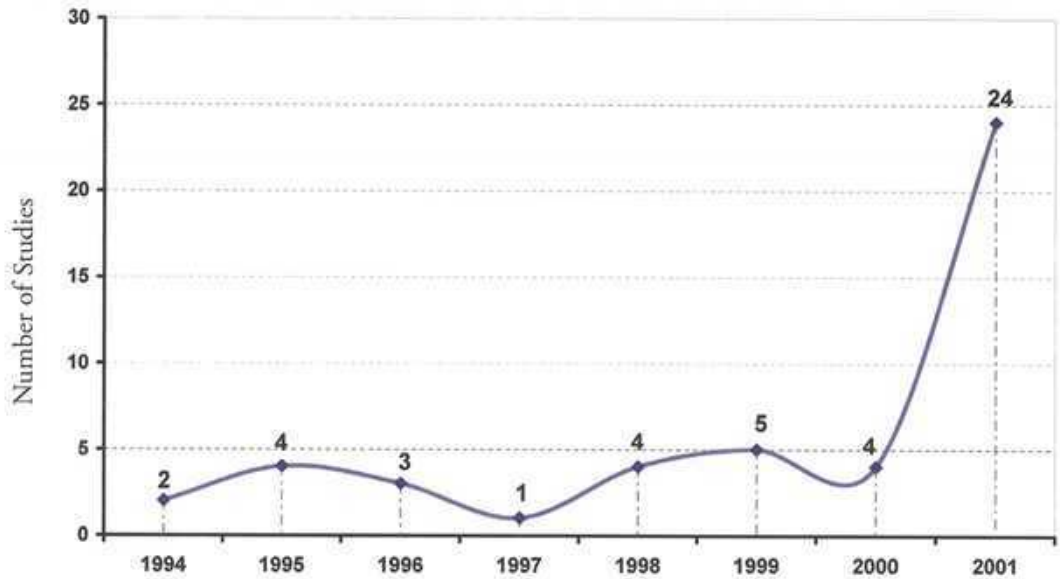
The most important studies completed thus far include:

- Evaluation of employees' opinions on the services provided by Road Maintenance Section and Buildings Section in the Municipality in 1999.
- Evaluating the opinions of those dealing with the Building Licencing Section in Dubai Municipality regarding the service provided by the automated inquiry system in 1999.
- Evaluation of the Public Transport Section in Dubai Municipality in 1999.
- Evaluation studies for opinions of those dealing with the Sales Monitoring Unit in 2000.
- Evaluation studies for the Dubai Abattoirs in 2000.
- Evaluating the opinions of companies dealing with the Food Monitoring Section in 2000.
- Survey of the opinions of the public and of Municipality employees regarding the issue of Health Certificates in 2001.
- Survey of shoppers' opinions about the Friday Market in 2001.
- Survey of Municipality employees' opinions on eradicating smoking in 2001.
- Study of Municipality employees' opinions on the services provided by the Technical Library in 2001.
- Study of services offered by the Documentation and Information Section to Dubai Municipality employees in 2001.
- Study of the opinions of the Municipality's employees and of drivers who deal with the Transportation Department regarding the services provided to them by the Administration in 2001.

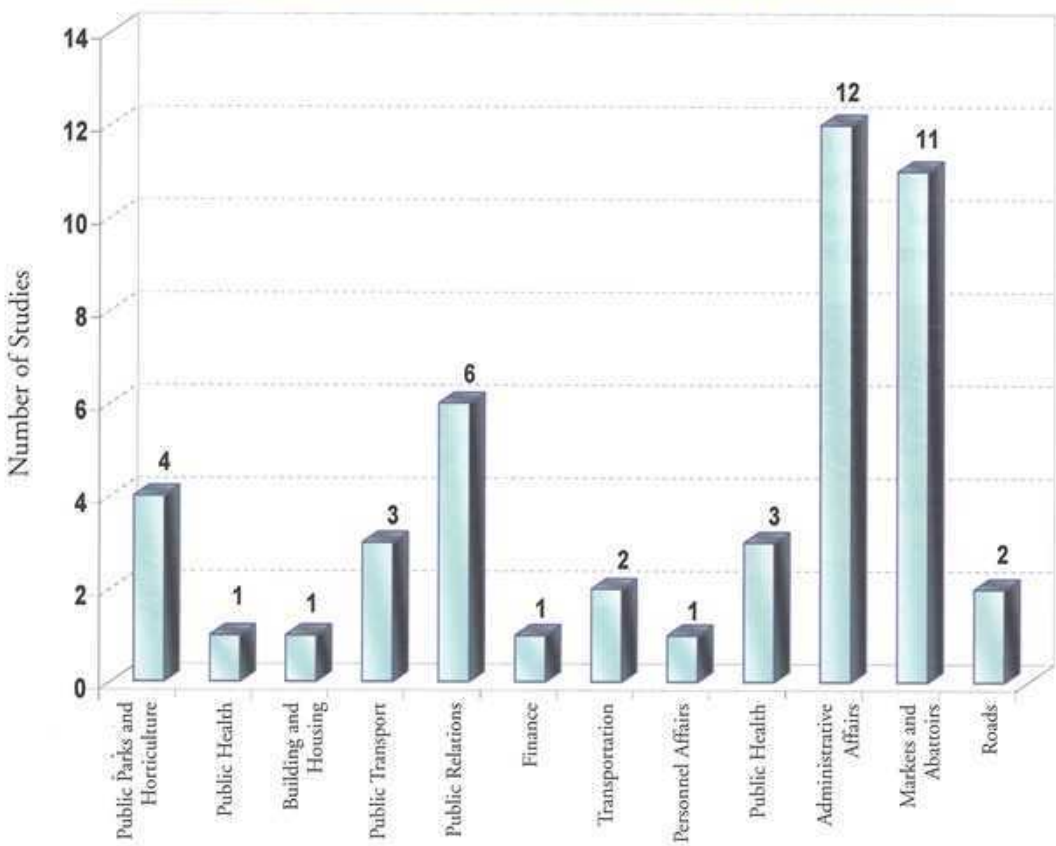


Some of the research studies

Increase in the number of studies carried out between 1994 and 2001



Increase in number of studies carried out, by Department



The role of women inDubai Municipality

Government departments and other government-related bodies in the United Arab Emirates place a top priority on the process of Emiratisation of jobs or, in other words, the filling of jobs by UAE nationals. This has, of course, an immediate impact on the development process.

Dubai Municipality has made Emiratisation of jobs an important part of its objectives and plans for development for years. Since 1986, it has implemented a policy of training and qualifying Emiratis (UAE citizens), including both men and women, through the provision of all measures necessary for the production of a strong and capable workforce. Through this, it has sought both to encourage the development of both men and women and to further the process of national economic development.

Prior to 1986, there was only one UAE woman, Aisha Mubarak Abdullah Obaid bin Ouqad, employed by the Municipality, although there were many expatriate women employees. By 1990, however, the number of UAE women had increased to 51, compared to 118 expatriate women. Since then, the Municipality has set in train a programme to speed up the process of Emiratisation and has devoted considerable attention to the development of the role of Emirati women, which is no less significant than that of Emirati men.

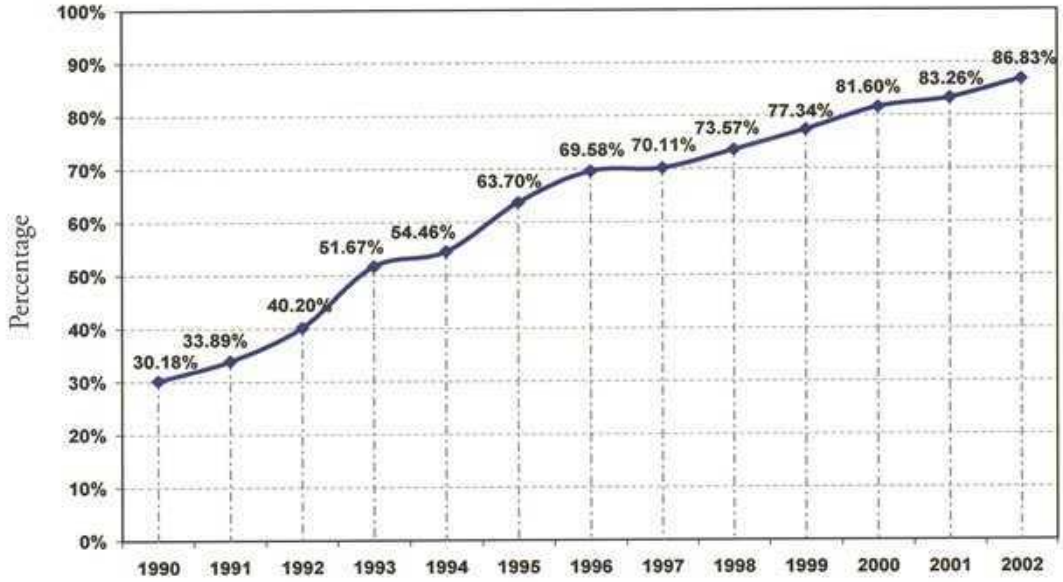
Thus UAE women have been given the opportunity to be employed on an equal basis to men, and have shown themselves capable of tireless efforts to increase their levels of performance, in accordance with the increasing responsibilities assigned to them.

The following table indicates the growth in employment of Emirati women in addition to the creation of exceptional opportunities for Emirati women employees during the period 1990-2002, during which their numbers rose from 51 to 600, an increase of 1076 per cent, while Emirati women as a total of all female employees rose from 30.18 per cent to 86.83 per cent.

Table: Distribution of manpower (women) (Emirati women / Non-Emirati women) between 1990 – 2002

Women			Total	Percentage of Emirati women employees to the total number of women employees in the organisation
Year	Emirati	Non-Emirati		
1990	51	118	169	30.18 %
1991	61	119	180	33.89 %
1992	82	122	204	40.20 %
1993	108	101	209	51.67 %
1994	122	102	224	54.46 %
1995	179	102	281	63.70 %
1996	215	94	309	69.58 %
1997	244	104	348	70.11 %
1998	270	97	367	73.57 %
1999	331	97	428	77.34 %
2000	439	99	538	81.60 %
2001	527	105	632	83.38 %
2002	600	91	691	86.83 %

The distribution of manpower (women) (Emirati women / Non-Emirati women) between 1990 – 2002



Percentage of Emirati women employees to the total number of Emirati employees up to 2002

Total Emiratis in the organisation	1,836
Percentage of Emirati women in total number of Emiratis	32.7 %

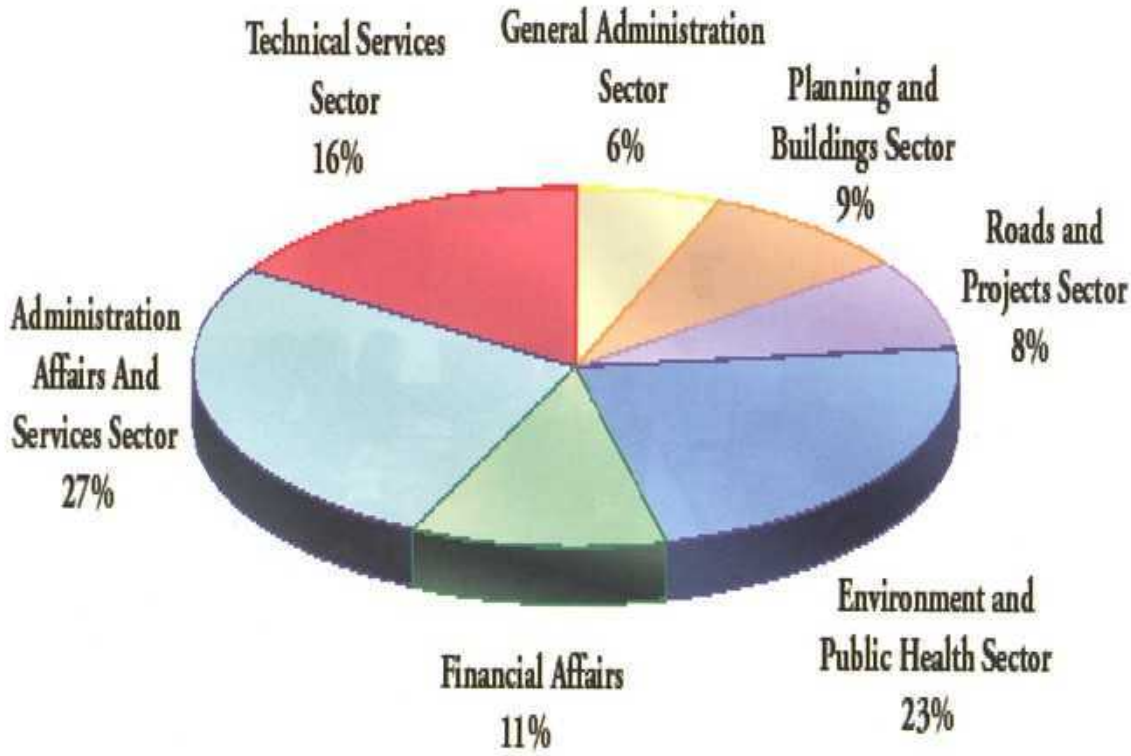


Emirati women employees at a training course

Percentage of Emirati women employees, by sector at end of 2002

Sector	Emirati	Non-Emirati	Total number of female employees	Percentage of all Emirati women employees
General Administration Sector	34	12	46	5.66 %
Planning and Buildings Sector	55	7	62	9.17 %
Roads and Projects Sector	47	2	49	7.83 %
Environment and Public Health Sector	142	44	186	23.67 %
Financial Affairs Sector	66	3	69	11 %
Administrative Affairs and General Services Sector	162	8	170	27 %
Technical Services Sector	94	15	109	15.67 %
Total	600	91	691	100 %

A diagram (pie-chart) illustrating the percentage of Emirati women employees, by sector



The graph below shows that most of the employees in the organisation have secondary school and university qualifications. Most are employed in support and secretarial positions, although some are employed in laboratories, in various capacities, and as engineers.

Educational qualifications of Emirati women employees, at the end of 2002

Qualification	Number	Percentage
Primary	13	2.17 %
Preparatory	51	8.50 %
Secondary	241	40.17 %
Certificate of Accomplishment	50	8.33 %
Intermediate Diploma	31	5.17 %
Higher Diploma	40	6.67 %
University	170	28.33 %
Masters	4	0.67 %
Total	600	100 %

Graph illustrating development in respect of the distribution of Emirati women employees, according to qualifications

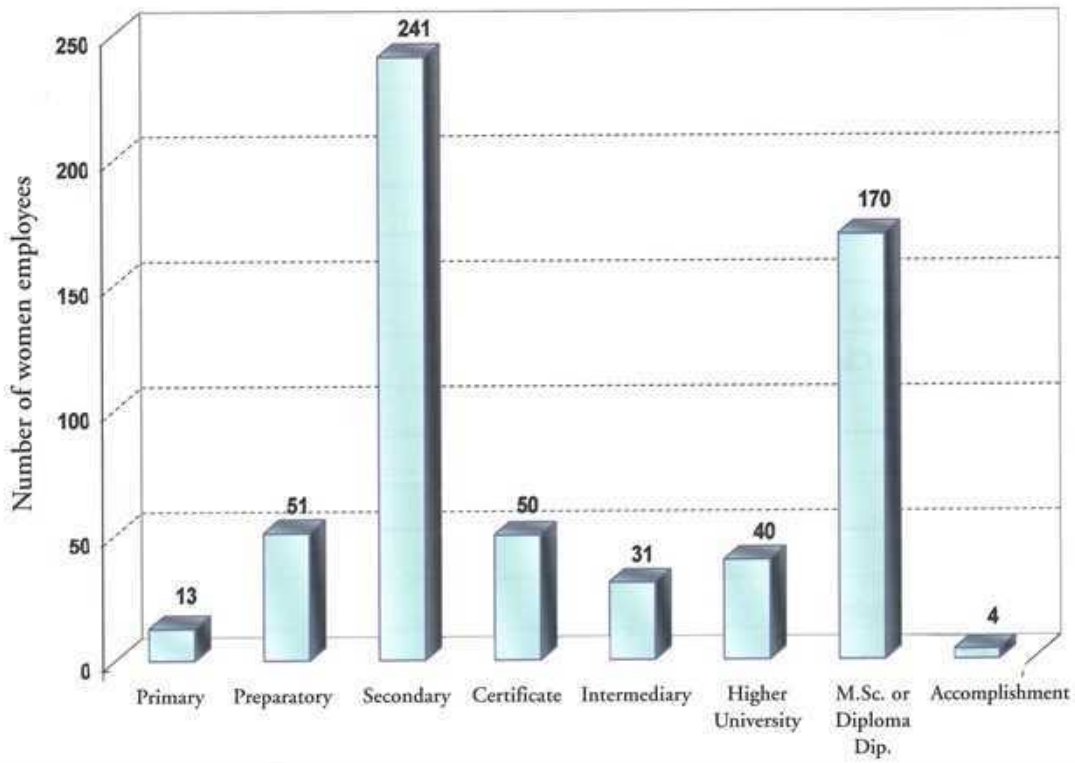


Table No. 4. Employment status for all women employees at the end of 2002

Position	Number	Percentage
Assistant Depart. Dir. and Head of Section	2	0.33 %
Head of Section	7	1.17 %
Head of Office	4	0.67 %
Head of Childrens' City	1	0.17 %
Head of Section	26	4.33 %
Social Researcher, Housing	1	0.17 %
Supervisor of Food Sampling Administration	1	0.17 %
Engineer	17	2.83 %
Administrative Officer	58	9.67 %
Accountant	19	3.17 %
Programmer	12	2 %
Geologist (Trainee)	1	0.17 %
Chemist	5	0.83 %
Statistics Co-ordinator	1	0.17 %
Customer Services Co-ordinator (Trainee)	1	0.17 %
Satisfaction Co-ordinator	1	0.17 %
Database Supervisor (Trainee)	1	0.17 %
Children's Library Supervisor	1	0.17 %
Typing Services Supervisor	1	0.17 %
Librarian	5	0.83 %
Analyst	22	3.67 %
Administrator	159	26.50 %
Data Input Clerk	6	1 %
Collector	32	5.33 %
Auditor	4	0.67 %
Planner	4	0.67 %
Controller	4	0.67 %
Children's babysitter	1	0.17 %
Child's City Guide	22	3.67 %
Classifier and indexer	2	0.33 %

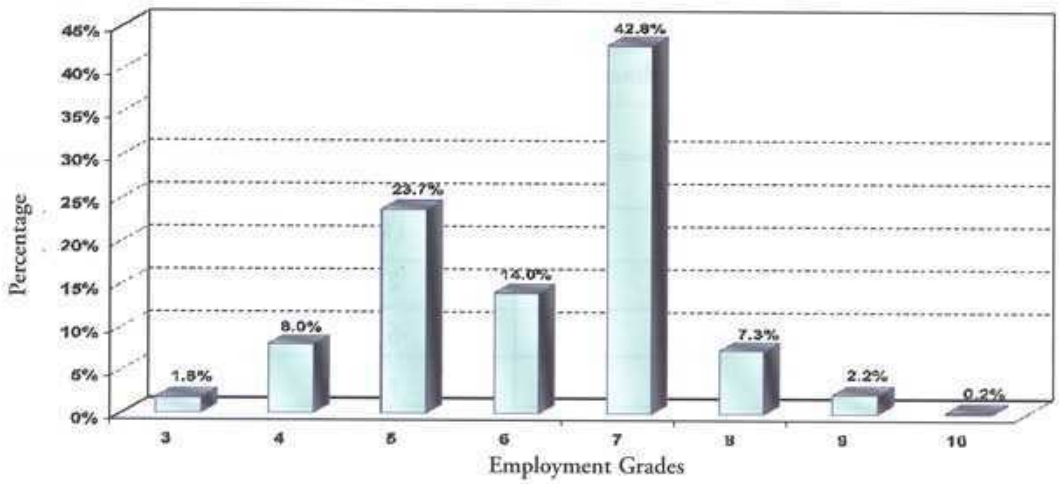
(Continued) Employment status of women employees at end of 2002

Position	Number	Percentage
Assistant Customer services Co-ordinator	2	0.33 %
Assistant Accountant	3	0.50 %
Assistant Administrative Officer	21	3.50 %
Assistant Clerk	11	1.83 %
Receptionist	2	0.33 %
Telephone Operator	6	1.0 %
Computer Operator	1	0.17%
Internet Operator (Trainee)	3	0.50 %
Quantity Surveyor	1	0.17 %
Technicians	16	2.67 %
Chemist	1	0.17 %
Inspector	2	0.33 %
Undertaker	3	0.50 %
Secretary	71	11.83 %
Clerk	27	4.50 %
Typist	9	1.50 %
TOTAL	600	100 %

Table No 5 Employment grades for Emirati women employees at the end of 2002

Grade	Number	Percentage of total
3	11	1.8 %
4	48	8 %
5	142	23.7 %
6	84	14 %
7	257	42.8 %
8	44	7.3 %
9	13	2.2 %
10	1	0.2 %
TOTAL	600	100 %

Employment Grades for Emirati women employees at the end of 2002



In 1999, Administrative Order No. 234 was issued, forming a Women's Action Team within the Municipality. Made up entirely of women, this body was created to acknowledge the efforts being made by women and to strengthen their role within the organisation. It was set the tasks of further stimulating and developing the role of women in the Municipality, of creating an appropriate working environment for them and of ensuring that all the capabilities of women employees, not just their scientific and practical qualifications, were fully used.

Since its inception, the Team has devoted itself to caring for the interests of women in the Municipality. It has, for example, arranged social activities, including sightseeing trips throughout the country, and has held regular meetings, as well as organising workshops and lectures. It has also worked to develop closer co-operation among between all women employees and has held numerous meetings with the Municipality's Administration to promote the position of women

The Team has also established external links with women employees in a number of other organisations in the Emirates while it has launched its own website, entitled Women's Action Team.

In recognition of its achievements, a new Administrative Order, No. 58 for 2001, was issued to re-form the Team.



A meeting of the Municipality's Women's Action Team

Establishment and Development of the Administrative Development and Quality Department

The Administrative Development Office was established in 1988, as a result of a project carried out by the United Nations Development Programme, UNDP. Initially it had only one employee, rising to a total of 18 in 1993, as shown in Chart No. 1.

The Administrative Development Office was created to fulfil the functions originally carried out by the UNDP project, and was divided into three parts

- The Technical Sector
- The Health and Environment Sector
- The Administrative and Financial Sector.

Chart No 1. Organisation Chart for the Administrative Development Office in 1988



This Office grew gradually from its beginnings as a work team to become the Administrative Development and Quality Department. It began as the Administrative Development Office, directly linked to the Director General of the Municipality, with the task of keeping abreast of international and local developments as well as of monitoring the required changes at all administrative and service levels. In subsequent years, a comprehensive strategy was drawn up which included the following main objectives:

- To make suggestions relating to the organisational units within the organisation and on the updating of structures and duties, in addition to their continuous revision, so as to enhance performance.
- To prepare short, medium and long-term strategic plans for each office and its various organisational units, such plans to have clear objectives that can be measured and tested.
- To ensure compliance with international standards through a simplification of procedures and a clarification of lines of communication to ensure the easy and smooth flow of work.
- To study and revise reports on a regular basis, including a review of the current situation and examination of positive aspects, as well as a subjective comparison with inputs, outputs and indicators for previous years, and then to present recommendations, including suggestions on the required amendments and improvements, to the Director General.
- To stimulate moves towards providing satisfaction to internal and external customers in terms of services

- To undertake a monitoring programme to ensure that available resources are used in the best manner, to improve performance and productivity and to implement the principle of effective cost in order to make use of the best international practices, through such means as decentralisation and the privatisation of some services.
- To achieve a distinctive quality of administration in the fields of organisation and administration.
- To lay down policies for Personnel affairs.
- To focus on self-reliance and on improving the efficiency of national manpower through training of the national workforce, so that it can play an effective role in the process of construction and development.
- To provide the necessary administrative support through consultation and objective studies, this being done either through the Administration itself, or by directly contracting consultants to undertake this work, as illustrated in Table No.1 and Attachment No. 1, or through the United Nations Development Programme, as illustrated in Table No. 2 and Graph No. 1, details of this work being listed in Attachment No. 2.

The Office also has the responsibility of monitoring and evaluating studies and recommendations intended to improve productivity and to achieve an efficient overall administrative structure. For this purpose, a policy was adopted of always appointing a UAE national to perform the role of an understudy, to help them gain experience and to develop their self-reliance, as part of a structured programme.

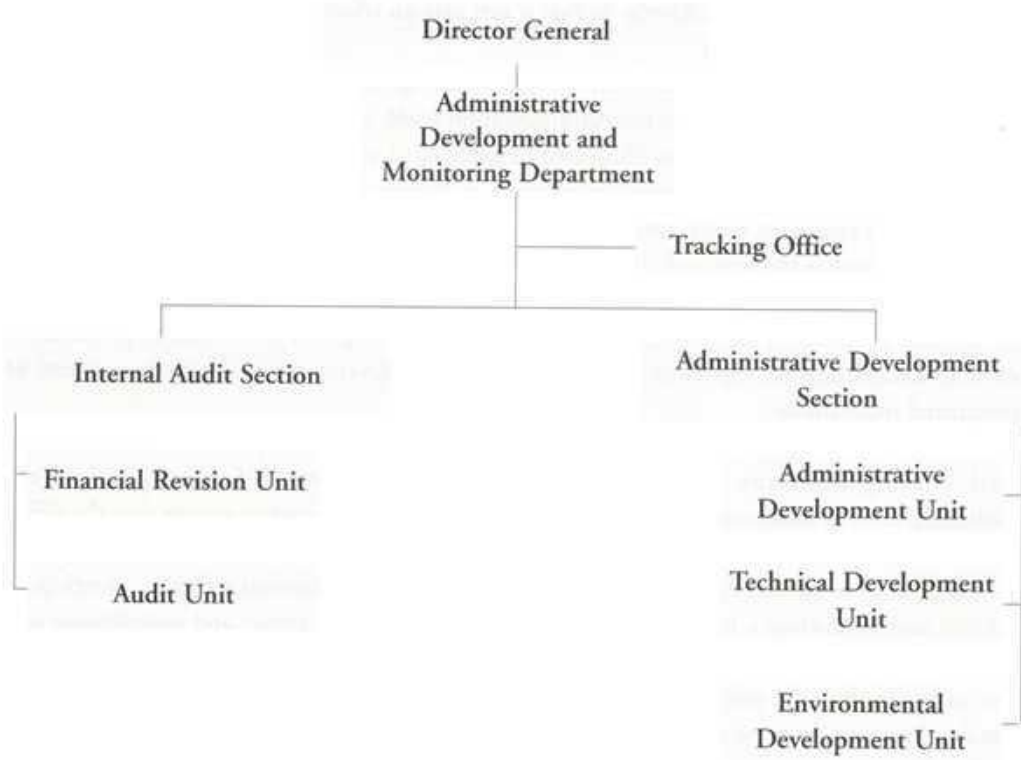
In 1995, a major change in the structure of the Administrative Development Office was introduced, splitting it into two Units, the Development and Consultation Services Unit and the Monitoring Unit as illustrated in Chart No. 2. This was implemented to ensure that the office adhered to the latest practices in terms of modern administrative development. Another objective was to achieve substantial and positive changes in the organisational structure, developing its duties and permitting a focus to be placed on the provision of advice and consultation services to other organisational units in terms of administrative development. This was devised in order to ensure that the policy of continual improvement and the need to keep abreast of the latest developments in technology were met, as well as meeting the need to increase revenues and to rationalise expenses, reduce bureaucracy and avoid the duplication of work.

Chart No. 2. Organisation Chart for the Administrative Development Office in February 1995



The work of the Office continued on the lines laid down in the strategy mentioned above, in accordance with the general policies of the Government of Dubai, until 1998. In that year, the Office was raised to the status of a Department, with the formation of the Administrative Development and Monitoring Department, as illustrated in Chart No. 3.

Chart No. 3. Organisation Chart for the Administrative Development and Monitoring Department

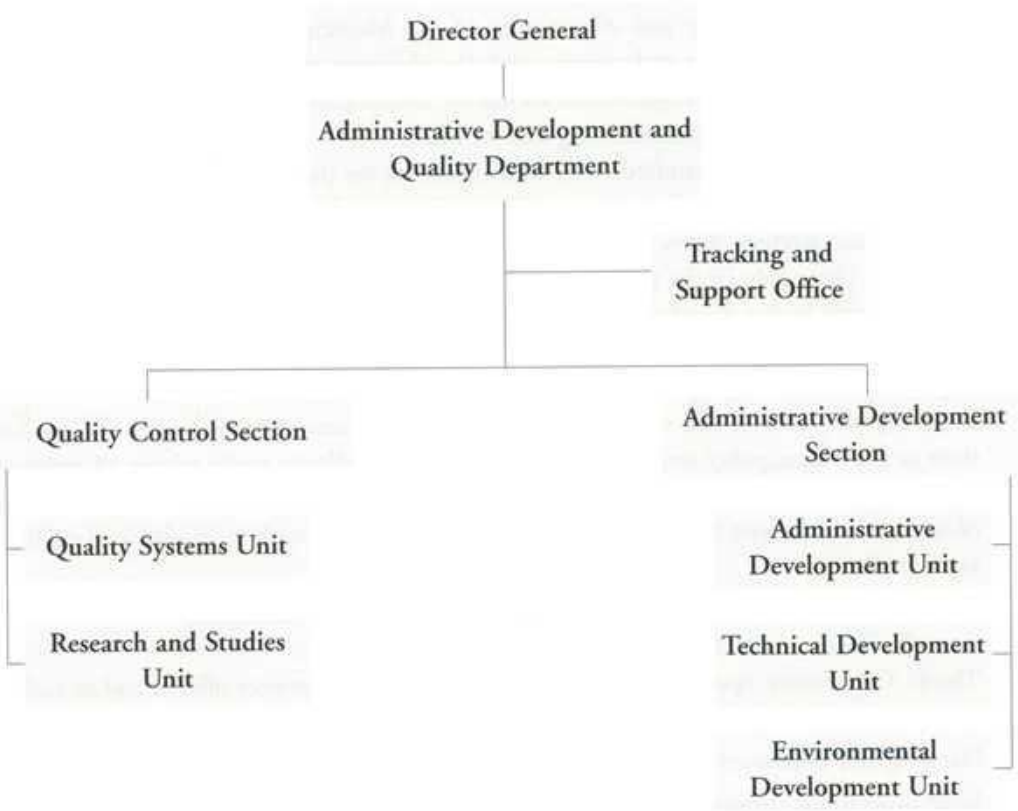


Currently, the Department has a number of highly qualified male and female employees who have been trained by experts working on the UNDP project or through training courses abroad, thus gaining the relevant expertise. The Department has also provided assistance to a number of other local and Arab organisations.

Because of the growth of productivity and the introduction of a greater degree of due diligence, as well as the development of and diversity of the work involved, the Internal Audit Section was removed from the Department, and was placed directly under the Director General.

In 2000, Administrative Order No. 33 combined the Quality Department and the Administrative Development Department, to form the Administrative Development and Quality Department, reporting directly to the Director General, as shown in Chart No. 4. This step was taken so that quality and administrative development at the Municipality were linked, and acknowledged the growing recognition of quality as an essential component of administrative development.

Chart No. 4. Organisation Chart for Administrative Development and Quality Department



The Quality Control Section was originally established in accordance with Administrative Order No. 800 in 1997 as part of the Dubai Central Laboratory Department.

As the need for the implementation of a comprehensive quality programme throughout the Municipality became apparent, Decree No. 19 for 1999, issued on 23rd January 1999, provided for the independence of the Quality Control Department, to facilitate its task of spreading recognition of a culture of quality and its applications. This was also in line with the Government's 'Dubai Programme for Government Excellence' and with its application within the Municipality and its various administrative units in terms of the practices followed to implement the approved systems for complaints, suggestions for development and tracking results. The new Department was directly linked to the Director General's Office.

The pursuit of quality is, of course, something that has for many years been an essential component of the Municipality, which perceives it as a key part of the drive to improve productivity, and, thus, to achieve more. There has long been a determination to seek ways to implement uniform international standards throughout the various organisational units.

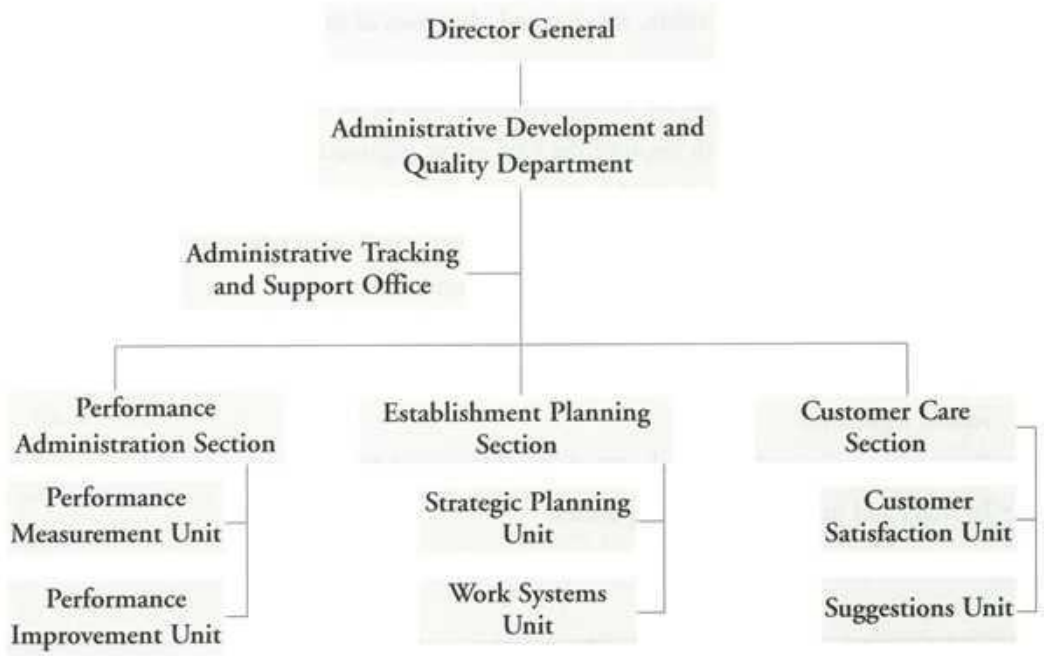
The Department set out to launch a well-planned and scientific programme of providing the Municipality with a well-defined approach to quality that would enable it to stand out for its achievements in this field. Among the most important contributions made by the programme have been:

- Improving the efficiency and effectiveness of the Municipality's Departments through studying working practices and systems, with the objective of developing systems and procedures related to general organisation within the Municipality and its organisational units, as well as describing and documenting each of them.
- Approving performance standards with clear objectives for the Municipality and its organisational units, these being devised as an administrative tool to track the implementation of objectives and strategic plans, as well as carrying out periodic reviews of the type of services provided. These help in the preparation of reports in addition to tracking and comparing with reputable bodies elsewhere in the world in the same field as well as in the studying of ideas for improvement, so as to achieve the stated objectives.
- Organising and developing of the Municipality's rules and policies with regard to comprehensive quality control and criteria for distinctive performance and their scientific applications at the Municipality level. Creating quality and excellence teams within all organisational units in order to achieve continued development and improvement in various areas of work. This has been done through the implementation of work methods based on three key criteria:

  First: Considering quality to be a strategic objective for the Municipality
  Second: Development and improvement of Human Resources
  Third: Continuous operations to improve the projects and services offered and to seek to involve external clients in the improvement and development process.
- Planning and implementation of the standards and requirements of the quality and excellence programme throughout the Municipality as an ongoing process, to ensure that these standards and requirements are met, and preparing the necessary documentation.
- Operating effective systems throughout the Municipality in order to receive complaints and to adopt ideas and suggestions made, in addition to stimulating participation from all client categories, both inside and outside the Municipality and preparing and subsequent publishing of comprehensive studies and reports on activities and the results achieved. In order to protect the importance of these systems and to ensure that work continues in accordance with objectives and maintaining the trends towards a higher level of performance, a special committee was formed to study any helpful suggestions made in detail, to benefit from them and to reward those who made the suggestions.
- Developing work through the introduction of modern technology, improving the types of services offered to the public, preparing and continually updating quality indicators and related work procedures in the Municipality, in accordance with international specifications.

In 2001, Administrative Order No. 205 was issued on the amalgamation of existing sections and the creation of new ones, in accordance with the needs of current work and future expectations, as illustrated in Chart No. 5.

Chart No. 5. Organisation Chart for Administrative Development and Quality Department in 2001



The main duties and responsibilities of the Administrative Development and Quality Department and its affiliated sections:

To prepare the comprehensive strategic plan for all organisational units within the Municipality, to assess their organisational requirements and to guarantee improvement in the level of services offered.

Customer Care Section

Tasks of this Section include the following:

- Preparation of special questionnaires, in co-ordination with the relevant organisational units.
- To work to improve the level of services offered, in co-ordination with the various Municipality organisational units.
- To specify the requirements of the organisational units in respect of simplifying procedures, improving the quality of service and reducing cost.
- To prepare, update and operate the complaints systems (automated system).
- To operate and update the suggestions system (automated system).
- To create and maintain special databases for the complaints and suggestions systems.
- To prepare periodic reports on the complaints and suggestions systems and the results of various questionnaires.
- To create a general plan for the policy on studies related to services offered to customers.

Establishment Planning Section

Tasks of this Section include the following:

- To revise and develop the vision, mission and objectives of the Municipality and its organisational units.
- To develop the strategic plan for the Municipality and all its organisational units.
- To identify opportunities to improve the level of the organisation's performance.
- To prepare a Strategic Planning Manual.
- To study the use of resources (manpower, equipment, tools, etc.) related to the organisation.
- To review periodically job specifications and organisation charts.
- To revise the delegation of authority.
- To revise specific procedures in order to simplify them as well as revising forms, laws, and related legislation.
- To prepare, revise and update the Work Procedures and Quality Manual.
- To study and implement quality policies.



Reviewing the Work Procedures and Quality Manual

Performance Administration Section

Tasks of this Section include the following:

- Auditing the allocation of authority and decentralisation of approved services.
- Revising and analysing performance standards for organisational units and preparing reports supported by recommendations.
- Analysing annual reports on organisational units.
- Improving the performance and efficiency of services offered by the organisation.
- Evaluating the offices of both Directors General Assistant.
- Planning the implementation of auditing and observing locations for quality systems and indicators in addition to work procedures, legislation, rules and forms.
- Tracking and evaluating the implementation of the decisions and recommendations made by the Director General, such as:
- Administrative and financial organisation for consultancy services.
- Decrees, studies, circulars, research and quality administration programmes.
- Administrative systems
- Procedures and forms
- Duties and activities of permanent and temporary committees and their decisions.

Table No. 1. Consultancy work carried out through direct contracts between the Municipality and Consultants between 1995 – 2001

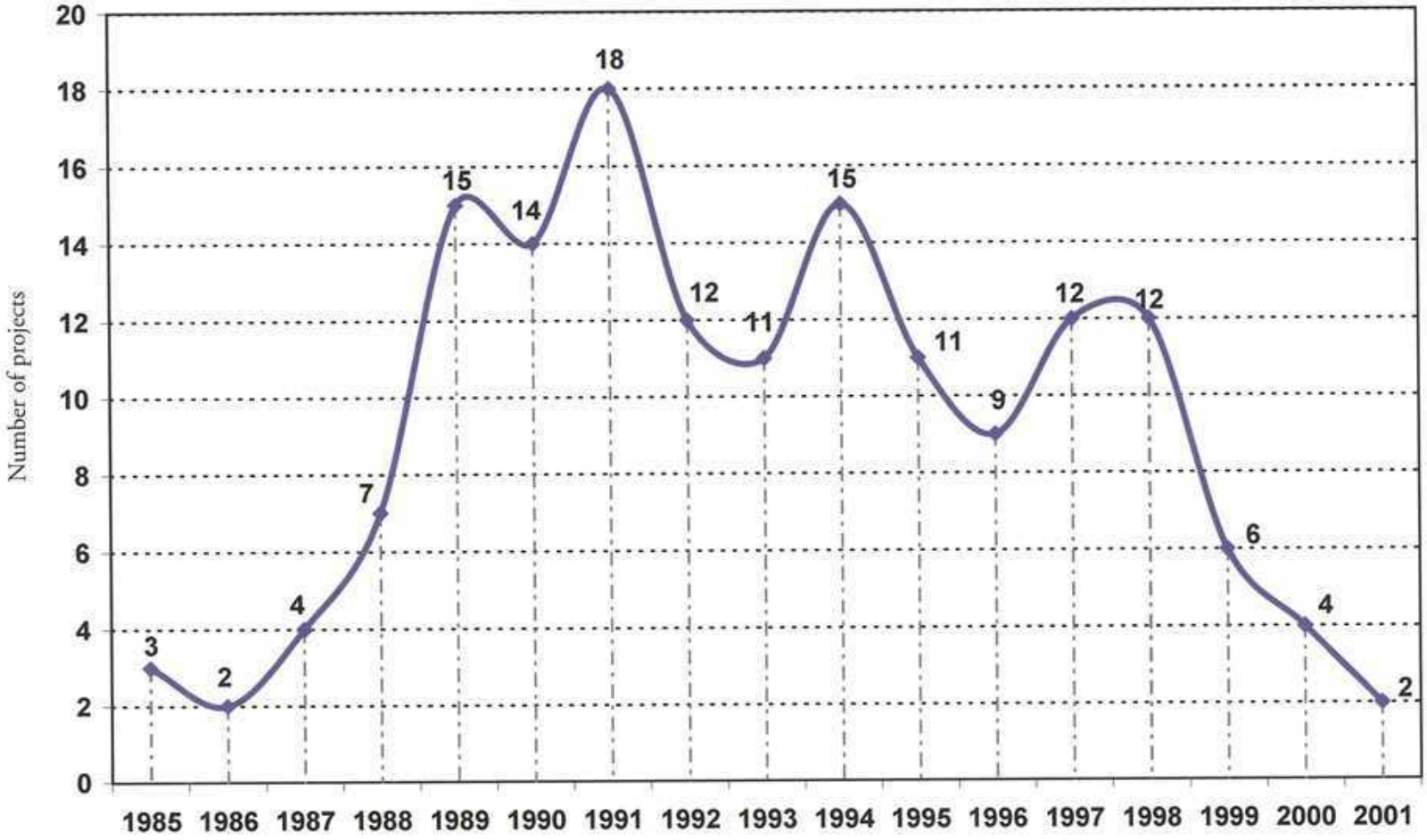
Department	1995	1996	1997	1998	1999	2000	2001
Administrative Develop. and Quality	-	1	-	1	-	2	1
Planning and Surveying	-	-	1	-	-	-	1
Building and Housing	-	-	1	-	1	-	-
Roads	1	-	1	-	-	-	-
General Projects	2	-	-	1	-	-	-
Personnel	-	-	-	-	1	-	-
Markets and Abattoirs	-	-	-	-	-	1	-
Contracts & Purchasing	1	-	-	-	-	-	-
Garage & Public Transport	-	-	-	-	-	1	-
Dubai Central Laboratory	2	1	1	1	1	2	2
Information Technology	1	-	2	-	-	-	-
Drainage and Irrigation	1	-	-	-	-	-	-
Total	8	2	6	3	3	6	4

Table No. 2. Consultancy projects carried out by the United Nations Development Programme between 1985 and 2001

Department	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Administrative Develop.	–	–	–	–	–	–	1	–	2	1	–	1	–	1	–	–	–
Public Relations	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
Planning and Surveying	1	–	–	–	6	9	10	6	7	7	6	6	8	6	5	4	2
Building and Housing	–	–	–	–	–	–	1	–	2	–	–	–	–	–	–	–	–
Roads	–	–	–	–	–	2	1	–	–	1	–	–	–	1	–	–	–
General Projects	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–
Public Health	–	–	–	1	4	1	–	4	–	1	2	–	–	–	–	–	–
Public Parks & Horticulture	–	–	–	1	1	1	3	–	–	–	–	–	–	–	–	–	–
Finance	–	–	2	–	–	–	–	–	–	3	–	–	–	–	–	–	–
Contracts & Purchasing	–	–	2	1	–	1	–	–	–	1	1	1	1	1	–	–	–
Administrative Affairs	–	1	–	3	3	–	–	2	–	1	1	–	–	–	–	–	–
Garage & Transport Depart.	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
Dubai Central Laboratory	–	1	–	1	1	–	–	–	–	–	1	–	–	–	–	–	–
Information Technology	2	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–
Drainage & Irrigation	–	–	–	–	–	–	–	–	–	–	–	–	1	3	1	–	–
TOTAL	3	2	4	7	15	14	18	12	11	15	11	9	12	12	6	4	2

Note: The United Nations Development Programme worked from 1985 – 2000 in various fields according to the Municipality's needs for administrative, technical and information technology support.

Graph No. 1. Consultancy projects carried out by the United Nations Development Programme between 1985 and 2001



Attachment No. 1. Technical and Administrative consultancy projects to develop work in various departments in the Municipality between 1995 and 2001

• Tracking implementation of the organisation and description of approved duties.

1995 – 8 projects

- Information Technology Department (Information Technology)
- Contracts and Purchasing Department (Purchasing, Contracts & Tenders systems)
- Roads Department (Marine Engineering to develop Al-Mamzar beach)
- General Projects Department (Coastline Engineering for Jumeirah beaches and maintenance of buildings
- Drainage Department (Drainage and Irrigation)
- Construction Studies and Quality Control Section (Approval and appraisal of laboratories and service credibility system)

1996 – 2 projects

- Administrative Development Office (Comprehensive Quality Administration)
- Construction studies and Quality Control (credibility of services)

1997 – 5 projects

- Roads Department (Engineering Design)
- Garage and Public Transport Department (Transportation Services)
- Dubai Central Laboratory Department (Precious Gems and Precious Minerals)
- General Projects Department (Restoration of historic buildings)

1998 – 3 projects

- Dubai Central Laboratory Department (Preparation of examination and research hall/theatre)
- General Projects Department (Work procedures in General Projects Section)
- Administrative Development Office (Performance Administration Forum)

1999 – 3 projects

- Roads Department (Engineering Design)
- Personnel Department (Development of Human Resources)
- Central Laboratory Department (System for conformity of domestic electrical goods and their safety)

2000 – 6 projects

- Garage and Public Transport Department (Storage and coding of spare parts)
- Market and Abattoirs Department (Development of Fertiliser Factory)
- Administrative Development and Quality Department (Engineering value seminar and e-government seminar)
- Central Laboratory Department (Establishing a laboratory for children's toys & a System to test pipes used in consulting work).

2001 – 4 projects

- Central Laboratory Department (Establishing a makeup laboratory and Accreditation of Conforming Assessment Bodies).
- Administrative Development and Quality Department (Best Value Seminar)
- Planning and Surveying Department (Town Planning Consultant: Dr. Maher Stino

Attachment No. 2. Technical and Administrative consultancy projects carried out by the United Nations Development Programme to develop work in the Municipality

Consultancy projects carried out for Dubai Municipality by the United Nations Development Programme have included the following:

Planning and Survey Department:

- 12 projects on Town Planning
- 70 projects for the Surveys Section
- 1 project on Advertising

Roads Department: 5 projects on pavements and highways

Building and Housing Department: 3 projects on building regulations, housing policy and the demolition of buildings

Garage and Transport Department: 1 project on planning of bus services

Projects and General Maintenance Department: 1 project on historic buildings

Public Relations Section: 1 project

Geographic Information Systems Department: 2 projects, on planning to benefit from GIS systems and on the development of planning information systems

Drainage and Irrigation Department: 5 projects on work methods

Administrative Development and Quality Department: 6 projects, including 1 on comprehensive quality, 1 on the eradication of commercial fraud, a seminar on GIS, a seminar on organisational education and 2 projects on the classification of hotels.

Public Parks and Horticulture Department: 6 projects on horticulture

Finance Administration: 5 projects on cost calculation, budgeting and financial systems

Public Health Administration: 13 projects on veterinary services, food control, pests, environment, coastlines, clinics and medical services.

Administrative Affairs: 11 projects on statistics, documentation, archiving and libraries.

Contracts and Purchasing: 9 projects on contracts, tenders, insurance, eradication of forgery and awarding contracts in addition to ownership of patents.

Dubai Central Laboratory: 6 projects on licencing and approving of laboratories.

The Historic Development of the Public Health Department

Historical Summary

When the Municipality was established in 1954, its task was restricted to that of ensuring that the city of Dubai was kept clean. As the population grew, however, it was gradually assigned additional functions. In 1959, for example, it was given the responsibility for issuing building licences, this being followed by an enlargement of the section devoted to public cleanliness, through the creation of a small group of inspectors, to become the Public Health Section.

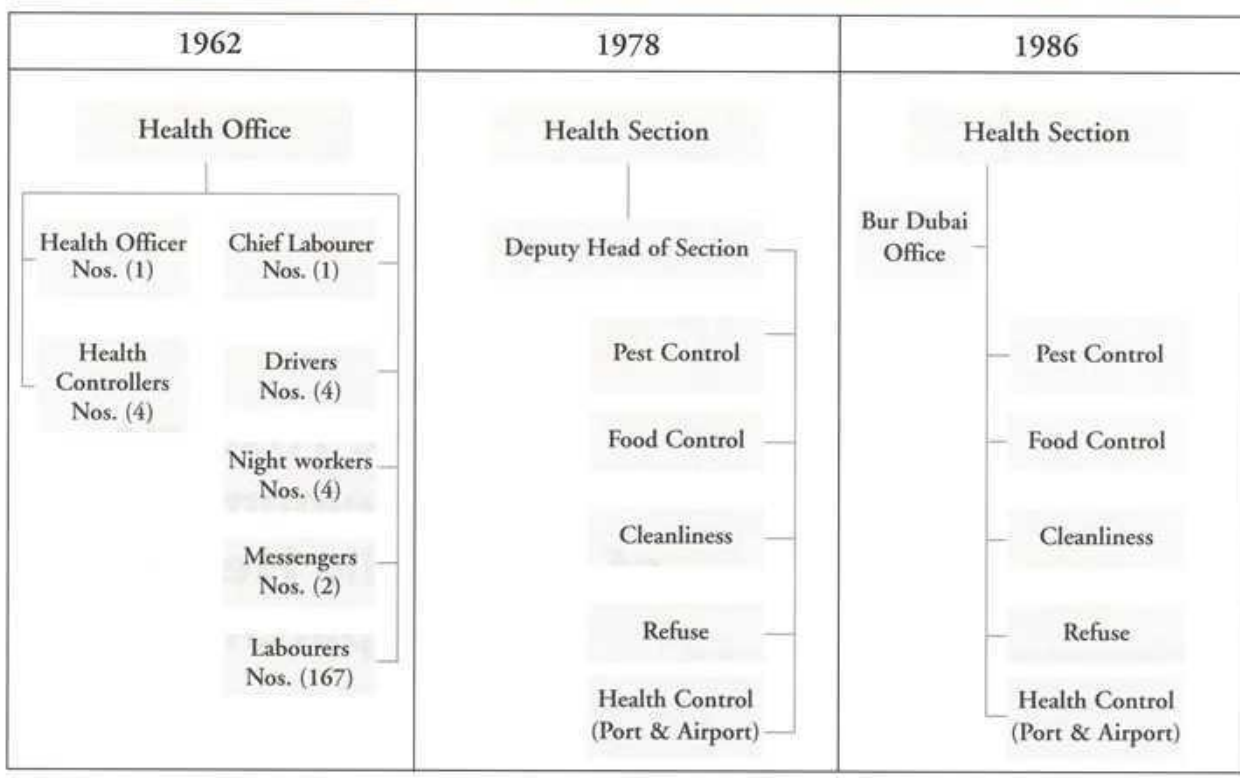
The Government of Dubai took on the task of organising and creating various Units as part of this Section in accordance with its plan to develop the services then being offered to residents of the city. This was done by allocating specific duties to each Unit, as illustrated in the following Charts, Nos. 1, 2 and 3.

The Units created were as follows:

1) Cleanliness Unit
2) Markets and Restaurants Control Unit
3) Food Control Unit
4) Pest Control Unit
5) Laboratory
6) Veterinary
7) Waste Disposal Unit

In 1985, a committee was formed to monitor cleanliness and public health within the Municipality. This committee was given the task of preparing statistics and special reports on how to improve public facilities available in the Emirate, of taking the necessary steps to preserve preventative health and

Chart Nos. 1, 2 & 3
The Stages of Development of the Public Health Section between 1962 – 1986



environment health standards and of monitoring the implementation of local orders relating to health and public cleanliness. In 1986 the Health Section was upgraded to become a Department, its separate Units being upgraded, in turn, to become Sections.

In 1987, another Unit, the Protection of the Environment and Safety Unit, was established in the Health Department to be responsible for public health and protecting the environment. This was given the responsibility of monitoring the levels of environment pollution in the Emirate of Dubai as well as of controlling and limiting adverse impacts on the main components of the environment, in particular water, air and soils.

The Unit began its work by laying down and then implementing guidelines and criteria for industrial waste, these being designed to focus on the dangers it presented to public health and the environment. The waste was classified according to its content of hazardous substances. Criteria were also laid down for indoor environments, including safety procedures in factories, these being designed to protect employees from pollution and from injuries in the workplace.

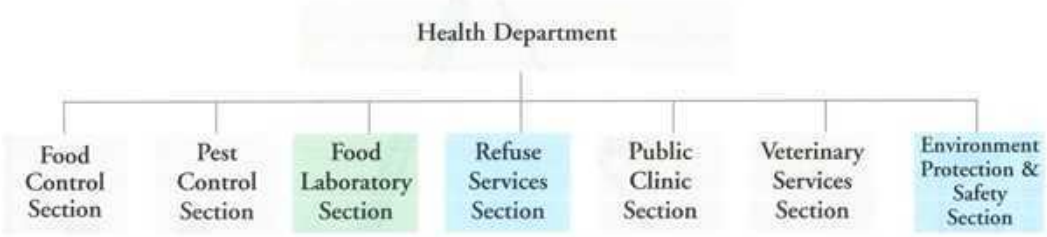
In accordance with the belief of the Government of Dubai that a sound basis for development must include a taking into account of environmental issues at all stages and levels, the Municipality embarked on a series of scientific studies to ensure that environmental issues were taken into account as part of plans for sustainable development.

In 1988 the Municipality carried out consultations to identify industrial issues, to revise existing administrative and legal methods of protection and to evaluate issues relating to environmental pollution in the Emirate.

At the beginning of the 1990s, the Municipality sought the assistance of a group of technical and administrative consultants from the United Nations Development Programme to provide help to both the Department of Public Health and the Department of Environment in terms of technical and administrative consultancy, so as to enhance the level of services provided by both. Other technical consultants were also recruited on a temporary basis until such time as UAE citizens could be trained to fill the relevant posts.

This was followed by training of employees to undertake monitoring and administration of environmental issues. In 1991, to support this objective, the Environment Protection and Safety Unit was upgraded to become the Environment Protection and Safety Section, under the supervision of the Health Department, as illustrated in Chart No. 4.

Chart No. 4. Organisation Chart for Health Department in 1995



- Became part of the Dubai Central Laboratory in 1998
- Became part of the Environment Department in 1998

The duties of the new Section encompassed those of the Environment Protection Unit and the Marine Environment Unit, as well as the carrying out of studies and research on air pollution, the industrial environment, public safety, the marine environment and the treatment of hazardous waste.

In 1998, the Health Department was re-structured, and was re-named the Public Health Department. Its tasks were also revised, following the removal from it of the Environment Protection and Safety Section and Refuse Services Section, these being merged into a new Environment Department*. After these changes, the Public Health Department comprised the following sections, as illustrated in Chart No. 5:

1) Food Control Section
2) Veterinary Services Section
3) The Clinic and Medical Services Section
4) Pest Control Section

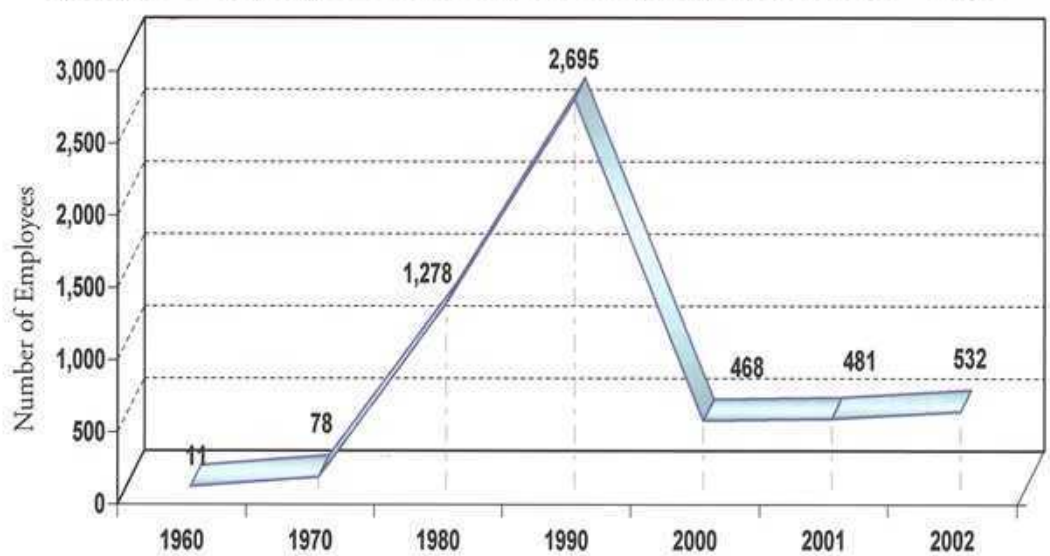
Numbers of employees in the Public Health Department

In 1960, the forerunner of the Health Department had only 11 employees. By 1990, as a result of the increasing range of services being provided, this had risen to 2,695. In 1998, however, following the formation of the Environment Department and the transfer to it of the Refuse Services Section, which had most of the employees, and the Environment Protection and Safety Section, the numbers fell dramatically. The Food Control Laboratory was also removed the same year from the Public Health Department, being placed under the umbrella of the Dubai Central Laboratory**.

Table No. 1. Numbers of employees in the Public Health Department 1960-2002

Year	1960	1970	1980	1990	2000	2001	2002
Number of Employees	11	78	1,278	2,695	468	481	532

Numbers of employees at the Public Health Department 1960 - 2002



* See details on the Environment Department on page 583
** See details on the Laboratory Department on page 691

The following table shows the job classifications in the Public Health Department and the number of employees in each post at the end of 2001.

Table No. 2. Posts in the Public Health Department in 2002

No.	Post	No. Employees	No.	Post	No. Employees
1	Department Director	1	12	Assistant Pharmacist	2
2	Assistant Depart. Director	1	13	Laboratory/ X-Ray Technician	21
3	Head of Section	4	14	Specialist	1
4	Head of Unit	9	15	Assistant Administrative Support Officer	2
5	Medical Doctor	4	16	Administrative Support	17
6	Veterinary Surgeon	18	17	Assistant Administrative Support	1
7	Health Officer	18	18	Controller	28
8	Administrative Support Officer	3	19	Driver	18
9	Secretary	5	20	Labourer	206
10	Inspector	115	21	Other Posts	53
11	Male Nurse	5			
Total Number of Employees: 532					

Emiratisation of Jobs

During the early years of the Public Health Section, the number of Emirati (UAE citizen) employees was less than 1% of the total. The expansion of the duties and the consequent revision of the Municipality's Organisation Chart to form the Public Health Department, mentioned above, was followed by a dedicated effort to 'Emiratise' the posts within the Department, in accordance with the Municipality's Human Resources policy.

In recent years, the Department has addressed this objective of 'Emiratisation' at all management, supervisory, administrative and technical levels, through a variety of means, including quality in-house training programmes in various fields, through sending employees to study abroad to upgrade their qualifications and through efforts to attract Emirati graduates in disciplines required within the Department.

By the end of 2002, Emiratis accounted for around 25.5 per cent of all Department employees, and filled 100 per cent of supervisory posts.

This achievement was partly the result of a programme agreed in 1996 with the Higher Colleges of Technology on the training of Emirati students in technical skills. Under this programme, the HCT devised a programme for an Environmental Health Diploma, to train UAE citizens in the field of Public Health and the Environment. By the end of 2001, 17 graduates from the programme had joined the Municipality, eleven in the Public Health Department and the other six in the Environment Department.

Table No. 3. Total number of posts, 1960 – 2002

Year	1960	1970	1980	1990	1995	2001***	2002
Total Number of employees	6	40	317	724	728	275	343
Number of UAE citizens	1	6	10	42	68	70	76
Percentage of UAE citizens	16.7%	15%	3.2%	5.8%	9.3%	25.5%	22.2%
Number of labourers and workers*	5	38	961	1,971	1,871	206	189
Total workforce **	11	78	1,278	2,695	468	481	532

Note:

* There are no UAE citizens in this category

** Total number in Department = Total number of employees + number of labourers and workers

*** The Environment Department was formed in 1998 and a large number of employees were moved to this department from the Health Department.

Expenditure and Revenues for the Public Health Department, 1988 – 2002, in UAE dirhams

Year	Salaries	Current Expenditure	Capital Expenditure	Total Expenditure	Total Revenue
1988	11,986,627.00	1,587,054.00	974,095.00	14,547,776.00	1,361,420.00
1989	13,076,418.00	3,486,920.00	986,018.00	17,549,356.00	2,135,363.00
1990	16,307,230.00	4,105,011.00	2,308,176.00	22,720,417.00	2,664,345.00
1991	18,378,369.00	5,872,789.00	1,961,996.00	26,213,154.00	6,207,609.00
1992	19,436,801.00	6,636,235.00	550,878.00	26,623,914.00	7,805,414.00
1993	20,439,719.00	7,631,144.00	559,618.00	28,630,481.00	8,388,006.00
1994	20,602,902.00	6,526,847.00	316,227.00	27,445,976.00	9,242,298.00
1995	20,774,214.00	5,848,044.00	1,344,273.00	27,966,531.00	13,881,381.00
1996	21,060,037.00	8,616,406.00	4,209,133.00	33,885,576.00	24,688,519.00
1997	20,590,500.00	7,104,963.00	977,586.00	28,673,049.00	34,215,449.00
1998	21,475,381.36	6,795,343.82	1,394,030.13	29,664,755.31	30,532,544.86
1999	22,603,184.78	6,136,129.90	514,090.48	29,253,405.16	37,945,081.30
2000	23,574,297.99	7,701,275.47	1,557,772.69	32,833,346.15	41,109,898.50
2001	26,837,696.19	9,533,842.37	2,457,965.80	38,829,504.36	38,464,744.00
2002	28,241,913.00	10,189,779.00	2,320,828.00	40,752,120.00	49,802,031.00
Total	305,384,890.32	97,771,783.56	22,432,687.10	425,589,360.98	308,444,103.66

Expenditure and Revenues for the Public Health Department, 1988 – 2002, in UAE dirhams

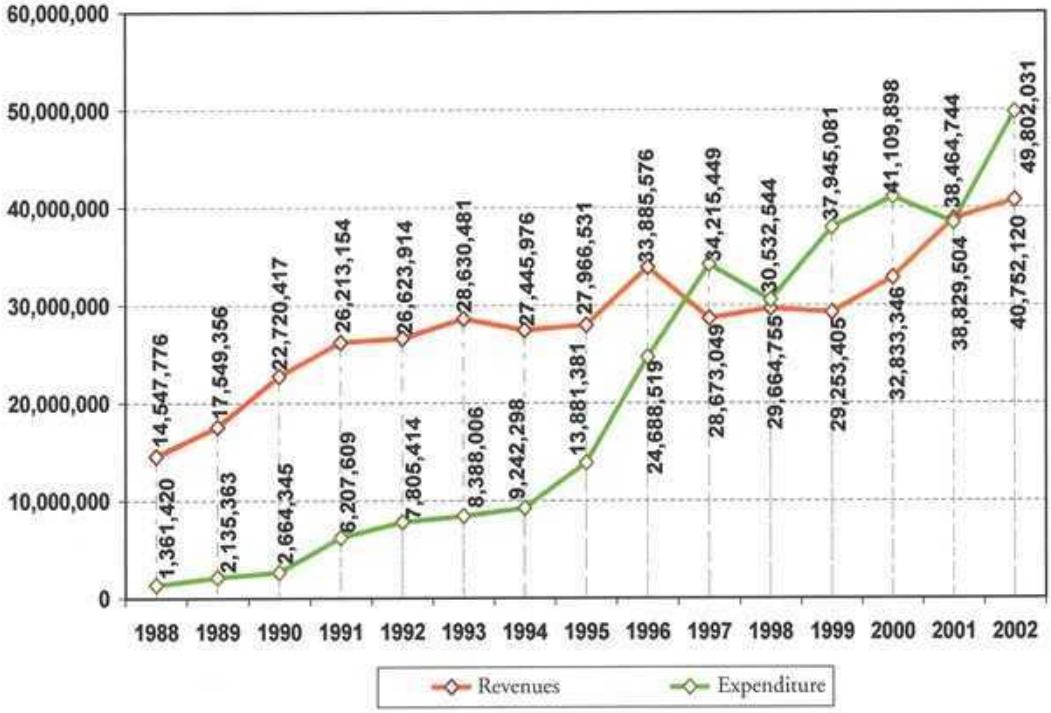


Chart No. 5. Organisation Chart for the Public Health Department in 2002



Main duties and responsibilities of the Public Health Department and its affiliated Sections

The Public Health Department is responsible for safeguarding public health through programmes to eradicate harmful insects and rodents and to ensure animal health, as well as through ensuring food safety, as well as through implementing programmes to control epidemics and other diseases.

Food Control Section

The duties of the Food Control Section include:

- Inspection of food shipments imported into and exported from the Emirate.
- Regular inspection of premises selling, displaying or storing foodstuffs, including restaurants, hotels, cafés and markets.
- Issuing of certificates of validity for the export of foodstuffs.
- Education of the public and workers in the food manufacturing and food export industries.

Clinic and Medical Services Section

The duties of the Clinic and Medical Services Section include:

- Provision of basic medical care to Municipality employees.
- Co-operation with the Pharmacology and Pharmaceutical Control Section of the Ministry of Health and the Dubai Department of Health and Medical Services on the inspection of clinics and private pharmacies and on checking the validity of drugs.
- Co-operation with the Ministry of Education and the Ministry of Labour and Social Affairs in the carrying out of regular inspections of schools, nurseries and kindergartens to ensure they abide by the health rules and regulations,
- Monitoring beauty salons and premises which offer services related to public health.
- Provision of health certificates for private sector employees in the food industry and related services and the issuing of health certificates as part of the requirements for residence visas.
- Performing of health checks on accommodation camps for the labour force.
- Provision of efficient services for monitoring and controlling contagious diseases.
- Provision of graveyards and burial services.

Veterinary Services Section

The duties of the Veterinary Services Section include:

- Increasing public awareness in terms of animal breeding.
- Eradication of animal diseases throughout the Emirate.
- Monitoring the health of animals imported into and exported from the Emirate, as well as arranging quarantine, where required.
- Provision of effective veterinary services for both commercial and domestic animals.
- Examining all meat at the Municipality's abattoirs and monitoring slaughtered animals and

their entrails to ensure they are free of disease and suitable for human consumption.

Pest Control Section

The duties of the Pest Control section include:

- Eradication of pests which pose a danger to public health, such as mosquitoes, flies and rodents.
- Provision of insect eradication services to the public, upon request.
- Monitoring of private pest control companies, to ensure that they maintain the highest level of professionalism and service.
- Monitoring of retail sales of insect repellents.
- Spreading of public awareness on the dangers to health and the adverse economic impact of insects, rodents and insect repellents as well as on methods of control.

Food Control Section

The Food Control Section was established in 1978 as an independent monitoring authority, separate from the rest of the Public Health Section. This Section is responsible for supervising and inspecting food-related premises in the Emirate (factories, premises for the preparation and sale of foodstuffs, grocery shops, supermarkets, cafés, restaurants, abattoirs and markets in general) as well as school canteens. Its duties also include the inspection of containers with foodstuffs imported through Port Rashid and Port Jebel Ali, as well as food shipments imported through Dubai Airport.

Due to the very large increase in the number of establishments related to foodstuffs, it became necessary to re-structure the Organisation Chart for this section, as well as to rename its various units, so as to meet the future requirements in the sector, in accordance with developments in international trade and within the framework of growing globalisation.

Since this Section was created, it has shown its concern for the maintaining of public health through the continual development of its monitoring systems, including the direct monitoring of all imported foods as well as of locally-manufactured items, so as to prevent pollution and food poisoning. It has also implemented a range of health regulations at food-related establishments and has evaluated hazards to foodstuffs at factories, seeking to prevent foodstuffs becoming polluted during manufacture, preparation, transport, distribution and storage. The section has adopted two objectives as part of its control mechanisms.

First Objective

The first objective has been to strengthen the monitoring programme for all imported foodstuffs, as well as locally-manufactured items destined for local consumption, through the provision of specific suggestions and the implementation thereof, once they have been approved, in terms of the relevant policies, legislation and standards and the appropriate specifications.

A number of local orders have been issued to implement the laws and legislation pertaining to food health and safety. These include:

- Local Order No. 23 for 1983, on labelling food.
- Local Order No. 38 for 1989, on the health and technical requirements for storing food prepared for human consumption.
- Local Order No. 51 for 1990, on food control and the regulation of food handling.
- Local Order No 55 for 1990, on the specifications and requirements for the content of baby and infant food and formulae prepared for distribution in the Emirate of Dubai.
- Local Order No. 20 for 1992, on the issue of a manual for the manufacture, preparation, cooking, storage, packaging, transport and selling of foodstuffs for human consumption.
- Local Order No. 72 for 1992, on the approval of validity periods for certain foodstuffs.
- Local Order No. 46 for 1994, on the formation of a committee to oversee the destruction of foodstuffs not suitable for human consumption.

A particularly noteworthy achievement by the Department was its lengthy round of negotiations with the European Commission in 1998 to secure approval from the Commission for the export to the European Union of fish and fish products from relevant establishments in the Emirate. The success of the negotiations was an important indication of the recognition by the EU of the commercial and economic status of Dubai.
The negotiations culminated in the drafting and approval of Local Order No. 5 for 1999, on ithe approval of fish production establishments exporting to the European Union. î This was followed by Local Order No. 52 for 2000, on the export of fish products to the European Union.

Second Objective

The second objective is to simplify the food inspection process through the use of modern systems and methods which not only ensure an effective monitoring programme to ensure food safety and the suitability of foodstuffs for human consumption, but also reduce the time and effort spent by both the inspectors and by the merchants and owners of food establishments.
The importance of the duties carried out by the Department made it essential that it should establish a well co-ordinated relationship, through the establishment of the appropriate committees, with Ministries and local departments, as well as with UAE-based, Gulf and international organisations. It has also taken part in the National Committee for Food Safety, part of the General Secretariat of the UAE Municipalities, the Food Safety Committee for the Gulf Co-Operation Council countries, part of the Gulf States Specifications Authority, and in the Food Constitution Committees, part of the World Health Organisation.

Food Trade

In 1994, the Department began planning for the installation of a computer system that could programme and register all the data needed for the logging of food shipments and their distribution, as well as of the details of commercial companies and registered logos for foodstuffs. The system was also designed to record the details of samples that had been analysed, and to provide

a link to the food and environment laboratory at the Central Laboratory Department.
This system was implemented at the beginning of 1997. One immediate result was the achievement of improved performance and efficiency, as well as the elimination of duplication and repetitive work at the ports, through the elimination of the old manual methods of recording data.

Linked to all of the ports in the Emirate, it helped to speed up the decision-making process and the implementation of the necessary procedures, and also made it possible to increase the speed with which food samples were documented. Again, this prevented the duplication of work. Another benefit was that of improved and quicker methods for gathering detailed statistical data on imported foodstuffs.

In 1998, as the Food Control Section continued to develop, the Food Commerce Unit introduced a new method of monitoring illegal imports of food which are in contravention of the laws and regulations implemented in the Emirate of Dubai. By the end of 1999, a monitoring screen was designed and added to the food monitoring system.

In order to support Dubai's position as an important centre of commerce, the Municipality offers top-quality services to customers, providing them with all necessary information and statistics related to the import and export of foodstuffs through Dubai. To this end, the Merchant Services Unit was established in 1999 to simplify transactions and safeguard the commercial interests of the merchants.

Since Dubai is also an important centre for re-export, the Unit issues Health Certificates for foodstuffs re-exported through organised procedures. Of these, the most important are the Export Health Certificate, the Export to GCC countries Certificate, the Radiation Certificate and the Destruction Certificate.

Food Safety

The Food Safety Unit was established in 1998 to ensure that the rules on evaluating hazards in local food manufacture were implemented, to ensure that manufacturers abide by health regulations, to provide a selfregulating system for the manufacturing process and to take samples from manufacturers for laboratory testing, so that health certificates may be issued for production batches. This latter work is undertaken in co-ordination with the Dubai Central Laboratory Department.
The aim was to implement quality control specifications for food factories, so that quality certificates and certification of validity and conformity with approved standards and specifications may be issued and undertaken. An additional function was to specify requirements and health specifications for foodstuffs in general, according to the relevant requirements.
The Section has also introduced international systems of food monitoring as part of its work. These include:

1- " Safe Distribution of Foodstuffs System ASC" in first and second class hotels, introduced in 1997. Dubai was the first to implement this system in the Arab World.
2- " Hazard Analysis Critical Control Point System HACCP" in food factories, introduced in 2000.

The Unit also undertakes field surveys on foodstuffs, in accordance with the latest methods, and supervises the carrying out of daily routine checks and inspections in the markets, to ensure that the goods on sale are safe for human consumption.. Among these are the Deira fish market and the food and vegetables markets, which are the largest of their type in the Gulf region.

Taking samples of foodstuffs so that they can be examined to provide indicators of their suitability for human consumption is a key task. To facilitate this part of its work, a manual was prepared on methods of taking samples, based on the classification of individual foodstuffs in terms of the degree of potential hazard.

The Section's regular inspections of premises which prepare, transport, store, distribute and sell food stuffs are designed to ensure that they comply with health regulations and specifications. These must be in place, in accordance with the relevant local rules and orders.
In 1986 and 1987, a re-organisation of the Emirate into geographical sectors was undertaken for the purpose of inspection, as follows:

1	2	3	4	5	6	7	8
The Market /Deira	Hor al-Anz and Hamriyya	Al-Qusais	Al-Rashidiya	Bur Dubai (Markets, Al-Shindagha, Al-Ghabiba, Fareej Al-Bastakiya)	Al-Satwa	Nad al-Sheba	Jumeirah Al-Quoz Al-Safa

The introduction of computerisation into food establishments began in 1987, with the creation of the Information Technology Centre, in co-ordination with the Economic Development Office. In 1996 the Section introduced a hand-held computer system, the first of its kind in the region.

While in 2001, the Section's "Inspection Project using hand-held computers" won the Dubai Government Excellence Award.

In 1999, a complaints unit was set up, to receive any complaints relating to food establishments, with an automated distribution of the complaints received.

The Section also lays down the standards and regulations required when licensing establishments and food-related activities, this being done in association with other local bodies with whom a number of health requirements specific to food establishments have been prepared.

The Section has also specified standards and regulations for various food-related activities that have been approved by the General Secretariat of the UAE Municipalities, and have been circulated throughout the Emirates. These include:

- Health Regulations for drinking water bottling factories, in 1999.
- Health Regulations for vehicles used for transporting bread and pastries, in 1999.
- Health Regulations for vehicles used to transport bottled drinking water, in 1999.



Hand held computer used during inspection

Continuous Development

In 2000, the Section established its Monitoring and Technical Support Unit in order to monitor changes and to provide the most up-to-date information to the employees responsible for monitoring, in addition to following up on the Section's performance. This has helped to ensure the correct implementation of approved procedures through the preparation and provision of studies and the structuring of a plan for training, rehabilitation and development.

The Unit is responsible for supervising and performing detailed investigations into cases related to food, such as food poisoning, fraud and food storage, these being carried out in co-operation with the General Directorate of Dubai Police and the Health and Medical Services Authority. It is also charged with ensuring that immediate and effective investigations are carried out in response to any complaints and with taking the necessary measures to ensure that there is no repetition of the complaint.

In order to oversee this work, the "Food Poisoning Committee" was formed in 2000, with members from the Municipality, the Health and Medical Services Authority, the Ministry of Health and the General Directorate of Dubai Police.

Nutrition Education

The Health Education Unit was established in 1999 in order to prepare and implement an edu-

cational programme on nutrition. Among the activities of this unit have been:

- Undertaking of a food survey in 2000 among Emirati families to examine the standards of hygiene in areas used to prepare food in homes and to measure the nutrition awareness of housewives and domestic servants. The study targeted a random sample of 60 homes in the Tawar area, this allowing the health requirements for food preparation areas to be explained as well as disseminating knowledge about the healthy practices that people should adopt when dealing with foodstuffs. A booklet about food handlers and instruction leaflets were also distributed.
- Implementing a nutrition educational programme in 2000 for employees in restaurants and cafeterias, to improve the health standards and improve the food awareness of food handlers. This was done through lectures given in Arabic, English and Urdu.
- Giving educational lectures and arranging field trips for schools and women organisations to clarify the importance of food safety.
- Issuing of fourteen separate educational aids (publications, stickers and instruction booklets) during 2001.

Clinic and Medical Services Section

As part of the duties of the General Health Section, the provision of simple healthcare services was introduced in 1968. These included:

- Dental Clinic: For Municipality employees, with treatment at nominal cost.
- General Health Nursing: This included free inoculation against smallpox and cholera for school pupils, done by inspectors from the Health Section and nurses, using serums provided by the Municipality. Inoculations were also provided at the Arrivals section of the Airport.

These activities, and the staff related to them, were transferred to Al-Maktoum Hospital in 1976-1977.

Laboratory Services

This includes both the food laboratory and biological laboratory. Until 1975, all laboratory analysis was undertaken in a single room, with the two separate laboratories then being established. The food laboratory work included testing of water samples and some simple food tests, there then being far fewer establishments dealing with food than there are today. Further details can be found in the chapter on the Central Laboratory.

Health Monitoring at Ports and Airports

Health monitoring by the Section at the ports and airport was carried out until 1987,

firstly through an examination of the documents of persons arriving in the Emirate, in particular of their medical certificates, and secondly through providing of inoculations, where necessary, or the placing of persons in quarantine, with respect to cases or potential cases of epidemic diseases such as cholera, smallpox and tuberculosis. This latter work was undertaken in association with the hospital and in collaboration with the police, who had a permanent presence in the Municipality building.

The Section's workload continued to grow with the introduction of equipment to test for Acquired Immuno-Deficiency Syndrome, AIDS, and hepatitis, as well as the acquisition of biochemistry equipment.

In 1985, the medical stamp was added to entry/ visit visas.

Due to the increased number of visitors and the shortage of space in the old building in Al-Muraggabat, the Municipality built a new building in Al Ittihad Square, to which the Clinic and Medical Services Section were moved in 1995.

In 2001, the Municipality bought a mobile clinic equipped with a digital X-ray machine in order to provide quality service to large companies at their places of work within the Emirate. This allowed medical examinations of workers and the issuing of medical certificates to be carried out on site, thus saving time and effort, and improving services to customers.

Veterinary Section

Between 1963 and 1967, a single veterinary surgeon was employed within the Health Section of the Municipality. The Veterinary Services Unit was then established as a separate unit, with four qualified veterinary personnel, two for treatment and two with the task of examining animals before slaughter in the abattoir, as well as two more employed as inspectors of meat. This level of staffing continued from 1967 to 1976.
This unit was given the responsibility for eradicating ticks in sheep, cows and camels, spraying imported animals, providing treatment upon request, visiting homes to provide and health education services, rounding up stray livestock (sheep and cows) and catching stray dogs and co-ordinating with and co-operating with private veterinary clinics, as well as supervising and inspecting abattoirs.

- In 1977, the Veterinary Services Unit was established, with the Veterinary Clinic in Al Rashidiya being established in 1984.

- In 1986, an Organisation Chart for the Unit was introduced, with job descriptions being revised in accordance with the changes that had occurred.

- In the same year, new modern abattoirs were opened in Al Qusais, at which the Abattoirs Unit, operating in Bur Dubai and Deira, was able to utilise modern methods of testing meat. The new abattoirs also made it possible to ensure that there was no contamination of slaughtered carcases, through the introduction of proper supervi-

sion by inspectors and doctors.

- In 1990, the Veterinary Services Unit was upgraded to become the Veterinary Services Section, with two Units. Under the terms of this re-organisation:

  – The Meat Inspection Unit became the Meat Inspection Section while the Clinic and Monitoring Unit became the Clinic.

  – Monitoring Unit, in charge of relevant inspections, and with a special team of employees being appointed.

- In 1995, a further amendment to the Organisation Chart occurred, with the establishment of a third Unit, the Animal Rearing and Veterinary Monitoring Unit. As a result of the creation of this Unit, the establishment of a complete system of veterinary health care was completed, including areas for quarantining animals, markets and for breeding, as well as the mechanics for inspection and monitoring and for the catching of stray animals.

- In 1996, two new veterinary clinics were opened in the new cattle market, equipped with the latest facilities while.

- In 1997, a special area for quarantine purposes was opened at Al Hamriyya port. Other developments included the opening in 1998, of a clinic and an abattoir in the mountain town of Hatta and the opening of a modern veterinary services complex in the Mushrif area of Dubai.



Examining and inoculating animals against disease.

Veterinary Education

Up until 1991, veterinarians working with the Section provided advice themselves to breeders and other owners of livestock. In that year, however, two Emirati Health Officers specialising in animal reproduction were appointed to undertake this task as part of their work. There was also a marked improvement in the quality of educational aids, particularly after the relevant personnel had been recruited and trained, from 1995 onwards. Among the activities carried out by the Section have been the following:

- Continued direct education of animal breeders by Section employees.
- The issuing of five publications dealing with various aspects of the Section's activities, including the eradication of parasites and the controlling of stray dogs and other animals.
- Dispensing of advice during 1994 on the rearing of cattle and of hygienic methods of milk production.
- Issuing since 1995 of four leaflets for animal breeders, providing advice on how to protect livestock and their owners from disease.
- Publishing articles and conducting press interviews since 1995, in both English and Arabic, on a variety of subjects of interest to breeders and on subjects related to the health of consumers and general public health.
- Participating in numerous interviews and debates on radio and television since 1995, particularly during Ramadan or at the time of the Eid al-Adha feast, as well as at times when new diseases appeared, or were in danger of appearing, in Dubai, such as bovine spongiform encephaly ('mad cow disease'), Rift Valley fever and others.
- In 1995, a programme of inoculation against foot and mouth disease was introduced. At the time, the disease was widespread, but following obligatory inoculation of cattle throughout the Emirate, the disease has been brought under control, and it is no longer spreading.

Number of cattle inoculated against Foot and Mouth disease, 1995 – 2002

Year	1995	1996	1997	1998	1999	2000	2001*	2002
Number	9,571	19,470	28,008	51,481	62,772	45,833	50,400	177,732

* In 2001, a carefully-prepared plan was introduced to disseminate information about the activities of the Section and the role it plays in Public Health generally. This plan included the issuing of leaflets and other publications, the making of films and school visits.

- Since 1995, the Section has also contributed to the preparation of technical material for health education and guidance campaigns, in association with other relevant Departments and Sections.

- The Section also provides advice on preventative measures designed to protect livestock and to protect the public at large from diseases that can affect both livestock and human beings. Campaigns in the media on this aspect have also been undertaken.

Services Offered by the Veterinary Services Section, 2000-2002

No.	Type of Service	2000	2001	2002
1	Number of carcases inspected	30,000	30,000	250,183
2	Number of livestock (cows, goats, sheep) examined	1,097,376	1,150,000	1,338,810
3	Number of inspection visits by veterinary establishments	4,500	6,966	6,613
4	Number of samples tested for Maltese Fever	2,500	2,500	17,705
5	Number of animals examined & inoculated against diseases.	1,070,000	1,165,486	1,600,705
6	Number of stray dogs caught	2,000	1,394	721

Pest Control Section

The Pest Control Unit was established in 1967, initially with only three employees. This Unit was given responsibility for the eradication of rodents and cockroaches entering the country through imports of commercial goods through the ports and airport, and was also charged with the eradication of mosquitoes, flies and white ants. The ants were first detected in Dubai around 1973-1974, arriving with contaminated timber shipments from India.

During 1973 – 1974 the number of employees working on the eradication of insect pests rose



Eradication of insects

to between 20 and 30, in response to the rise in the population of Dubai and the pace of commercial development, and the Pest Control Section of the Municipality was created. In 1989, the Section was re-organised, with the creation of two separate Units, the Operations Unit and Technical Services Unit.

Services offered by the Pest Control Section

One of the Section's key tasks is that of eradicating rodent pests through campaigns carried out in the city and in rural areas of the Emirate. As a result of its work, there has been a significant reduction in the number of notifications of rodent infestation received, as illustrated in the following table:

Number of notifications relating to rodents, 1999 – 2002

Year	1999	2000	2001	2002
Number of Notifications	3,925	2,669	1,793	3,260

The Section also issues Rodent-free Certificates for ships and boats, after carrying out the necessary procedures with regard to inspection and eradication, in accordance with international standards.



Pest Control Services

Number of boats inspected compared to the total number of boats entering Dubai ports in 1990, 1995, 2001 and 2002

Year	1990	1995	2001	2002
Total number of boats	4,154	9,103	6,403	17,229
Number of inspected boats	3,573	8,498	5,924	9,300
Percentage of boats inspected	86%	93.3%	92.4%	54%

New inspection and control programmes have been developed for key locations such as the Airport and Dubai's horse-racing tracks. These have involved the introduction of a greater number of surveys, as well as the introduction of a new system for the carrying out of surveys and for analysing data, using new equipment.

Two orders were issued in 1991 related to the work of the Section. Local Order No. 57 regulated the sale of insecticides to the public by general retail shops while Local Order No. 58 regulated the monitoring of work related to pest, animal and vegetation control within the Emirate of Dubai.

Documentation of Work Procedures

The Section has issued numerous publications dealing with the technical documentation of its work and with safety procedures. Among these have been:

- 136 technical and informative publications
- 20 publications on health and safety
- 33 publications on surveys and other investigations
- 15 publications explaining the use of certain items
- 11 publication on systematic operations procedures
- Numerous internal monthly reports detailing the results of activities as well as of research undertaken by the Pest Control Laboratory

Complaints and Notifications

This Section deals with notifications of insect infestation submitted by the public to teams working in various parts of the city and rural areas of the Emirate of Dubai.

Number of notifications relating to insect infestations, 1995 – 2002

Year	1995	1996	1997	1998	1999	2000	2001	2002
Number of Notifications	12,954	13,126	14,151	15,933	13,702	11,715	14,737	13,548

Educational Campaigns to Eradicate Pests

As part of the Section's efforts to improve the level of health awareness at all levels of society with regard to eradicating pests which endanger public health, work began in October 2000 on a special educational programme. The first part of the programme targeted school-children and involved school trips to the Section's headquarters in the Al Quoz area. 18 schools took part and a total of 590 students, both male and female were involved.

The second stage of the programme covered a further twelve schools, which were visited by a mobile exhibition organised by the section whereby 1,900 students, both male and female, were involved.

Establishment and Development of Administrative Affairs Department

The nucleus of the administrative department of the Municipality was created in 1961, in response to the rapidly-expanding responsibilities of the new organisation. Called the " Administrative Office", it was initially given duties that included the organisation of the markets, the offering of educational services and the licencing and supervision of craftsmen.

During the 1970s, as the Municipality's responsibilities grew, a number of new departments and sections were created, including the Administrative Section. This was charged with responsibility for the following:

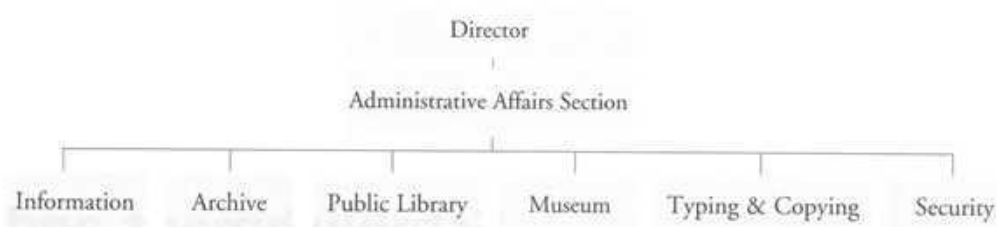
- Monitoring the decrees issued by the Municipality Council and its various committees.
- Monitoring the Administrative Orders issued by the Municipality Director and handling outgoing and incoming correspondence.
- Specifying prices and monitoring weights.
- Monitoring the prices charged by hotels, restaurants, cafés and night clubs.
- Supervising the Dubai Museum and the Public Library.
- Monitoring social clubs and being responsible for public conduct.

After 1980, when the Dubai Municipality moved to its new building, the number of its employees grew rapidly. This was caused by the need for the establishment of new sections and offices within the Municipality, to handle the rapid development then under way in the Emirate.

In 1986, a programme of modernisation and development was set in motion throughout the Municipality, and the first Organisation Chart was issued under the terms of Administrative Decree No 57, issued on 27th February 1986.

As illustrated in Chart No. 1, and covering the period from 1986 to 1994, the assistance of a group of experts was sought for the purpose of organising archives and libraries as well as for the carrying out of censuses and the management of museums. These experts were given the tasks of introducing the latest methods for management of Administrative Affairs and of improving service and performance. A group of Emirati understudies were assigned to work with the external experts and to complete their work, a process that was still continuing, with the support of the external experts, in 2002.

Chart No. 1. Organisation Chart for Administrative Affairs Section, issued in 1986



The functions of the Administrative Affairs Section were specified as follows:

- Provision of General Services, preparation and handling of correspondence and memoranda issued and received.
- Methodical follow-up of the Municipality's projects under construction as well as of Administrative Orders and of decisions taken by the Municipality Council and its committees.
- Filing and archiving Administrative Orders.
- Provision of educational services, such as books for lending and periodicals in the Public

Library as well as supplying the library with new books and periodicals.

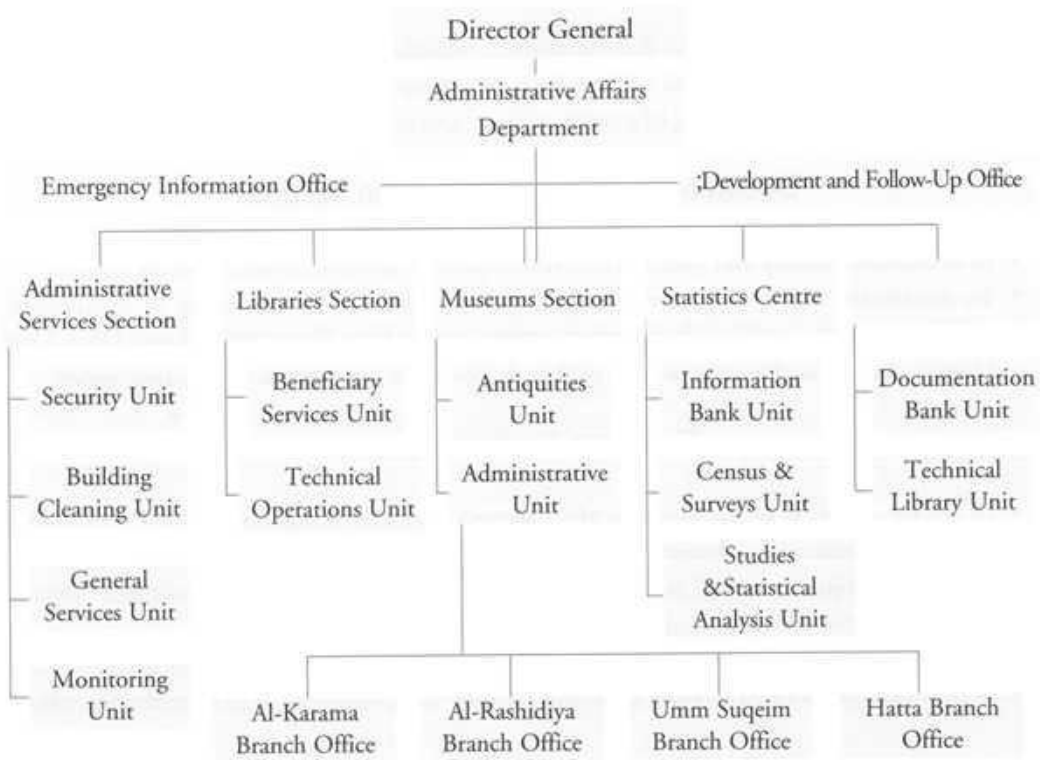
- Supervising the museum as well as historical buildings and archaeological sites.
- Provision of secretarial, typing, translating, scanning and copying services.
- Provision of security services to protect buildings and housing complexes associated with the Municipality.
- Provision of field monitoring of social activities, recreation activities, shows and cultural lectures.

With the increase in the duties carried out by the Administrative Affairs Section, Administrative Order No. 157 was issued on 27th July 1987, establishing a Documentation and Information Unit directly linked to the Head of Administrative Affairs. This replaced the previous Archive Unit, and was charged with organising the filing of all Municipality correspondence, both sent and received. On 28th April 1988, Administrative Order No. 104 established a Monitoring Unit directly linked to the Head of Administrative Affairs.

At the beginning of the 1990s, further development of the Municipality and its work necessitated a revision to the previously-existing Organisation Chart. On 5th August 1990, Administrative Order No 203 was issued to add the Municipality's Branch Offices (Al-Rashidiya, Al-Karama, Umm Suqeim and Hatta) to Administrative Affairs, this being followed by another Administrative Order in October 1990 to add the Census Centre.

On 3rd June 1991, Administrative Order No 163 revised the status of Administrative Affairs in the Municipality's Organisation Chart, raising it to the level of a Department, under the direct supervision of the Municipality's Director, as shown in Chart 2, below.

Chart No. 2. Organisation Chart for the Administrative Affairs Department in 1991



The main functions and duties carried out by the Administrative Affairs Department and its affiliated Sections are as follows:

- To provide administrative services for public libraries, documentation services, and to carr out active monitoring of social and cultural activities in addition to co-ordinating activities in the Customer Service Centre and the Municipality's Branch Offices.

Administrative Services Section

- To provide security services and monitoring of all the Municipality's properties, including buildings, other establishments and public utilities.
- To provide office services to the Municipality, including typing, scanning, copying, binding of documents, translation, provision of stationery and supplies, communication services and maintenance of equipment.
- To ensure the use of the best technology in the field of land and wireless communications, including telephone systems, radio-communications equipment, pagers etc.
- To provide cleaning services for all the Municipality's buildings and complexes.
- To provide a service to society through the eradication of begging.
- To issue the necessary licences for social clubs and other establishments and associations and to monitor cultural and social activities.

Public Libraries Section

- To provide Library services for the community, including pro-active library services.
- To provide services to children and students of various ages in order to contribute to their edcation, within a framework of preserving local culture and traditions.

Documentation and Information Section

- To document, classify and preserve the Municipality's documents and official records.
- To modernise and develop the systems and tools used for the recording of documents, including use of a unified classification system, an Archive Thesaurus, a Laser Discs User Manual and a plan for archiving, as well as disposing of documents, where appropriate.

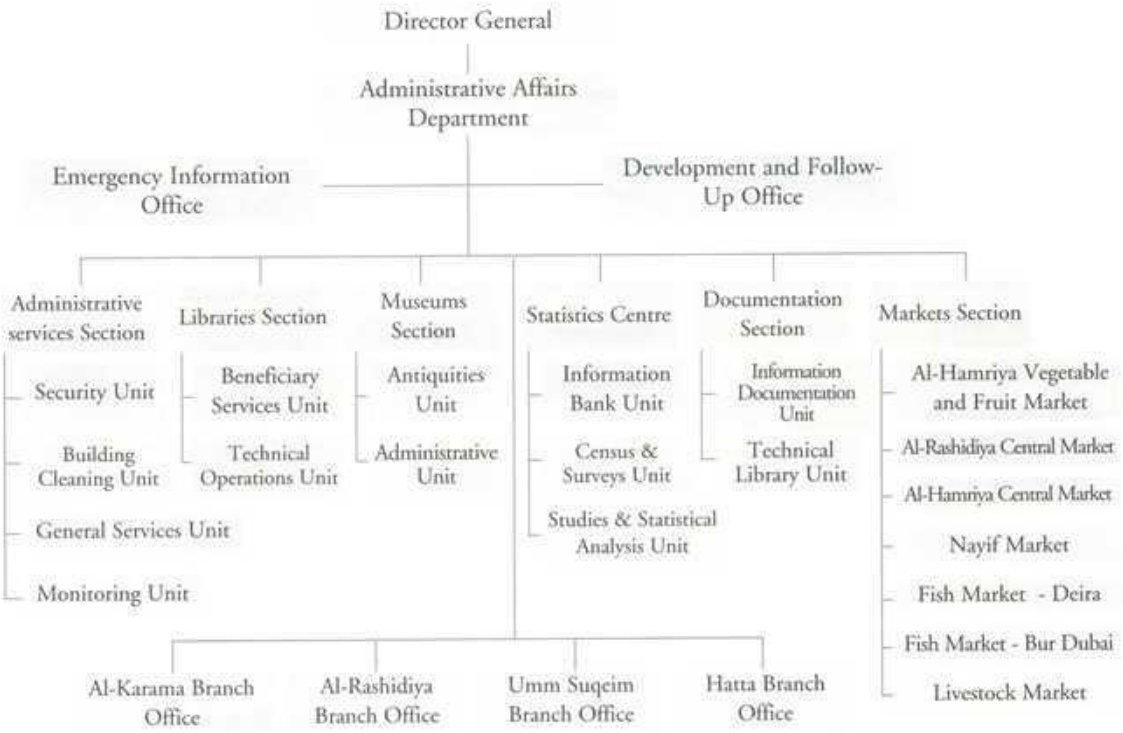
Customer Service Section

- To receive members of the public at the Customer Service Centre and Branch Offices and to provide them with effective high quality services and an immediate response to their queries and requests, as well as receiving their complaints and responding to them, making the best possible efforts to resolve them.
- To carry out polls to measure consumer satisfaction and to engender trust in Municipality services.
- To provide decentralised services in various parts of the Emirate, so as to simplify procedures

for those making use of Municipality services, including the provision of advice on completion of applications.

As the tasks of the Administrative Affairs Department continued to increase, so further expansion took place. Thus, on 16th June 1993, Administrative Order No 206 for 1993 provided for the Markets Section to be moved from the Commercial Licencing Department to the Administrative Affairs Department, as illustrated in Chart No. 3.

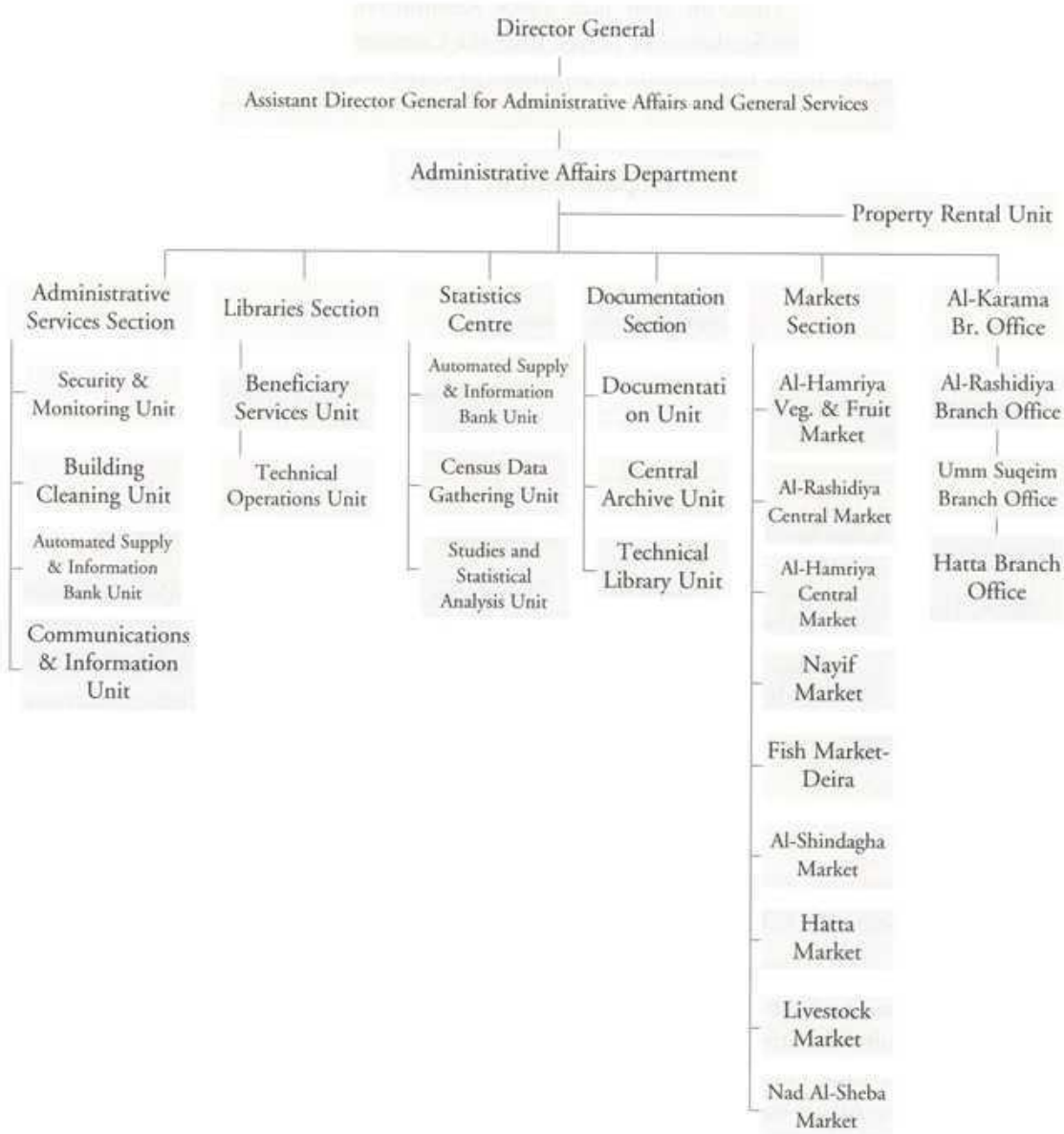
Chart No. 3. Organisation Chart for the Administrative Affairs Department in 1993



At the beginning of 1995 the Administrative Affairs Department was transferred from the direct supervision of the Director General to the direct supervision of the Assistant Director General of Administrative Affairs and General Services, in accordance with Administrative Order No. 1, issued on 7th January 1995, which created the post of Director General of Administrative Affairs and General Services. This decision was made so as Assistant to keep abreast of the need for continuing development in the Municipality's administration, so that high quality services could continue to be provided.

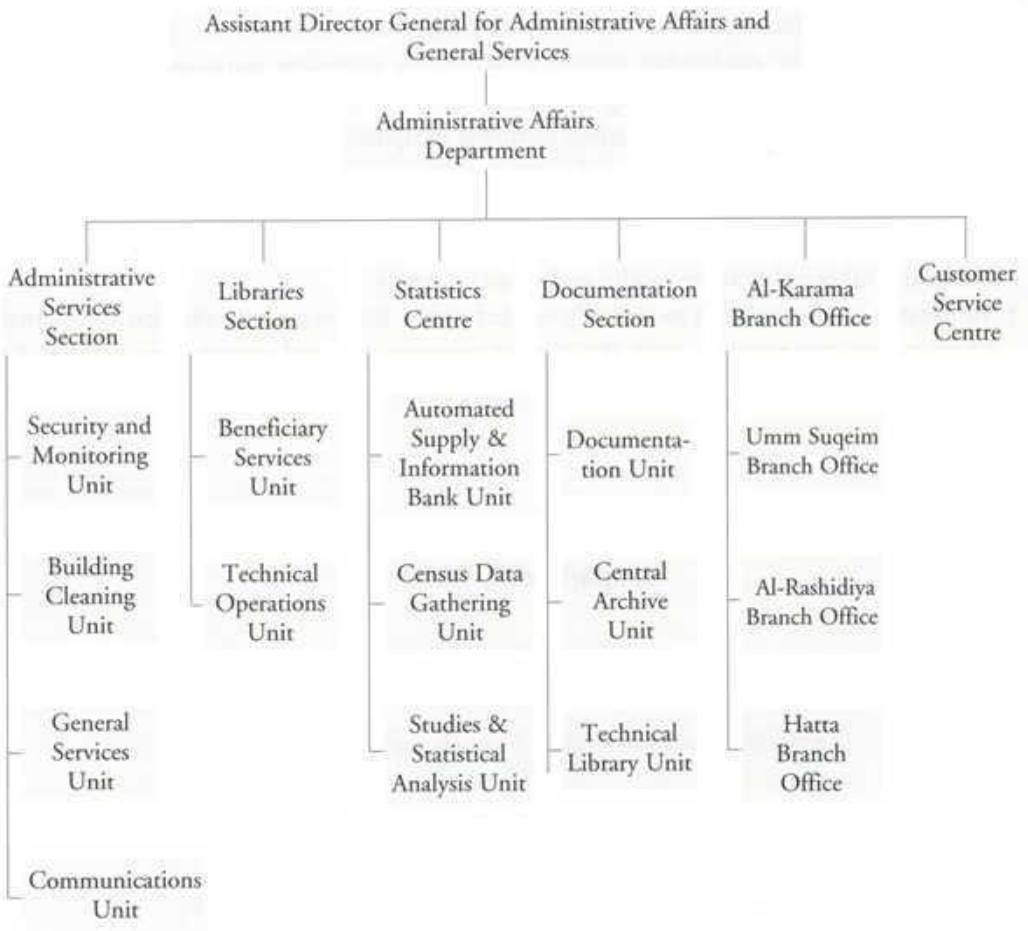
The Museums Section remained part of the Administrative Affairs Department until 1st January 1998, when an Administrative Order was issued to transfer it from the Municipality to the Dubai Department of Tourism and Commerce Marketing. This necessitated an amendment of the Organisation Chart for Administrative Affairs, which was issued, as Administrative Order No. 22, on 15th February 1998. The resulting Organisation Chart is shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Administrative Affairs Department in 1998



The Markets Section remained part of the Administrative Affairs Department until Administrative Decree No. 291 was issued on 28th October 1998. This moved the Markets, as well as the Municipality's Rental Unit, from the Administrative Affairs Department to the Markets and Abattoirs Department. The Markets Section is discussed in detail in the Establishment and Development of the Markets and Abattoirs Department. Following this Chapter on the change, the Organisation Chart was once again amended, as shown in Chart No. 5.

Chart No. 5. Amended Organisation Chart for Administrative Affairs Department in 2000

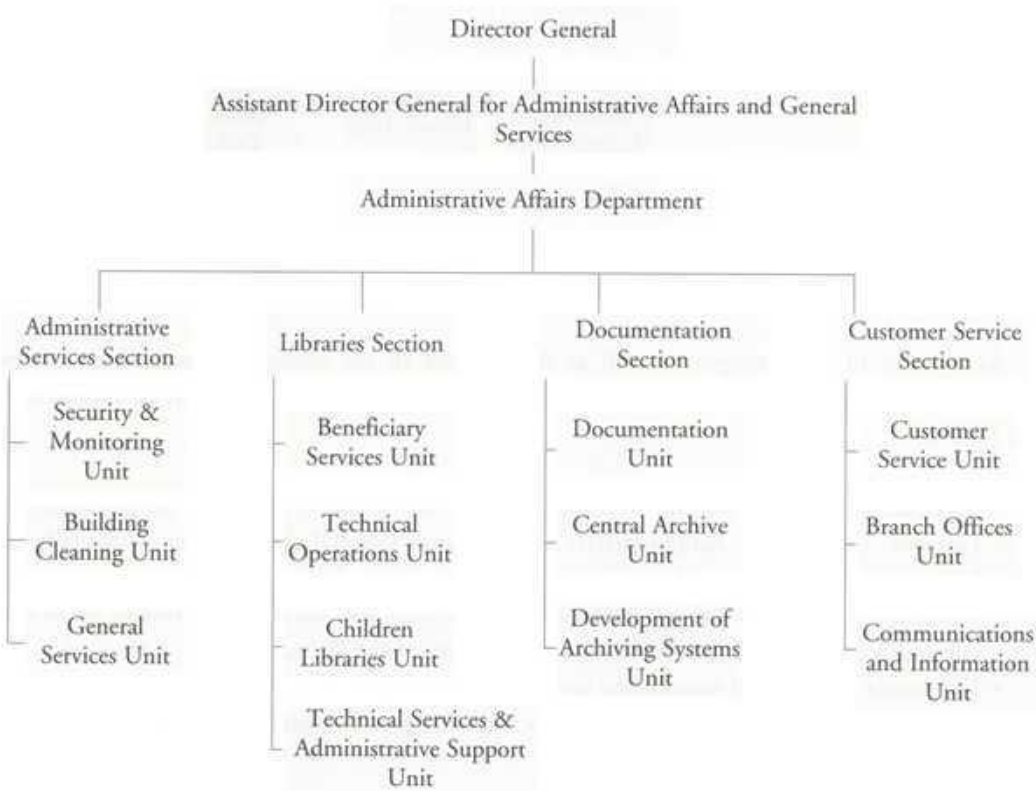


As a result of the changes, as well as the increase in the various responsibilities of the Administrative Affairs Department, the duties of the Department in 2000 can be summarised as follows:

- To make suggestions to, and to implement all that which is approved by, the Assistant Director General of Administrative Affairs and General Services in terms of the Municipality's policies, rules, directives and procedures relating to administrative services, public libraries, census sevices, documentation services and active monitoring of social and cultural activities, as well as co-ordinating activities of the Branch Offices.
- To provide security and monitoring services for all the Municipality's properties, including buildings, other establishments and public facilities, as well as ensuring their cleanliness and appropriate appearance.

- To provide services relating to communications and office supplies such as photocopiers, furniture, calculators, stationery, translation, typing, photography and supply materials.
- To monitor actively various cultural, social and charity activities, ensuring that they are carried out in accordance with the rules and regulations in place.
- To carry out documentation services, including administration of records, central documentation, the cataloguing system, classification, recording incoming and outgoing letters, postal services and archiving documents on CDs.
- To provide statistical services, including archiving of updated statistical data, preparation of statistical books and publications and carrying out statistical, social, economic, industrial and demographic surveys, as required.
- To provide public library and technical library services as well as providing enough suitable books and other publications, audio and visual materials.
- To provide services relating to urgently-needed public information in addition to internal Municipality requirements, with the aim of ensuring fast and urgent provision of the Municipality's services or to facilitate communications between the Municipality's employees.

Chart No. 6. Amended Organisation Chart for the Administrative Affairs Department, 2002

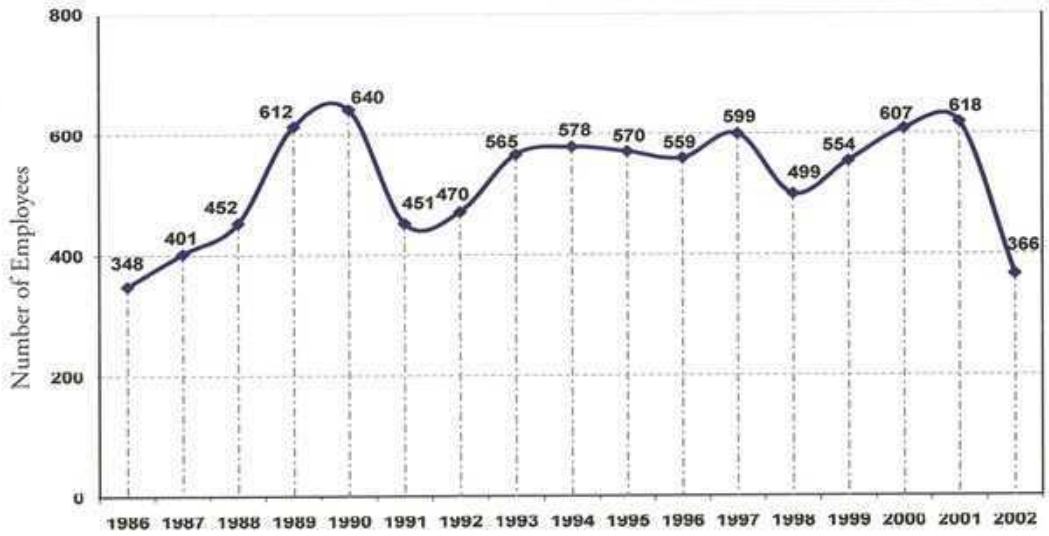


The following table shows the increase in employee numbers in the Administrative Affairs Department, 1986 – 2002

Year	Emiratis	Expatriates	Total
1986	30	318	348
1987	38	363	401
1988	49	403	452
1989	76	536	612
1990	100	540	640
1991	86	365	451
1992	83	387	470
1993	128	437	565
1994	136	442	578
1995	147	423	570
1996	150	409	559
1997	170	429	599
1998	134	365	499
1999	155	399	554
2000	163	444	607
2001	161	457	618
2002	156	210*	366

* The decline in expatriate employees in 2002 was due to the privatisation of both the Building Cleaning and the Security and Monitoring Units.

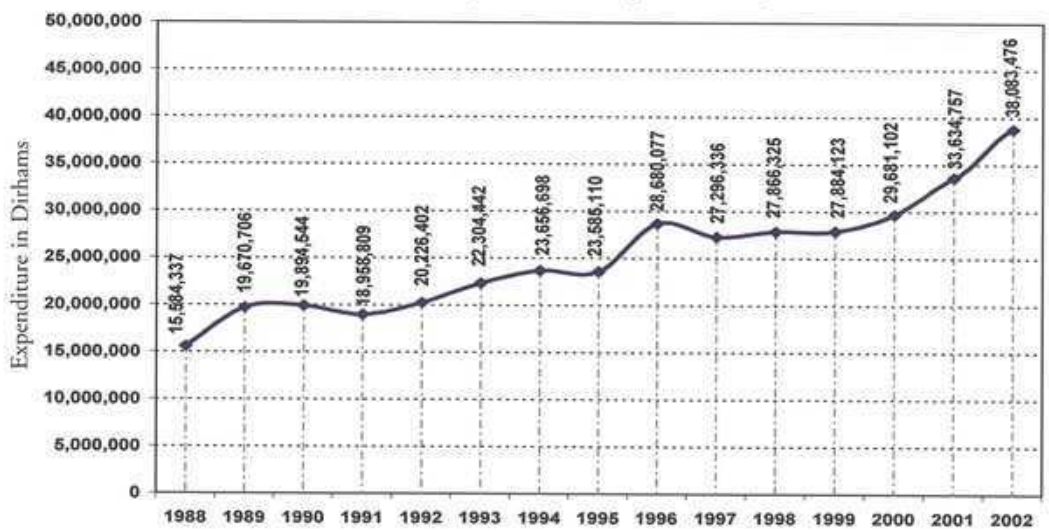
Increase in employee numbers in the Administrative Affairs Department, 1986-2002



Administrative Affairs Department expenditure, 1988 – 2002, in UAE Dhs.

Year	Salaries	Expenditure	Capital Expenditure	Total Expenditure
1988	10,291,597	4,022,626	1,270,114	15,584,337
1989	12,612,027	4,984,327	2,074,352	19,670,706
1990	13,976,401	4,987,907	930,236	19,894,544
1991	14,557,282	3,896,697	504,830	18,958,809
1992	15,484,805	3,727,655	1,013,942	20,226,402
1993	18,481,769	2,908,917	913,756	22,304,442
1994	20,070,046	2,842,907	743,745	23,656,698
1995	19,353,744	3,603,584	627,782	23,585,110
1996	20,112,983	6,524,740	2,042,354	28,680,077
1997	20,078,110	5,464,394	1,753,832	27,296,336
1998	19,019,924	5,823,184	3,023,217	27,866,325
1999	19,277,888	4,698,154	3,908,081	27,884,123
2000	21,615,769	5,752,234	2,313,098	29,681,102
2001	22,839,886	8,042,358	2,752,514	33,634,757
2002	27,428,633	8,826,834	1,828,009	38,083,476
Total	275,200,865	76,106,517	25,699,862	377,007,244

Administrative Affairs Department expenditure, 1988 – 2002



The latest Organisation Chart for the Administrative Affairs Department in 2002 is as follows: The following are the Sections of the Administrative Affairs Department:

1. Administrative Services Section

During the 1970s and 1980s, this section was responsible for duties related to administrative services, with its units reporting directly to the Head of the Administrative Affairs Section. The duties included the provision of security services, archiving, information services, typing, photocopying, systematic follow-up of the Municipality's projects under construction and follow-up of administrative orders and decrees issued by the Municipality Council and its committees.

Administrative Order No. 163 was issued on 3rd June 1991 to raise the Section to the level of a Department within the Municipality's administrative organisation chart, with the following four Units:

- Security Unit
- Building Cleaning Unit
- General Services Unit
- Monitoring Unit

The most important duties included:

- The provision of correspondence and secretarial services, typing, communications and translation in addition to the provision of office equipment, photocopying machines for all the departments and sections within the Municipality.
- The maintaining of the cleanliness of all the Municipality buildings.
- The provision of security services in all the Municipality buildings and complexes.
- Monitoring of public social activities and entertainment activities.
- The monitoring of porters in markets and work on the eradication of begging.

The Administrative Services Section on 2000 uncluded the follows:

- Security and Monitoring Unit
- Cleanliness Unit
- General Services Unit

• Communications and Information Unit

Outgoing and Incoming Correspondence Services

• The Documentation Unit was responsible, until 1994, for the preparation of correspondence and memoranda and for documenting Administrative Orders and Decrees issued by the Municipality's Director General. It was added to the Documentation and Information Section in 1995.

Administrative Orders and Decrees issued, 1990 – 1994

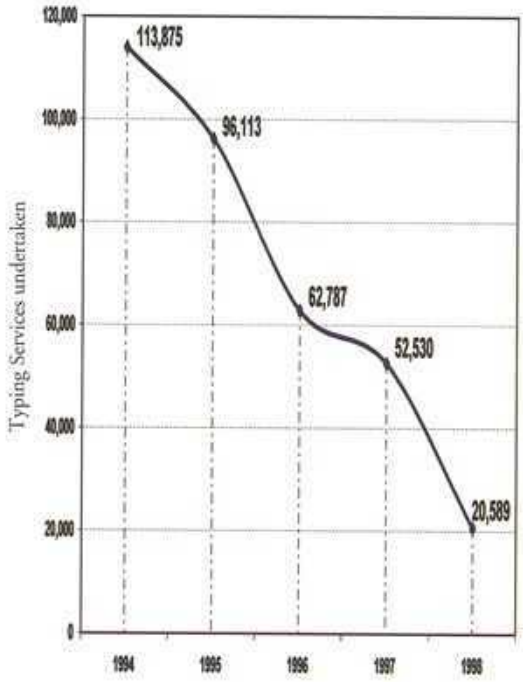
Item	1990	1991	1992	1993	1994
Orders Issued	339	342	322	611	634

Typing and Translation services

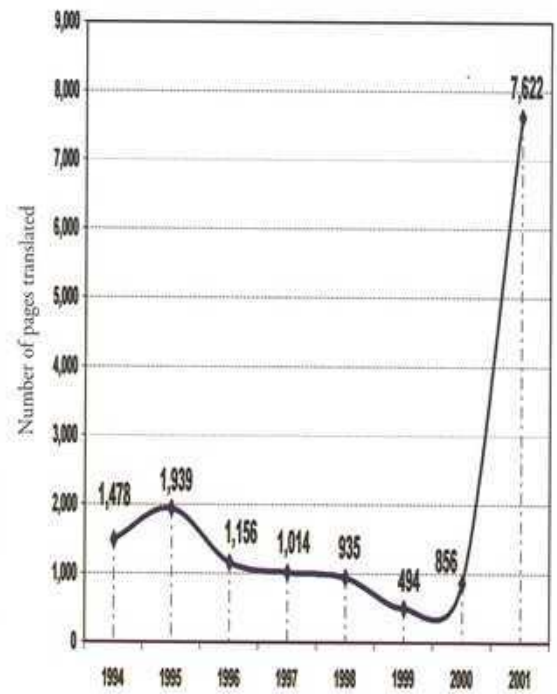
Typing undertaken and pages translated between 1994 – 2001

Item	1994	1995	1996	1997	1998	1999	2000	2001
Typing services undertaken	113,875	96,113	62,787	52,530	20,589	-	-	-
Pages Translated	1,478	1,939	1,156	1,014	935	494	856	7,622

Typing Services undertaken



Translation services



Copying Unit Services

Services undertaken by the Copying Unit, 1994 – 2001

Item	1994	1995	1996	1997	1998	1999	2000	2001
Photocopying Stencil	980,770	1,241,800	954,686	758,311	867,419	783,030	902,556	1,160,286
Binding	916,950	941,890	830,330	773,520	723,520	726,820	639,550	629,823
Colour	3,715	7,650	5,687	5,720	8,097	11,086	9,593	10,074
photocopying	-	-	9,296	38,758	35,254	51,547	71,849	83,284

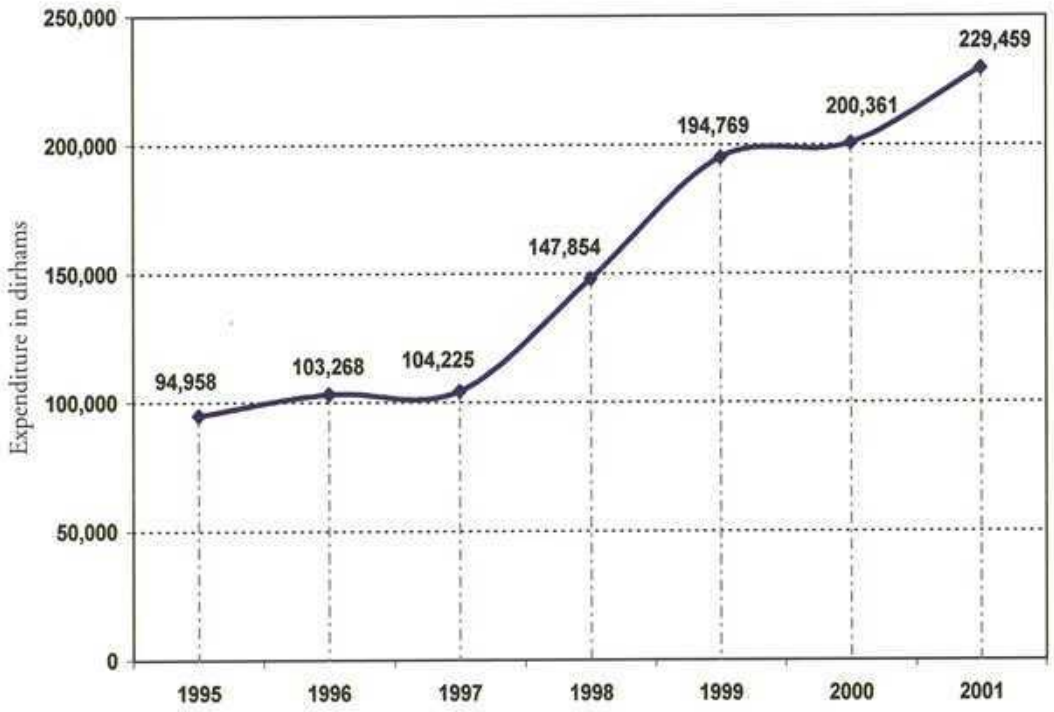
Hospitality Services

Expenditure on hospitality services by Municipality Departments, 1995 - 2001

(in UAE dirhams)

Item	1995	1996	1997	1998	1999	2000	2001
Hospitality expenditure	94,958	103,268	104,225	147,854	194,769	200,361	229,459

Hospitality expenditure, 1995 – 2001



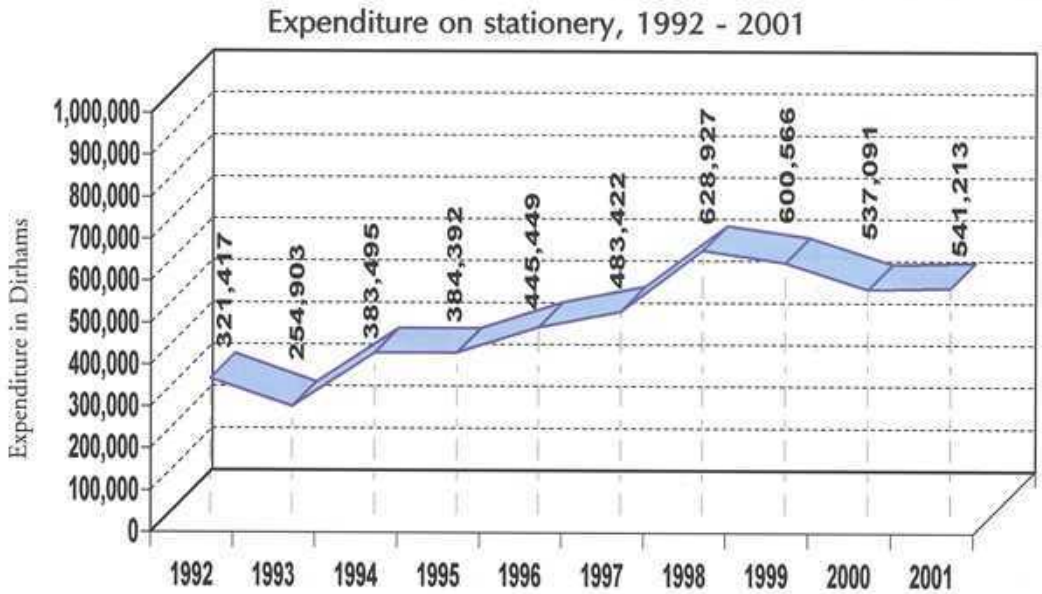
Stationery Services

The work of the Stationery Section increased significantly during the 1990s, as a result of the expansion of the Municipality's work and the creation of new Departments and Sections within the organisation. This resulted in a major increase in expenditure on items of stationery, as shown in the following table:

Expenditure on stationery for the Municipality's Departments and Sections, 1992-2001

(in UAE Dhs)

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Stationery Services Expenditure	321,417	254,903	383,495	384,392	445,449	483,422	628,927	600,566	537,091	541,213



Communications and Information Services

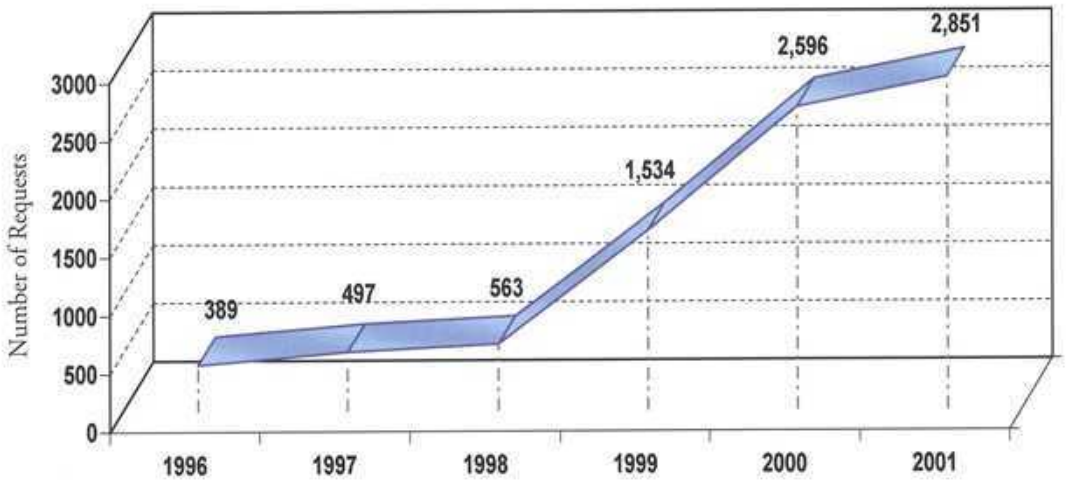
The expansion of work by the Municipality, as well as the introduction of modern technology, engendered a parallel expansion in fixed forms of communications and in radio-communications, particularly within the Municipality's own buildings. Among the developments introduced were the introduction of automated routing of calls between the telephone operators, so as to provide free call services to the Car Parks Section, the Transport Department and the Emergency Office.

Mobile telephones were also provided to certain categories of Municipality employees while a twenty-four hour information system, working through the Emergency Office, was created to respond to calls from the public. This system was designed to facilitate response to public enquiries as well as to make it possible for contact to be made at all times with senior personnel in the Municipality and other services, to help in reviewing any problems associated with the provision of services to the public.

Requests from Departments for communications services, 1996 – 2001

Item	1996	1997	1998	1999	2000	2001
Incoming Requests	389	497	563	1,534	2,596	2,851

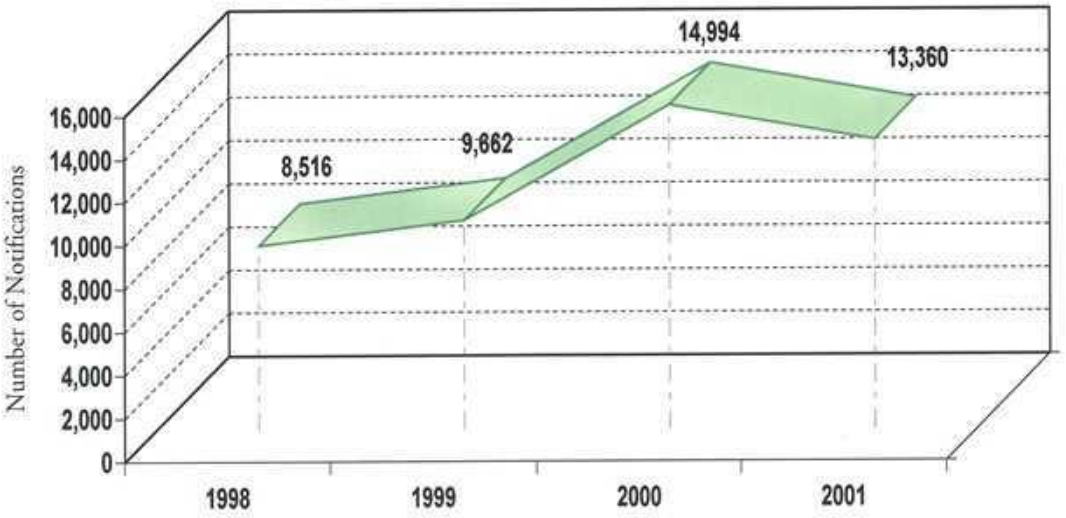
Requests from departments for communications services, 1996 – 2001



Incoming notifications of emergencies, 1998 – 2001

Item	1998	1999	2000	2001
Incoming Notifications	8,516	9,662	14,994	13,360

Incoming notifications of emergencies, 1998 – 2001



Security and Monitoring

The Security and Monitoring Unit provides security and monitoring services for all properties belonging to the Municipality as well as other functions related to the Municipality, including its buildings and other establishments and facilities open to the public, as well as the supervision and monitoring of all social activities, entertainment activities, shows and cultural lectures.

2: Documentation and Information Section

The Documentation and Information Section was established in 1994, through the issuing of Administrative Decree No. 52. Duties related to documentation and information were initially carried out by an administrative unit at the level of a Unit, this later being upgraded to become a separate Section, charged with the responsibility for handling all of the Municipality's incoming and outgoing correspondence. The Section was also given responsibility for photocopying and the receipt of personal mail along with the development and updating of office equipment dealing with functions such as the following-up of records, copying of files and distribution of telefax messages by e-mail, as well as supervising planning for the archiving or disposal of documents, as appropriate. The section has three separate Units, as follows:

- Documentation Unit
- Central Archive Unit
- Technical Library Unit



Use of a Scanner Archiving System to safeguard documents

The following outlines the work undertaken by the Documentation and Information Section:

Documentation

The task of handling documentation within the Municipality has grown substantially since 1995, with a consequent increase in the duties and responsibilities related to the documenting and archiving procedures. The key functions of the Section include the following:

- Co-ordinating with the Information Technology Department with relation to the linking of the Administrative Follow-Up Programme with the outgoing and incoming document database and the using of e-mail for internal mail between and among departments and sections.
- Printing the services manual for the Documentation and Information Section, in co-ordination with the Public Relations Section.
- Co-ordinating with Personnel Affairs to carry out a training course on the unified classification system.
- Issuing of a services manual for the public, as well as an updated version of the unified classification system.
- Scanning of files relating to land ownership.
- Training of employees on methods of documentation.
- Approving the archiving and destruction of the documents of the Contracts and Purchasing Department.
- Distribution of telefax messages by e-mail.
- Scanning outgoing telefaxes and monitoring outgoing and incoming correspondence.
- Putting in place of a framework of rules and regulations for all departments and sections of the Municipality.
- Preparing of a manual on the use of CDs and a manual on plans for an automated system for archiving and disposing of documents.
- Preparing of a bibliographic database of minutes of the meetings held in and the committees of the Municipality, as well as of their members.
- Making an average of between four and six field visits a year to companies with highly-developed documentation systems, so as to learn from their experience in this field.
- Studying of the distribution of incoming correspondence through e- mail.

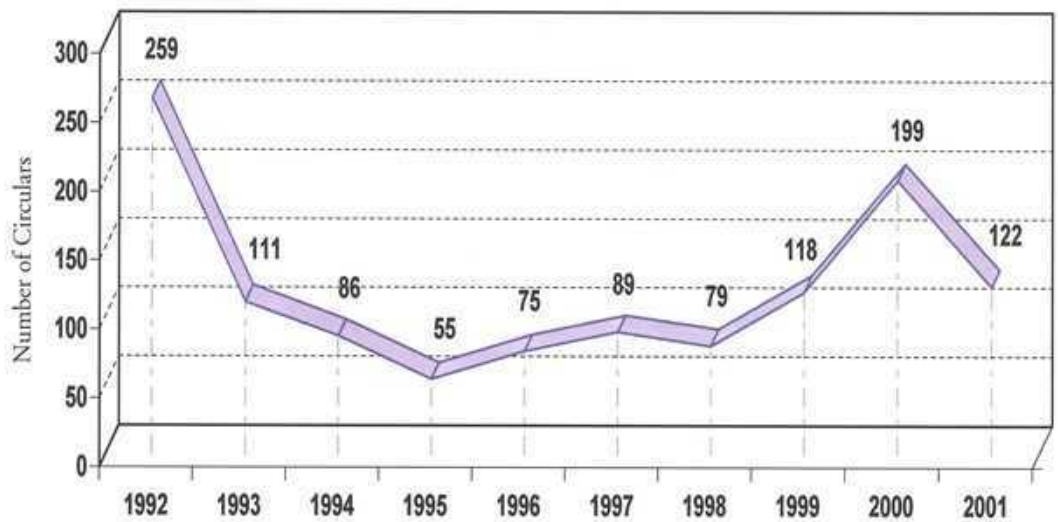
The processing and archiving of documentation, 1996 – 2001

Item	1996	1997	1998	1999	2000	2001
Archiving Documents	-	-	110,600	83,650	6,124	3,988
Photocopying Documents	1,221	162,591	118,571	864	26,170	6,069
Destroying Documents	7,910	24,317	5,483	1,656	7,647	4,758
Archiving Telefaxes	-	-	23,513	3,240	6,219	2,115
Archiving Telexes	-	-	240	2	45	51

Number of documents recorded by computer during 1992 – 2001

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Outgoing	14,667	14,890	21,158	20,402	20,571	17,518	12,266	14,249	20,954	28,058
Incoming	24,112	21,931	23,208	23,810	1,302	1,519	2,091	2,523	3,690	6,633
Administrative Decrees	400	870	661	1,095	1,026	1,629	376	293	295	353
Administrative Circulars	259	111	86	55	75	89	79	118	199	122
Organisational Decisions	-	-	-	-	15	5	20	1	6	22
Local Orders	-	-	-	-	8	10	6	1	-	1

The number of Administrative Circulars, 1992 – 2001

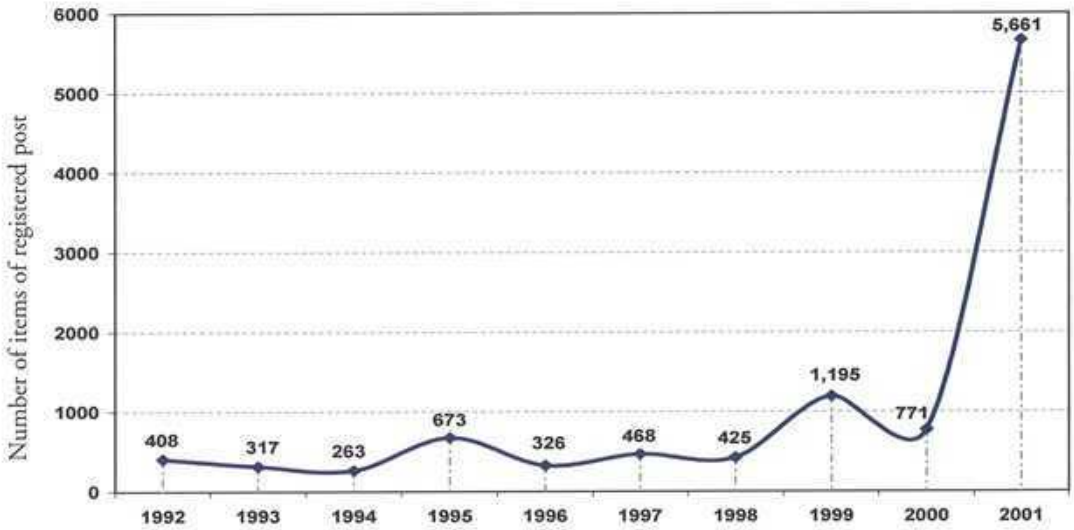


Outgoing items of post, 1992 – 2001

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001*
Express Post	83	111	251	263	123	135	286	116	318	126
Registered Post	408	317	263	673	326	468	425	1,195	771	5,661
Normal Post	31,579	10,886	5,156	5,842	6,895	5,216	5,615	3,286	9,700	8,197
Courier	4,032	2,693	3,865	3,471	4,337	4,129	4,088	3,407	3,687	4,137
First Class Post	31	18	15	4	-	-	-	-	-	-

* The increase in registered post in 2001 is due to correspondence sent to countries who participated in the INTA conference on communication and information methods.

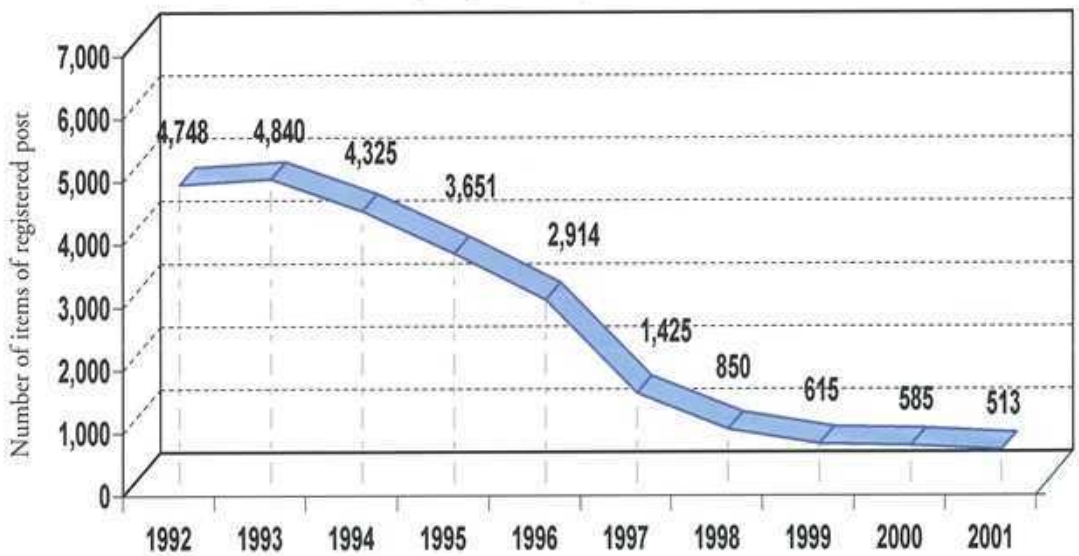
Increase in registered post, 1992 – 2001



Incoming post, 1992 – 2001

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Express Post	-	-	-	-	551	580	759	906	1,064	1,182
Registered Post	4,748	4,840	4,325	3,651	2,914	1,425	850	615	585	513
Normal Post	90,358	97,318	34,075	140,428	54,167	65,903	114,329	140,785	132,622	115,372
First Class Post	210	289	493	382	358	333	534	494	331	-

Incoming registered post, 1992 – 2001



Central Archive

The duties of the Central Archive increased as a result of the changes in the Municipality's Organisation Chart, reflecting the growth of the organisation, this requiring the introduction of an efficient archiving system. This has included, amongst other aspects, the following:

- Laying down of special procedures for the system of borrowing files and documents.
- Preparation of lists of files available in the archiving rooms.
- Distribution, revision and photocopying of Administrative Affairs files and Municipality Council's files.
- Computer data entry of all relevant information.
- Receipt of files from various Municipality Departments for archiving or disposal.
- Revision of building plans and related computer data entry.
- Implementation of electronic archiving of plans for the Buildings Department.
- Organisation, distribution, audit, revision and photocopying of files for the Personnel Affairs Department.
- Establishment of a database for files kept in the archive.
- Preparation of an Automation Manual to be linked to other departments relating to archiving and disposal of documents.
- Establishment of an archive database for future use.
- Preparation of a manual of productivity criteria for employees.

Technical Library

The Technical Library Unit performs the following duties:

- Participation in specialised courses.
- Supplying to the Technical Library of books and other scientific reference material related to the work of Municipality employees.
- Distributing information to the Municipality's employees by e-mail.
- Transferring of paper files, such as reports, the results of training courses and so on, to an electronic format by scanning them.
- Obtaining useful information through the Internet and circulating it via computer to employees.
- Obtaining loans of information through the Internet and maintaining a relationship with local and international organisations and bodies for the exchange of information, for mutual benefit.
- Preparation of a questionnaire for all Municipality employees to find out their interests and to distribute information of interest to them by e-mail.
- Co-operation with the Information Technology Department on the issuing of an Internet User Manual.

3: Libraries

In accordance with the orders of H.H. the late Sheikh Rashid bin Saeed Al Maktoum, the first Public Library was established in Dubai in 1963 in the Al-Ra's area of Deira. The libraries

service of the Municipality was expanded rapidly during the 1980s, with the introduction of special sections for Arabic and English books, reference books, periodicals and audio and visual material, all of this resulting in an increase in the number of books and periodicals available and, in turn, to an increase in the number of visitors. The objective of the libraries is to provide various forms of learning materials and sources of information to the public such as books, periodicals, reference books, audio and visual materials, thereby helping to raise the level of scientific and cultural knowledge in the public at large, and to encourage the younger generation to become accustomed to reading.

In 1989, four new libraries were opened in residential areas of the city, costing a total of 15 million dirhams. Located in the Hor al-Anz, Al-Rashidiya, Al-Safa and Umm Suqeim areas, each had special rooms for women, children and men, as well as other multi-purpose rooms equipped with the latest audio and visual equipment.

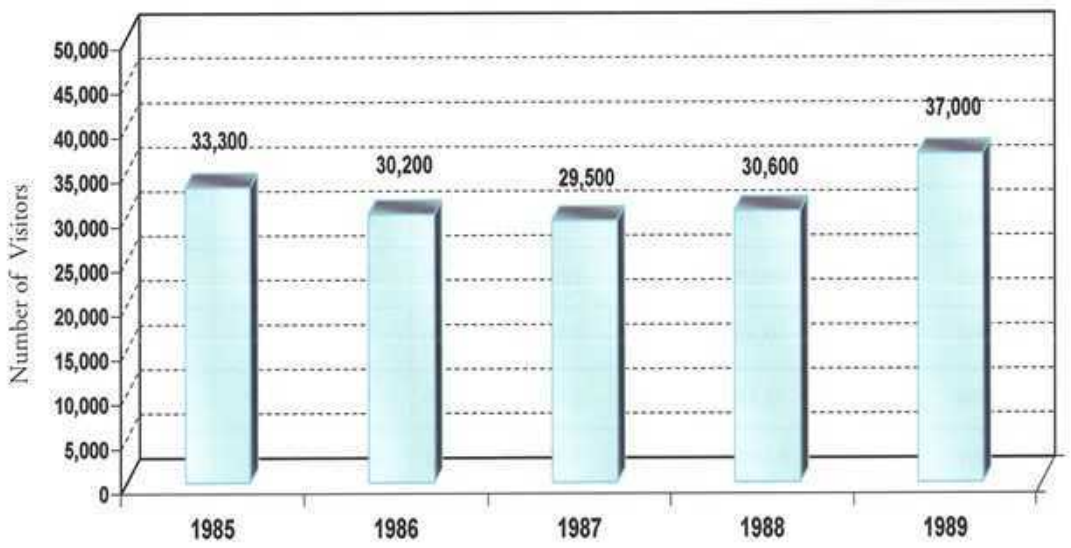
Books and periodicals available in the Public Library, 1985 - 1989

Item	1985	1986	1987	1988	1989
Arabic Language Unit	12,103	12,244	15,240	17,144	48,325
English Language Unit	7,176	7,776	7,790	7,790	11,051
Childrens' Unit	3,385	3,439	3,473	3,723	15,403
Total	22,664	23,459	26,503	28,657	74,647

Visitors to the Public Library, 1985-1989

Item	1985	1986	1987	1988	1989
Number of Visitors	33,300	30,200	29,500	30,600	37,000

Visitors to the Public Library, 1985-1989



At the beginning of 1997, a service of borrowing audio and video tapes was introduced for registered members of the Libraries, this being regulated in according with Administrative Decree No 306 for 1998, issued on 4th November 1998, which specified deposits and fees payable for certain services. A membership fee of 50 dirhams was also introduced, with effect from 9th November 1998.

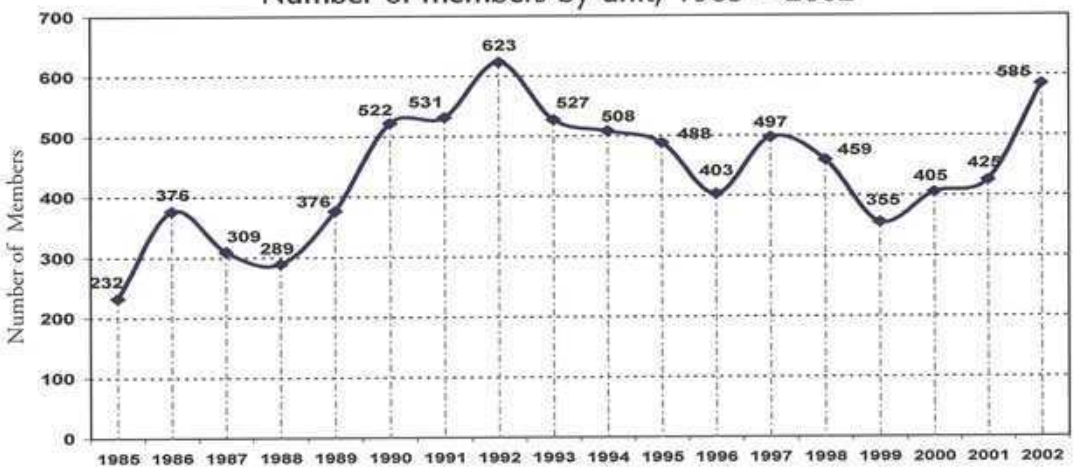
A public internet access service was introduced from 16th October 1999.

In 1998, another library was opened in Hatta, to ensure that the library service covered residents throughout the Emirate.

Visitors and registered members of Libraries, 1985 – 2002

Year	Visitors					Members			
	Men	Women	Children	Students	Total	Arabic Unit	English Unit	Childrens ' Unit	Total
1985	14,000	11,000	8,200	-	33,300	155	72	4	232
1986	16,000	9,000	5,200	-	30,200	262	78	36	376
1987	17,100	7,350	5,050	-	29,500	207	75	27	309
1988	16,400	8,400	5,800	-	30,600	189	70	30	289
1989	20,800	9,700	6,500	-	37,000	255	91	30	376
1990	47,269	14,533	41,693	-	103,495	261	171	90	522
1991	64,587	13,656	34,878	-	113,121	315	158	58	531
1992	75,990	13,355	45,183	-	134,528	313	240	70	623
1993	68,960	14,313	46,841	-	130,114	279	201	47	527
1994	71,670	16,383	45,753	-	133,806	272	192	44	508
1995	74,543	18,745	41,655	-	134,943	257	196	35	488
1996	74,027	18,754	36,918	-	129,699	212	177	14	403
1997	75,431	27,990	40,737	1,460	145,618	263	218	16	497
1998	102,992	40,070	49,077	2,658	194,797	226	220	13	459
1999	89,793	30,010	33,436	2,351	155,590	236	113	6	355
2000	96,880	32,485	23,799	2,546	155,710	206	175	24	405
2001	137,741	51,051	62,184	3,365	254,341	231	141	53	425
2002	113,447	48,563	65,653	88,353	316,016	254	255	76	585

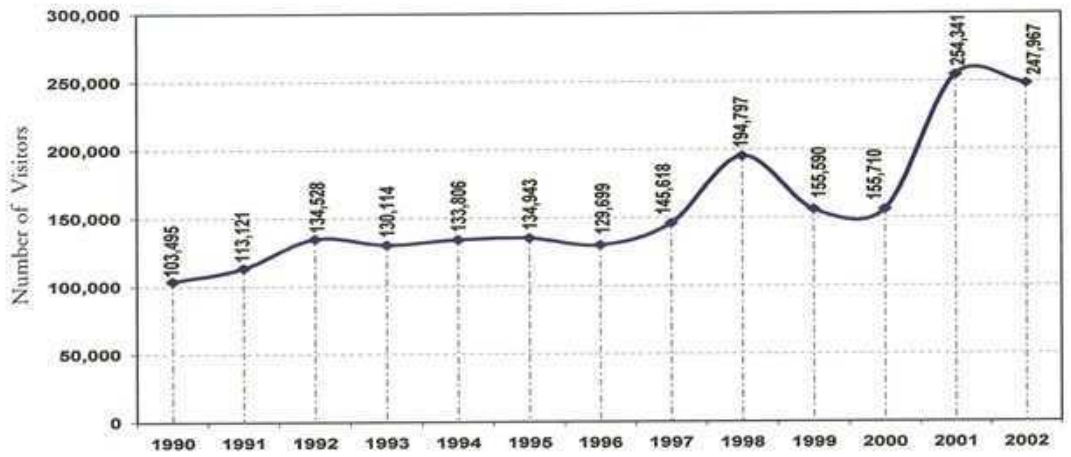
Number of members by unit, 1985 – 2002



Number of visitors to the Central Library and branch libraries, 1990 – 2002

Libraries Central	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Library Hor Al-Anz	43,329	49,222	57,087	46,591	46,332	39,223	45,861	40,724	54,280	51,357	59,854	59,419	54,408
Library Al-	26,318	18,806	27,207	28,143	27,230	30,141	11,801	23,335	45,733	50,875	47,605	56,655	49,824
Rashidiya Library	16,962	22,221	23,246	21,043	26,087	27,480	27,555	30,271	38,409	10,619	-	40,476	41,324
Al-Safa Library	9,800	11,451	13,780	19,644	22,028	25,470	29,760	34,047	37,372	8,952	-	43,339	47,683
Umm Suqeim Library	7,086	11,421	13,208	14,693	12,129	12,629	14,722	17,241	18,383	19,299	29,199	32,486	26,646
Hatta Library	-	-	-	-	-	-	-	-	620	14,488	19,052	21,966	28,082
Total	103,495	113,121	134,528	130,114	133,806	134,943	129,699	145,618	194,797	155,590	155,710	254,341	247,967

Number of visitors to the Central Library and branch libraries, 1990 – 2002



Books and Periodicals to the Central Library and branch libraries, 1990 – 2002

Year	Books				Periodicals			
	Arabic Lang. Unit	English Lang. Unit	Childrens' Unit	Total	Arabic Periodicals	Foreign Periodicals	Childrens' Periodicals	Total
1990	48,773	11,051	15,403	75,227	254	60	9	323
1991	56,404	11,909	20,140	88,453	279	91	12	382
1992	64,842	11,386	21,865	98,093	308	80	4	392
1993	70,297	10,977	22,247	103,521	225	39	4	268
1994	61,272	12,451	19,820	93,543	375	53	10	438
1995	64,464	17,981	19,956	102,401	507	105	10	622
1996	78,704	15,755	21,608	116,067	275	163	29	467
1997	89,426	20,053	15,494	124,973	442	181	27	650
1998	80,495	20,836	15,292	116,623	765	263	24	1,052
1999*	-	-	-	-	864	337	24	1,225
2000	126,034	18,526	28,965	173,525	1,068	412	29	1,509
2001	136,139	21,822	30,470	188,431	1,191	322	23	1,536
2002	146,067	23,751	33,565	205,969	1,309	364	54	1,727

Distribution of books and periodicals according to type, 1990 – 2002

Years	Arabic Lang.Unit	English Lang. Unit	Children's Unit	Total
1990	5,918	2,509	808	9,235
1991	6,973	4,568	2,305	13,846
1992	8,385	6,159	1,676	16,220
1993	9,034	6,795	1,682	17,511
1994	8,939	6,550	1,720	17,109
1995	9,088	7,928	2,197	19,210
1996	9,144	9,029	1,740	20,045
1997	10,462	9,893	1,522	21,877
1998	9,566	9,363	1,556	20,485
1999	8,579	8,350	1,217	18,146
2000	20,027	10,702	9,834	40,563
2001	59,491	15,899	17,347	92,737
2002	71,607	26,444	14,470	117,160

* Data on books unavailable due to the change over to a new system in the library.

Museums Section

Museums Section

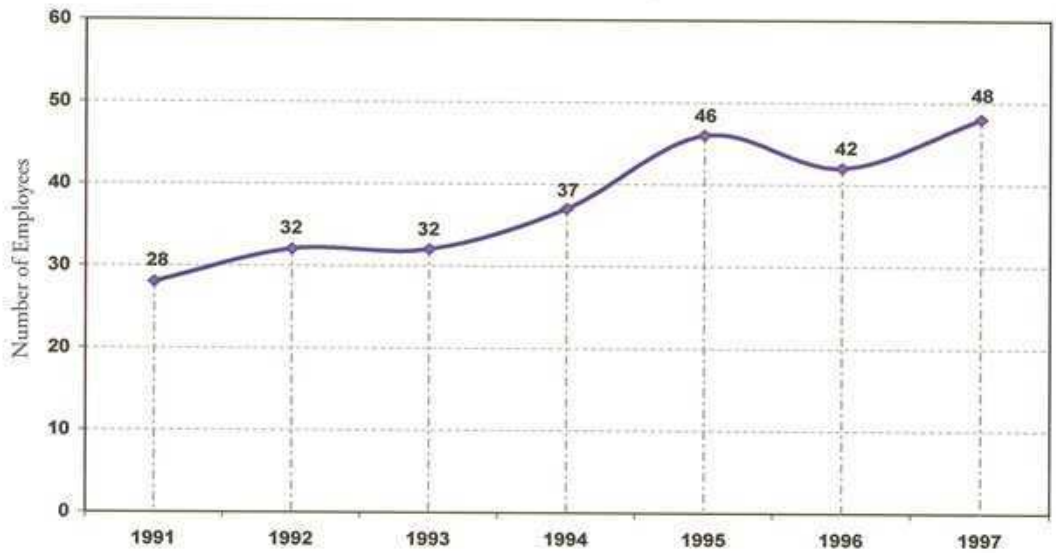
Dubai Museum was created on the instructions of the late H.H. Sheikh Rashid bin Saeed Al Maktoum in a decree issued on 12th May 1971. This provided for the Al Fahidi Fort in Bur Dubai to be converted into a Museum and also ordered that the Museum should be affiliated to Dubai Municipality in terms of its supervision, organisation and administration. As the Municipality itself developed, so too did the Museum, which was also given responsibility for protecting historic buildings and archaeological sites throughout the Emirate.

The Museums Section, which was transferred from the Municipality to the Department of Tourism and Commerce Promotion at the beginning of 1998, had two Units, the Archaeological Unit and the Administrative Unit.

Museums Section employees, 1991-1997

Year	1997	1996	1995	1994	1993	1992	1991
Number of Employees	48	42	46	37	32	32	28

Growth in Museums Section employees, 1991-1997



During the 1990s, up until 1997, the Museums Section grew considerably in terms of its size and activities. In these years, the Museum itself was expanded and restored, while the Section was also responsible for maintaining archaeological sites and historic buildings.

The work on the Museum was undertaken within the framework of a policy designed to preserve essential features of Dubai's old urban heritage, and involved maintenance and restoration of the walls of Al Fahidi Fort, as well as the installation of a ground level air-conditioning network and advanced alarm systems. In order to provide space for the display of archaeological finds from sites in Dubai, an underground extension to the Museum was also constructed, thus preserving the visual and architectural components of the fort itself. Following the carrying out of detailed studies and

planning, as well as of a review of appropriate internal fixtures, and then completion of the necessary construction and restoration work, the Museum was re-opened to the public in mid-1995.

The planned route through the Museum for visitors begins with displays of old weapons and military uniforms, together with examples of small boats and traditional 'arish houses. It then proceeds to displays of the history of the city of Dubai and its famous creek, this then leading to an audio-visual display about changes in lifestyle and architecture in modern Dubai. This display includes a tour through one of the traditional markets, showing various commercial activities, as well as sections showing the diverse daily lifestyles of Dubai's citizens, including visits to the market and the mosque and scenes at home, as well as the lifestyle of the Bedouin, including clothing, jewellery, bedding and the drinking of coffee. Since activities related to the sea are an essential component of traditional life in Dubai, much of the Museum is given over to displays related to the sea, ship-building, fishing, diving and the pearl trade.



A view of the Museum display

Another section shows artefacts from archaeological excavations and provides an introduction to archaeological methods and to the various teams of archaeologists who have worked in Dubai.

The Museums Section was responsible for carrying out surveys for and excavations of archaeological sites, and also for participating in local and foreign exhibitions and conferences, as well as for providing information to tourists and to school parties about archaeological sites in the Emirate of Dubai.

The Museums Section was also responsible for supervising the restoration of the Sheikh Saeed Al Maktoum house in the Al Shindagha area. This was carried out in such a way as to ensure the preservation of its original architecture and to highlight its original structure and the elements used in its construction. The project required the carrying out of engineering work to reinforce the building and its walls as well as the installation of the necessary electrical, air-conditioning and alarm networks, taking care to preserve traditional features. The lower floors were paved with natural stone. When the project was completed, the original architecture of the building had been satisfactorily preserved in its entirety. The restoration was completed in 1986 and the building was then opened to the public.

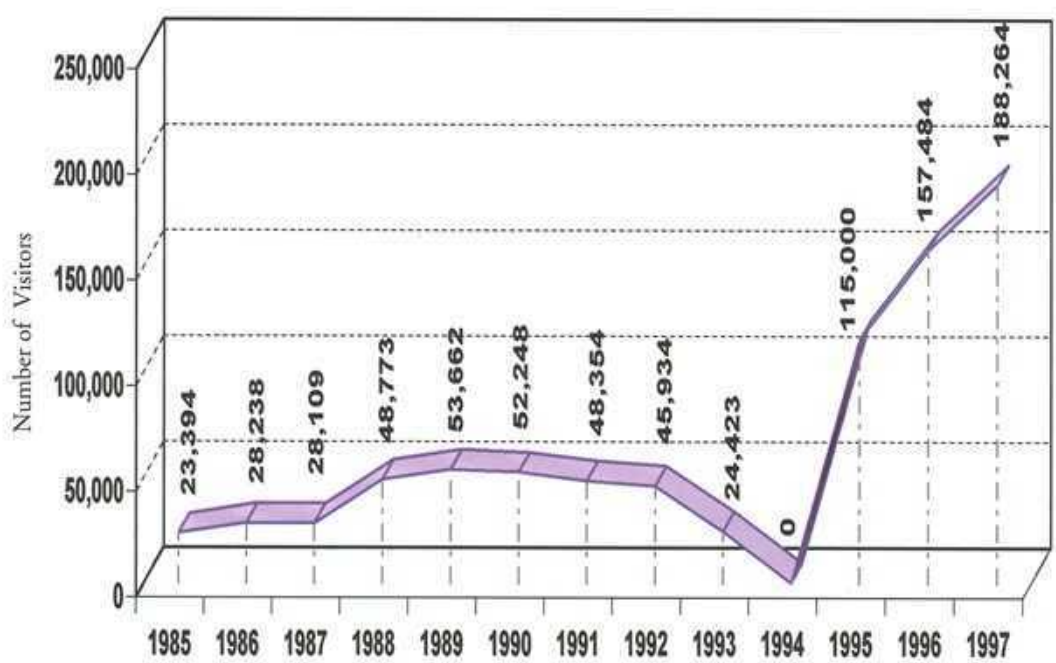
The Museums Section was affiliated to the Administrative Affairs Department of the Municipality until a Government order was issued on 1st January 1998 for it to be transferred to the Dubai Department of Tourism and Commerce Marketing.

During the period from 1985-1997, as shown below, the Museum attracted a steadily growing number of visitors, who included tourist groups and school and university students.

Visitors to Dubai Museum, 1985 – 1997

Year	Tourist Groups	Students	Other Visitors			Total Visitors
			Adults	Children	Total	
1985	113	9,193	10,609	3,479	14,088	23,394
1986	740	10,108	14,767	2,623	17,390	28,238
1987	655	8,531	16,265	2,658	18,923	28,109
1988	512	8,968	34,681	4,612	39,293	48,773
1989	219	10,079	36,889	6,475	43,364	53,662
1990	233	10,763	34,619	6,633	41,252	52,248
1991	225	10,063	31,954	6,112	38,066	48,354
1992	122	5,148	35,321	5,343	40,664	45,934
1993	21	1,161	20,051	3,190	23,241	24,423
1994*	...	...	...	...	...	...
1995	364	5,709	94,783	14,144	108,927	115,000
1996	1,015	6,479	135,698	14,726	150,424	157,484
1997	443	4,534	161,802	21,485	183,287	188,264

Visitors to Dubai Museum, 1985 – 1997



* In 1994 the Museum was closed for maintenance.

Municipality Branch Offices

Municipality Branch Offices

The first branch office of the Municipality was opened in 1976 in Al Rashidiya, followed by one in the mountain town of Hatta in 1977 and two more, in 1988, in the Al Karama and Umm Suqeim areas of Dubai City. The purpose of establishing these branch offices was to de-centralise and to simplify the provision of services by the Municipality to customers and consumers.
These branch offices have the following functions:

- To offer general Municipality services as well as specialised services such as refuse collection, pest control, environmental protection and safety, food control, control of buildings and collection of revenues.
- To provide locations where members of the public can come to pose queries and to make requests, in accordance with Municipality rules and regulations.
- To facilitate effective co-ordination with representatives of other bodies, such as the police and civil defence, so as to ensure the provision of services of high quality, as well as to monitor the activities of social and cultural bodies in the area covered by each office.
- To co-operate with the Public Relations Section in carrying out surveys of residents in the area concerned.

During the second half of 1989, the work carried out by the Branch Offices grew considerably, with functions relating to the provision of a number of services being moved to them, with the objectives both of decentralising the Municipalities work and of making matters easier for the public.

A pilot project was undertaken at the Al Rashidiya Branch Office, this then being extended to the other Offices. This made it possible for each Office to offer to the public a complete documentation service for their various needs and requirements.



Al Karama Centre, one of the Municipality Branch Offices in Dubai

In 1990, Administrative Order No 203 was issued, bringing all Branch Offices within the same management structure and to place them directly under the Administrative Affairs Department of the Municipality, as shown in this chart:

Organisation Chart for the Municipality Branch Offices



Number of employees at the Municipality Branch Offices, 1998 – 2002

Years	Number of Employees				
	Al-Rashidiya Office	Al-Karama Office	Umm Suqeim Office	Hatta Office	TOTAL
1998	4	6	5	10	25
1999	5	6	5	10	26
2000	4	7	5	13	29
2001	4	7	5	18	34
2002	3	7	3	11	25



The Dubai Municipality Branch Office in Umm Suqeim

Main achievements of the Municipality Branch Offices, 1998-2001
1- Building Control

Activities	Al-Rashdiya Office				Al-Karama Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Technical Reports	720	438	985	961	1,717	2,173	3,200	4,025
Construction Control	1,523	119	2,151	2,188	1,189	1,415	1,967	2,682
Warnings	998	163	580	939	973	1,401	674	949
Fines	204	301	390	39	59	127	55	67
Other Reports	206	230	310	261	112	315	175	122
Total Technical Reports	3,651	1,251	4,416	4,388	4,050	5,431	6,071	7,845
Additions & Amendments	105	312	251	191	94	64	185	307
Decoration	12	-	-	45	61	86	219	212
Demolition	19	-	-	12	45	27	184	41
Insurances	306	-	-	502	232	235	515	590
Other Reports	29	18	145	-	2	2	18	445
Total Transactions relating to the Public	471	330	296	750	434	414	1,121	1,595

Activities	Umm Suqeim Office				Hatta Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Technical Reports	7,613	6,112	8,561	9,996	5	6	-	3
Construction Control	2,031	2,006	3,658	3,647	53	3	7	13
Warnings	1,801	1,665	2,190	1,790	102	161	114	121
Fines	211	222	161	118	-	-	-	1
Other Reports	440	243	430	482	46	153	45	46
Total Technical Reports	12,096	10,248	15,000	16,033	206	323	166	184
Additions & Amendments	142	108	103	191	29	7	25	20
Decoration	9	29	12	42	11	-	16	17
Demolition	13	32	36	48	2	8	6	66
Insurances	326	428	419	519	1	21	8	28
Other Reports	-	-	-	-	66	71	56	123
Total Transactions relating to the Public	490	597	570	800	109	107	111	254

Main achievements of the Municipality Branch Offices, 1998-2001
2- Refuse Services

Activities	Al-Rashidiya Office				Al-Karama Office			
	1998	1999	2000	2001	1998	1998	2000	2001
Refuse Transported by load (in tons)	3,275	3,395	3,356	10,590	4,792	4,792	3,450	4,839
Distribution of Refuse Sacks	826,350	900,000	900,000	1000,000	-	-	648,760	649,760
Warnings for violation of Health Rules	1126	18	29	-	208	208	499	455
Number of violations	200	7	32	146	-	-	-	-
Fines (Dhs.)	62,600	3,500	6,252	-	-	-	27,300	41,643

Activities	Umm Suqeim Office				Hatta Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Refuse Transported by load (in tons)	32,175	39,590	51,611	59,631	4,792	2,136	10,965	9,700
Distribution of Refuse Sacks	642,544	782,605	958,301	1,039,262	-	204,000	409,000	252,000
Warnings for violation of Health Rules	447	827	478	708	208	33	28	32
Number of violations	236	603	293	229	-	143	168	179
Fines (Dhs.)	206,800	335,800	245,900	215,300	-	41,500	62,700	37,600

Main achievements of the Municipality Branch Offices, 1998-2001
3- Food Control

Activities	Al-Rashidiya Office				Al-Karama Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Shops Inspected	-	561	411	412	-	-	1,438	2,222
Number of Warnings	-	60	55	70	-	-	889	849
Number of Violations	-	55	40	37	-	-	549	595
Fines (Dhs.)	-	-	-	-	-	-	294,850	203,600

Activities	Umm Suqeim Office				Hatta Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Shops Inspected	979	1,051	1,267	971	354	227	264	498
Number of Warnings	294	494	838	1,320	781	1,019	904	538
Number of Violations	81	505	778	505	20	35	130	147
Fines (Dhs.)	91,700	223,800	237,050	204,250	7,750	8,600	57,200	25,100

Main achievements of the Municipality Branch Offices, 1998-2001
4- Pest Control

Activities	Al-Rashidiya Office				Al-Karama Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Treating mosquito infested areasa	54	1	16	153	208	131	101	101
Warnings	7	-	12	14	42	29	56	107
Animal Eradication	55	-	30	-	371	142	299	-

Activities	Umm Suqeim Office				Hatta Office			
	1998	1999	2000	2001	1998	1999	2000	2001
Treating mosquito infested areasa	795	830	694	598	737	747	663	762
Warnings	65	51	60	225	-	-	-	-
Animal Eradication	195	2	-	-	71	192	176	141



Dubai Municipality Branch Office in Hatta

The Municipality Branch Offices form the link between the Municipality and the public and help to provide all of the activities and services necessary to help the public and provide the relevant services within the area for which they are responsible. Services provided include refuse collection, distributing refuse sacks, drainage services, pest control, food control, shop inspections and monitoring the validity of food items as well as services related to the control of buildings.

Customer Service Centre

When the Dubai Municipality moved to its present premises in February 1980, it established a centre on its first floor where transactions relating to the public and involving documents were handled. This centre dealt with documentation for a number of the Municipality's departments and sections.

In recent years, however, thanks to the rapid economic development in the Emirate and the booming construction industry, there has been a significant increase in the numbers of customers seeking to follow up their documents at the Municipality. In line with the Municipality's continued efforts to streamline its services and to offer high-quality service to the public, it was decided that a single centre should be established which would deal with all administrative matters relating to documentation required by the public.

The Customer Service Centre was opened in the Municipality's new building, adjacent to the old one, on 17th June 2000. It is equipped with computer links to the various administrative departments and sections, as well as their key personnel, and is also linked to other Government offices, such as the Economic Department, the Civil Defence Administration and others.

The Customer Service Section was established to manage the Centre. Its key duties include:

- Implementation of directives, policies and laws relating to the Centre, so that it may provide the best possible services to the public.
- Provision of quality service to the public, provision of responses to queries and meeting their requirements.
- Directing the public to the various services provided by the Municipality and providing advice on the related procedures, including the documents required and the fees payable.
- Conducting regular public surveys to ensure that the Municipality's organisational units are providing high quality services and to test customer satisfaction.
- Preparing questionnaires to measure employee satisfaction at the Centre and to suggest corrective measures as well as evaluating the internal and external training requirements for employees.
- Ensuring the best use of the office space allocated for each organisational unit within the Centre as well as arranging for redistribution, as required
- Receiving complaints and comments from clients and employees regarding the services offered by the Centre, investigating these complaints and referring them to the relevant parties to take necessary action.
- Preparing and issuing booklets and leaflets explaining the procedures, conditions and documentation required for various services, in order to help its customers. clients.
- Reviewing regular reports on the organisational units concerned with providing services to



The Customer Service Centre

The Centre has 80 counters, divided among 12 separate Administrative units of the Municipality and the Services Co-ordination Office as illustrated in the following chart.



the public. These include data and statistics resulting from requisitions received and completed within the Centre, data analysis in order to assist in improving work in respect of the percentage of work completed and the average flow of documentation within the centre, as well as evaluation of performance.

There is also a counter for external bodies, including:

- The Emirates Telecommunications Corporation, ETISALAT
- The Civil Service Department.

In order to develop the procedures and simplify them for external clients, those in charge of the various units are regularly present at the Customer Service Centre, where there are a number of support offices.

Facilities for the public include comfortable waiting areas, while employees at the Centre are also given special training courses in how to deal with customers.

The Customer Service Centre has played a major part in simplifying work procedures in the Municipality, and has also been active in promoting the Comprehensive Employee Project amongst its departments, this being designed to ensure that all employees are fully aware of all the services offered by their department.

The Centre has also participated in the e-Government project, putting a comprehensive information manual of customer services on the internet, including details of services, procedures, requirements, fees, forms and so on.



The Customer Service Centre in the Municipality's Main Building

Statistics Centre

Statistics Centre

The Statistics Centre has been responsible for carrying out all statistics-related work at the Municipality since the beginning of the nineteen seventies, when it was known as the Statistics Section and was directly linked to the office of the Municipality Director. It then had the following responsibilities:

- Preparing studies and statistical surveys.
- Preparing statistical reports about the work of the Municipality's various Sections.
- Monitoring bakeries and weights.
- Monitoring scales.
- Licencing porter carriage inside the markets.
- Licencing stores to market packaging.

The increased tasks of the Municipality, and a consequent increase in the amount of work related to the collection of statistics, as well as the introduction of a comprehensive Organisation Chart for the Municipality, then led to a number of changes. In 1991, the section was upgraded to become a Centre, and was then added to the responsibilities of the Administrative Affairs Department.

Its responsibilities were then enlarged, to include the following:

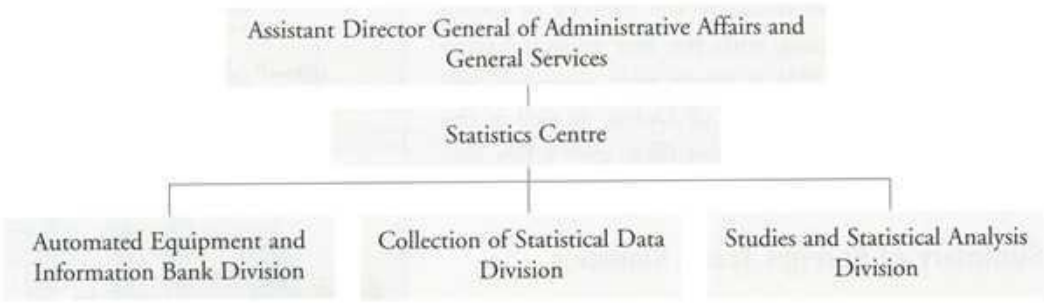
1- Catering for the requirements of the various departments and sections of the Municipality with regard to studies, field surveys and statistical data, in accordance with requests submitted by them.
2- Providing statistical data on the activities of the Municipality's departments and sections.
3- Providing general statistical data on the activities of Ministries, other federal establishments and local Departments within the Emirate of Dubai.
4- Co-ordinating statistical activities with the Municipality's departments and sections and providing expertise on statistical matters.
5- Issuing books and various statistical publications, such as the Annual Statistical Book for the Emirate of Dubai and other annual publications on foreign trade and on the achievements of the Municipality.
6- Making recommendations for and carrying out economic and social studies at the level of the Emirate of Dubai, so as to contribute to its development.
7- Implementing the census and other comprehensive surveys for the Emirate of Dubai.

During the nineteen nineties, the Statistics Centre became responsible for all statistics-related work within the Emirate of Dubai in addition to its role in serving the Municipality's departments and sections. It carried out this task by publishing books and other statistical publications about the Emirate and by carrying out studies and comprehensive statistical surveys, such as the Comprehensive Statistical Survey for the Emirate of Dubai, the Economic Survey of Establishments, the Family Income and Expenditure Survey and the Land Use Survey.

In November 2001, H.H. Sheikh Maktoum bin Rashid Al-Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, issued Law No. 7 for 2001 regarding the Census Centre in Dubai Municipality. This established the Centre as the only official source of statistics in the Emirate.

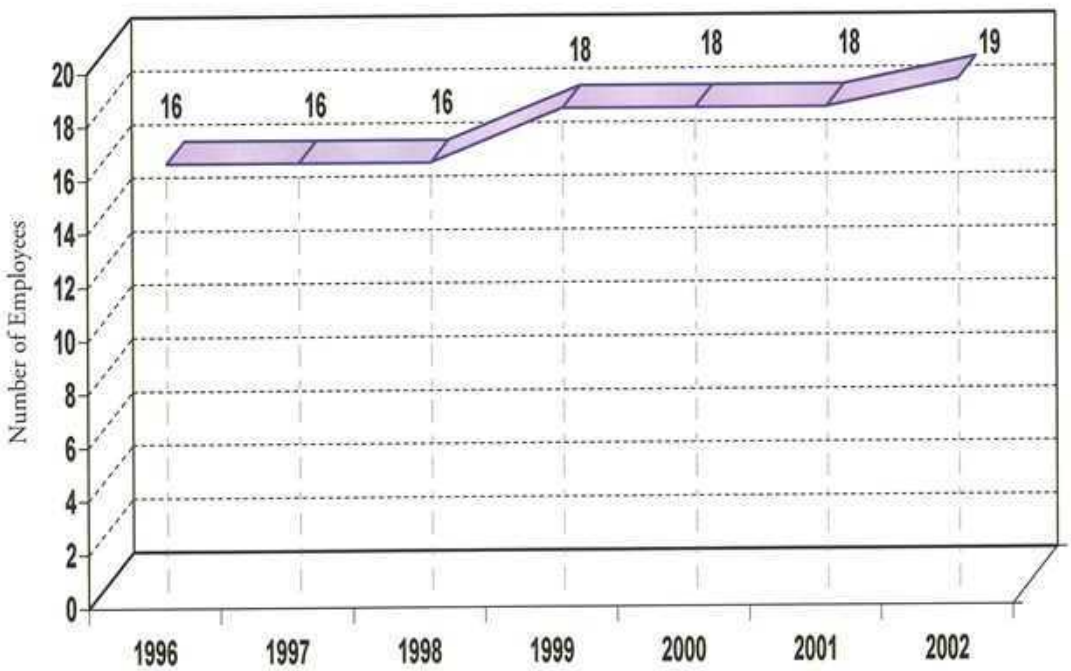
In December 2001, the Administrative Decree No. 334 for 2001 was issued, linking the Centre directly to the Municipality's Assistant Director General Administrative Affairs and General Services. The Organisation Chart relating to this decree is as follows:

Organisation Chart for the Statistics Centre



Number of employees at the Statistics Centre, 1996 - 2003

Year	1996	1997	1998	1999	2000	2001	2002
Number of Employees	16	16	16	18	18	18	19



During the years from 1990 to 2002, the work of the Census Centre was displayed through its various publications and surveys, as follows:

Books and statistical publications

The Statistical Year Book for the Emirate of Dubai This is issued annually, with the first edition having been published in 1989. It covers most economic and social activity in the Emirate of Dubai, as well as the number of residents, comparing these over a five year period. The thirteenth edition was issued in 2001.

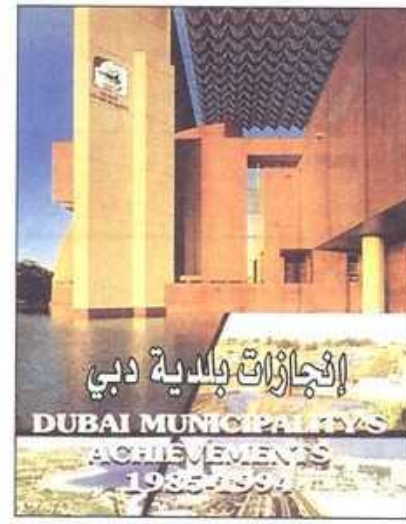


Summary of Foreign Trade Statistics

• A summary of foreign trade statistics for the Emirate of Dubai is issued annually, with the first such summary having been issued in 1989. It provides an overview of foreign trade and the trends in its development. The twelfth edition covered the years 2000 and 2001.

Book on Dubai Municipality's Activities

The first edition was issued in 1996, covering the years 1985-1994, providing a detailed illustrated report, with statistical data, on the Municipality's activities.



Statistical Summary

The first edition was issued in 1997, covering the activities of the various Departments and Sections of the Municipality. The sixth edition was issued in 2001.

Studies and Statistical Surveys

Many studies and statistical surveys have been carried out by the Centre. A summary, by year, follows.



• 1990

- A detailed planning study for Hatta.
- A study to prepare a unified method of classifying

buildings, according to type.
- A study on the Fishing Net factories in Al-Hamriya Area.
- A study of population estimates in the Emirate of Dubai.

• 1991

- Survey of the Fishing Net factories in the Garhoud and Jumairah No. 4 Areas.
- An opinion poll among residents in the Al-Muraggabat area about the process of numbering buildings.
- A survey of open land and car parks in the Riqqa and Muraggabat areas.
- Comprehensive listing of all Fishing Net Factories.
- A study of the methods of registering births and deaths.
- An opinion poll among residents in Al-Rashidiya area about the process of numbering buildings.
- An opinion poll about the use of public transport.
- A study of the issue of the concentration of expatriate women in residential areas..
- A study of the movement of water taxis (abras) in Dubai Creek..
- A study of the geographical divisions used in the Emirate of Dubai.

• 1992

- A comprehensive survey of the Al-Satwa and Al-Beda areas.
- A comprehensive survey of the Al-Baraha area.
- A monthly survey of the boats moored in Dubai Creek.
- A census of fishermen's homes in the Jumairah area.
- A comprehensive survey of Planning Area 124 for the GIS project.
- A study of the water taxi (abra) movement in Dubai Creek.
- A study of the movement of taxis between Dubai and other Emirates.

• 1993

- A sample land use survey for 21 planning areas.
- A sample (5%) economic and social survey
- A comprehensive statistical survey of the Emirate of Dubai (1993-1994)
- A census of fishermen's homes in Al-Hamriya Port.
- A feasibility study for a transport link between Dubai and Hatta, for the Masfut area.

– A study of the water taxis (abras) using oars.

• 1994

– An opinion poll of residents in Al-Rashidiya about the road projects carried out in the area.
– A statistical survey for the Al-Quoz area
– A study of the prices of foodstuffs.

• 1995

– A comprehensive survey of land use in the city of Dubai.
– A comprehensive survey of the Al-Mahaisina area.
– A study of how to choose samples for pest eradication
– A public opinion poll about library services.
– A survey of fishermen resident in the Hamriya area.
– A study about the effects of the decree to regulate the fishing profession.
– A study of the movement of water taxis (abras) in Dubai Creek
– The monthly survey of vessels moored in Dubai Creek.

• 1996

– An economic survey of private sector establishments.
– A count of the farms in the Al-Aweer and Al-Khawaneej areas.
– A planning survey of the Zabeel area
– An opinion poll on public squares.
– The monthly survey of vessels moored in Dubai Creek.

• 1997

– A planning survey for Hatta.
– A study on the prices of foodstuffs.
– The monthly survey of vessels moored in Dubai Creek.
– A survey of family income and expenditure.
– A count of the buildings and dwellings in the Al-Satwa area.
– A census of the fishermen in Jumairah areas 2 & 3
– A study of passenger and goods movement in Hatta.

• 1998

- A survey about employees in the government sector (Federal/Local) within the Emirate of Dubai.
- An opinion poll of users of paid car-parking.
- A comprehensive survey of land use, a count of farms and establishments and a general economic and social survey of rural areas.

• 1999

- Implementing the first stage of a comprehensive statistical survey (numbering and quantifying buildings)
- An opinion poll about commuters' views on public transport buses as well as on the level of service offered by public transport.
- A questionnaire to evaluate the services offered by the Building Maintenance Section to Municipal employees living in Municipality Housing.
- A special study to measure the satisfaction level of Municipality employees.

• 2000

- A comprehensive survey for the Emirate of Dubai 2000.
- A study of transport movement to and from Dubai International Airport.
- Regular survey of vessels moored in Dubai Creek.
- A study of the companies carrying passengers within the Emirate of Dubai.

• 2001

- A Public Services Survey for the Emirate of Dubai.
- A public opinion poll about the services offered at the Customer Services Centre.
- An opinion poll among Municipal Employees about the services offered by the Administrative Affairs Department.
- A Planning Survey for the Al-Jadaf area.
- A study to measure participants' satisfaction with the comprehensive quality project.
- Regular survey of vessels moored in Dubai Creek.
- Co-operation with Emirates University in carrying out a study on mental health and

development problems relating to children and the elderly within the Emirate of Dubai.

- **2002**

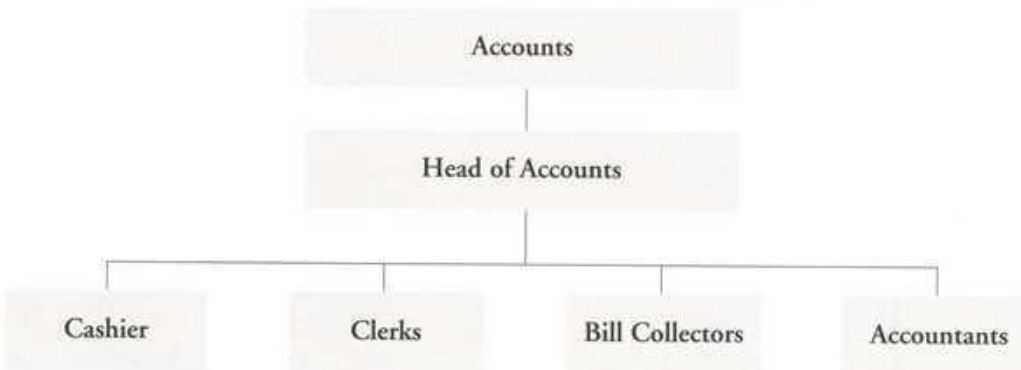
– A Land use survey for Dubai City.
– A study about developing the services offered by the Abattoir Section.
– A study of the establishments operating in the Fish Market (Deira)
– A study of the services required by workers in industrial areas.
– A survey of pavement usage in central business areas.
– An opinion poll among Municipal employees on the establishment of a children's nursery.
– An analytical study of the changing demographic, social and economic indicators for the community within the Emirate of Dubai during the period between the two censuses of 1996 and 2000.

Finance Department

The origins of the financial system in the Municipality can be traced back to its earliest days, in 1954, when there was only a single cashier and a small number of debt collectors. Since that time, it has grown in line with the development throughout the Municipality as a whole, both in terms of its functions and staff, and in terms of the introduction and implementation of the appropriate rules and regulations.

The Accounts Department was created in 1957, and consisted of the Head of Accounts, assisted by two Accountants, two clerks to supervise the Revenues and Fees Section and 13 debt collectors, as illustrated in Chart No. 1.

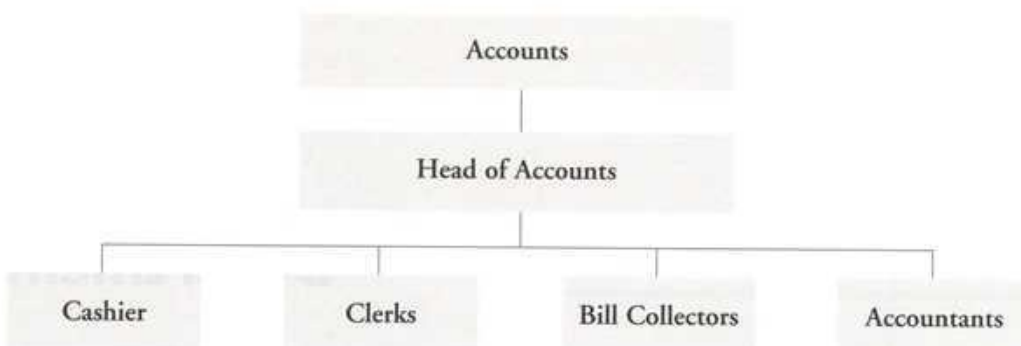
Chart No. 1. Functional Chart for 1957



In early 1960, a financial committee was formed as one of the committees of the Municipal Council. It was allocated the responsibility of supervising the financial affairs of the Council, presenting recommendations, reviewing reports presented by the Municipality Director on revenues and expenditure and ensuring that revenues and expenditures were within the limits of the approved budget.

By 1962, the total workforce had reached fifteen, including the Head of Accounts, a cashier, two accountants, two clerks and nine debt collectors as illustrated in Chart No. 2.

Chart No. 2. Functional Chart for 1962

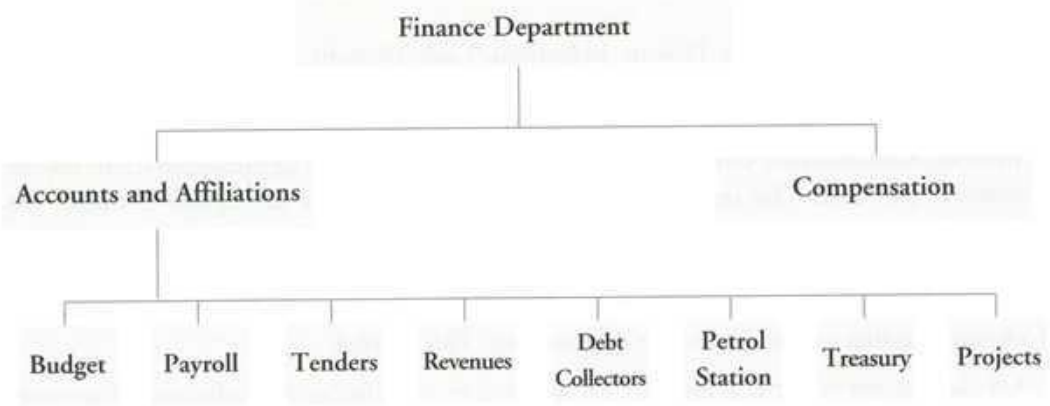


In the same year, as the Municipality continued to develop, the duties and services relating to finance increased, and by the end of the year, the total number of employees dealing with financial affairs had risen to 43. These were the Head of Accounts, with two assistants, for accounts and for compensation payable, a cashier and an assistant cashier, eleven clerks, nine for accounts and two for compensation payable, a reviser/checker, a typist, dealing with compensation payable, and twenty five debt collectors.

In 1971, the Municipality for the first time brought in a consultant to make a detailed study of the financial and accounting system and to make appropriate recommendations for bringing it up to date.

In 1984, the Organisation Chart of what had become the Finance Department was amended to include functions related to accounts and affiliated topics and compensation payable, covering the topics of budget, payroll, tenders, revenues, treasury, projects, debt collectors and the petrol stations. This is illustrated in Chart No. 3.

Chart No. 3. Organisation Chart for 1984



This Chart continued to be operational until the end of 1986, when a new electronic financial system with terminals was introduced. A database and computers were provided to allow employees to use modern means of carrying out their work. This required, of course, the introduction of special training for the employees, who, by this time, had increased to a total of 108.

At the start of 1987, the Municipality sought the assistant of experts in the field of accounts and financial systems from the United Nations Human Settlements Programme, headed by Dr. Bahjat Sandouqa. This group of consultants then prepared the financial and accounting system for the Finance Department. The assistance of similar experts continued to be sought from time to time, as required.

The period of transition to automated programmes, 1987 - 1992

- During this period there was a change over to automated programmes for the General Ledger, Budget, Projects and Payroll systems. An accounting manual was also compiled to

incorporate the changes which had taken place in the Municipality. This included the inputting of detailed items for expenditure and revenues while payment continued to be produced manually, through written cheques and production of receipts which were then posted to the General Ledger. The objective was to bring to an end the use of manual books and ledgers and to replace them by a computer system.

The use of the manual books and ledgers continued alongside the computer within the Finance Section for four months in order to ensure that both methods corresponded and to oversee the daily financial situation and make the appropriate decisions to increase auditing, monitoring and analysis of financial data. The use of the following manually-maintained books ceased at the close of the 1987 financial year:

- General Journal
- Expenditure
- General Ledger
- Projects
- Revenue Journals

The Bank Account Books, Projects Retentions, Cash Deposits Account Book and Salary Ledger continued, however, to be maintained manually, as well as on computer. All outstanding budget data was completed and entered into the computerised system.

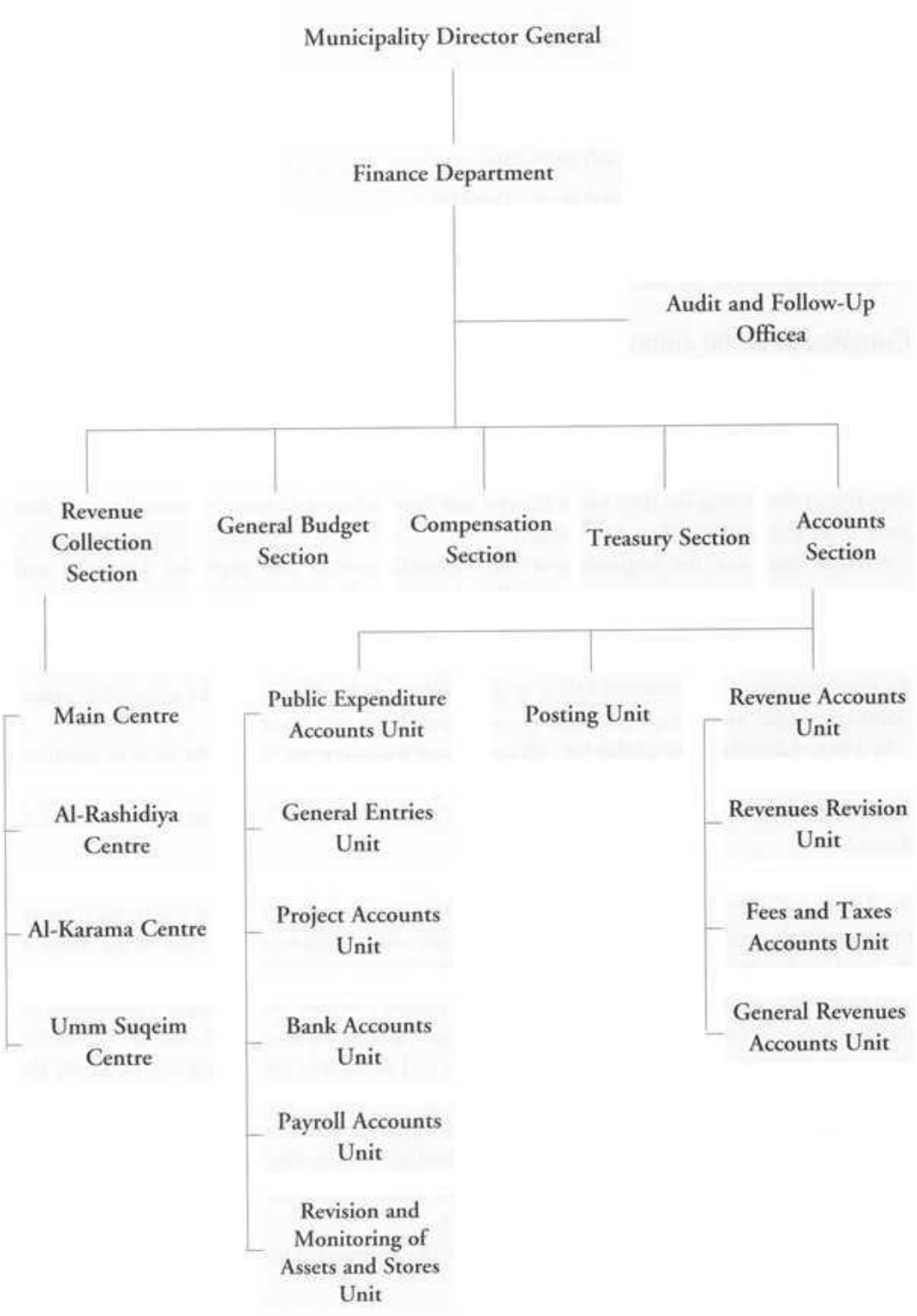
In 1990, Administrative Order No. 23 was issued in respect of the Organisation Chart for the Finance Department. This included an amendment of the chart, a description of duties, job descriptions and allocation of new job-related authorities, responsibilities and duties in addition to the responsibilities of the Finance Department as illustrated in Chart No. 4.

In 1992, Administrative Order No. 196 was issued on working procedures in the Revenues Collection Section within the Finance Department. This covered:

- A clarification of the responsibility for supervision, monitoring and collection of revenues and Municipality fees.
- Specification of the centres in-charge and monitoring of sectors and areas for the purpose of revenue collection.
- A definition of some terms, viz. Debt Collector – Cashier - Payment Permit – Supply Permit - Temporary Receipt Voucher – General Receipt Voucher.
- Specification of the procedure for receipt of revenues and Municipality fees.
- Procedures for collection of external revenues/ fees for internal economic activities/ receipt of fees from organisational units/ Municipality services fees and fees from games/ fun fairs/ parks.

In the same year the "Treasury Work Procedures Manual" was issued, under the terms of Administrative Directive No. 223 for 1992. This included:

Chart No. 4 Organisation Chart for 1990



- Treasury Section duties.
- General requirements which must be available in the Treasury as well as the duties of the Treasurer.
- General requirements and duties carried out by the Treasury.
- General policies for cash payments and revenues.
- General preconditions for cash payments.
- Level of cash to be maintained in the Treasury.
- Approval of the forms currently in use in the Finance Department.

During this period, the total workforce dealing with financial matters reached 110 employees.

Completion of the automated systems and computer programmes, 1993-1997

Between 1993 and 1997, the automated financial programmes relating to issuing cheques and cash authorisations were completed and a process for the automatic issuing of receipts was introduced, thus simplifying and speeding up revenue collection. Progress was also made towards the objective of shortening the time taken to carry out financial work in terms of recording and data entry of all payment vouchers and receipts.

Another step was the beginning of the introduction of the approved Financial and Accounting System Law for government offices in Dubai, the Municipality being considered to be the most qualified to implement the system due to the comprehensive financial systems then in use. This led, amongst other things, to the preparation of the closing accounts according to the requirements of the Financial Office at the Office of H.H. The Ruler, the automatic preparation of budgets and the use of e-mail for correspondence and reports.

In 1993, Administrative Order No. 40 was issued regarding specifying the level of positions in the Revenues Collection Section as well as laying down the duties and job descriptions of this section which had two Units, the Collection of General Revenues Unit and the Collection of Rents Unit.

Administrative Directive No 373, also issued in 1993, amended the administrative chart for the Revenues Collection Section of the Finance Department, to establish two Units, the General Revenues Unit, and the new Car Parking Fees Unit, and to affiliate the Section to the office of the head of the Audit and Monitoring Services Unit.

In July 1994, an agreement was made with the United Nations Development Programme on the provision of consultancy services related to the Municipality's financial system. The objective was to modernise the existing system, to revise and develop its procedures and to specify the duties and responsibilities of the department, and its sections.

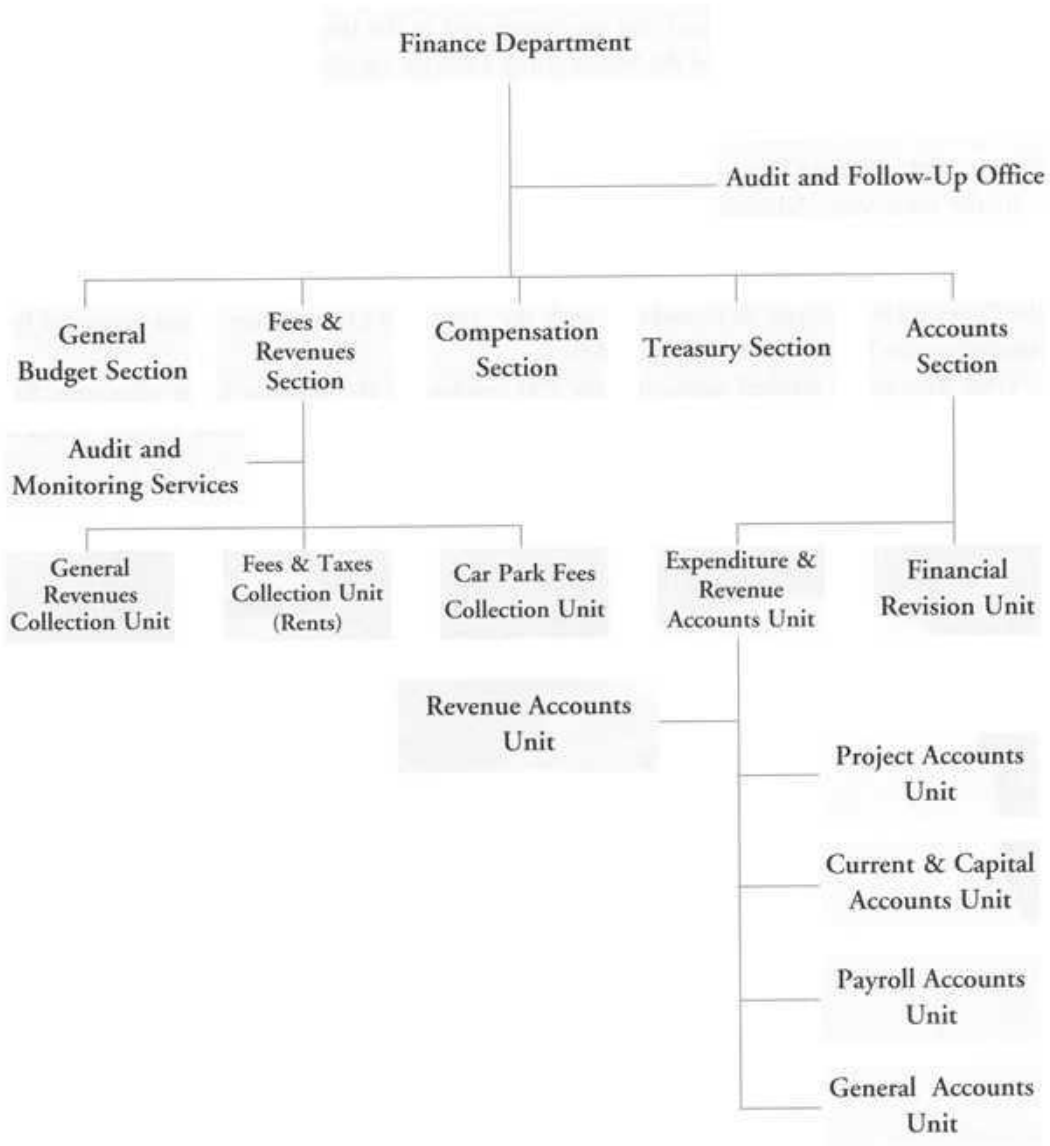
In connection with this, Administrative Directive No. 41 was issued in 1994, amending the title of the Revenues Collection Section and approving the new Organisation Chart, as well as describing the amended duties for the Fees & Revenues Section and Accounts Section of the Finance Department, as illustrated in Chart No. 5.

In the same year, Administrative Directive No. 149 was issued. This approved the Fixed Assets

Inventory Procedures Manual and the formation of an inventory committee within the office, to be headed by the Director of Contracts and Purchasing with its members including the Head of Accounts Section, the Head of the Internal Audit Office, the Head of Administrative Services and the Head of Stores Section.

This committee was given the responsibility for supervising the revision of the inventory, quantifying all assets, including fixed assets, owned by the Municipality, giving approval for these assets and estimating their useful life expectancy.

Chart No. 5. Organisation Chart for 1994



At the end of this period, manpower had risen to 151 employees. The number of accountants, cashiers and debt collectors were increased and the position of Assistant Head of Fees and Revenues Section was created as well as the creation of new positions for the new Car Park Fees Collection Unit, such as clerks, debt collectors, supervisors and a Head of Unit.

Under the terms of Administrative Directive No. 28 for 1998, a new administrative unit was established, the Car Parks Section, which was added to the organisation chart for the Roads Department. It included the Car Parks Monitoring Unit and a Unit for Car Park Equipment Maintenance. The Car Park Fees Collection Unit was also removed from the organisation chart for Fees and Revenue Section within the Finance Department and transferred to the new section.

In 1998,Administrative Directive No. 66 removed the Financial Audit Unit from the Finance Department's administrative chart and was transferred to the Internal Audit Section, which is directly affiliated to the office of the Municipality Director General.

In 1999, Administrative Directive No. 137 was issued to amend some of the rules laid down by Administrative Directive No. 223 for 1992, covering the Work Manual of the Treasury Section of the Finance Department.

In the same year, Administrative Directive No. 144 was issued to approve the amended Organisation Chart for the Finance Department as illustrated in Chart No. 6.

In 2000, Administrative Directive No. 95 was issued to approve the description of duties for the Finance Department, in accordance with the approved Organisation Chart approved by Administrative Directive No. 144 for 1999.

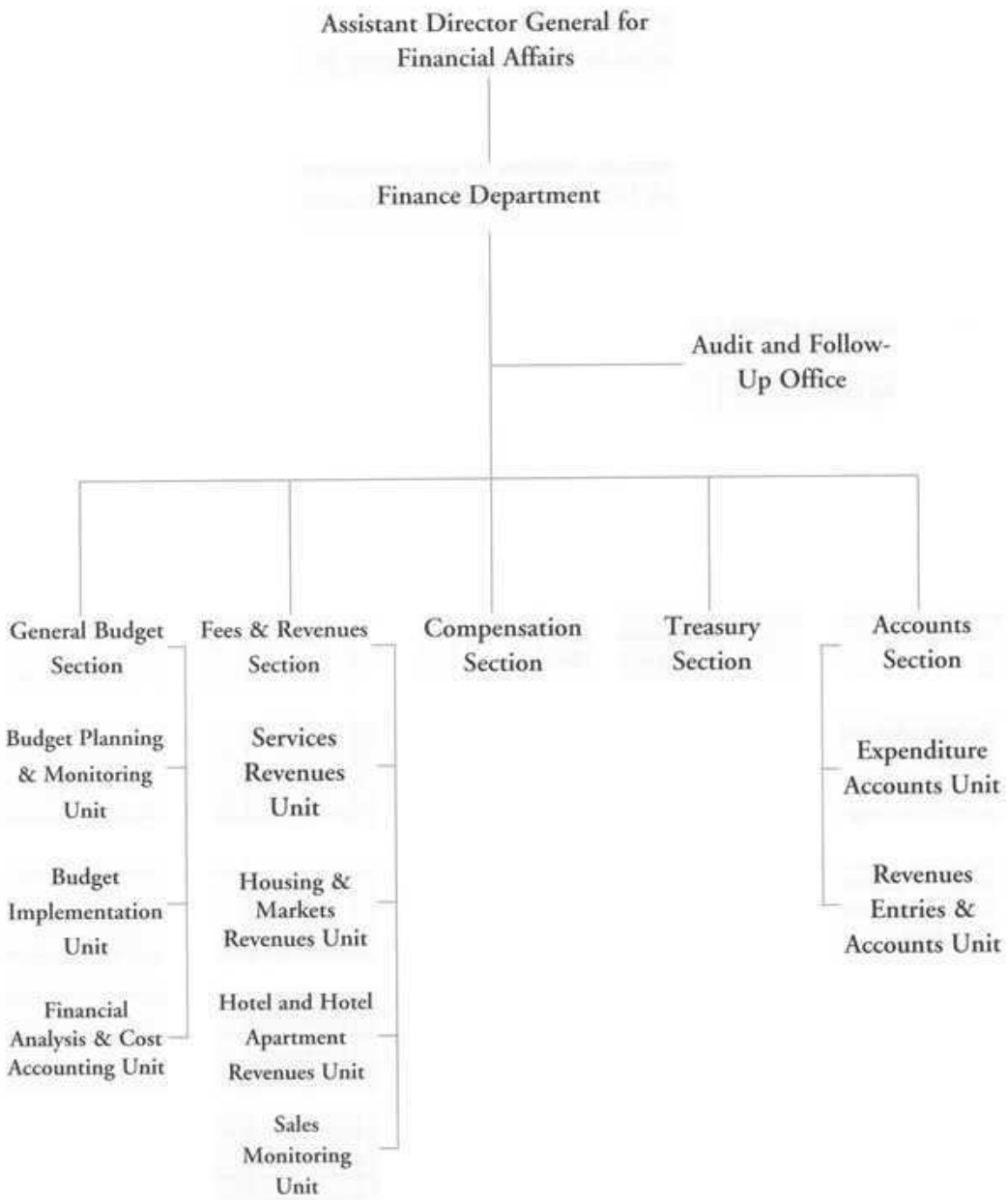
Total Manpower reached approximately 190 employees, the increase being accounted for mainly by the transfer of debt collectors from other organisational units to the Finance Department.



The Treasury Section

During this period, the Finance Department also prepared a strategic plan for the department in line with the vision and mission both of the department and, more generally, of Government,

Chart No. 6. Organisation Chart for 1999



in the five year plan for 1999-2004. This plan was based on four strategic axes, the Department itself, Human Resources, Financial Resources and Client Satisfaction.

Permanent committees and work teams in the Finance Department

Several permanent committees in the Finance Department have been formed to carry out specific jobs and responsibilities. By 2001, there were fourteen such committees. Table No. 1 illustrates the increase in the number of committees from 1994 to 2001.

Emiratisation and Human Resources

The Finance Department has made considerable progress in its efforts to implement the Municipality's objective of self-sufficiency and to prepare qualified personnel in response to the need to enhance the process of Emiratisation. Table No. 2 illustrates the development of personnel within the department and the increase in the percentage of UAE citizens during the period from 1986 – 2001. Graph No. 1 also illustrates the qualifications and the percentage of

Table No. 1. Committees and Work Teams in the Finance Department

Titles of Committees & Work Teams	Duties	Nature	Formed by	Date of Formation	Comments
Committee for Evaluation of Municipality Property for Rent	-	Permanent	Director General	1994	
Rationalisation of Expenditure Committee	-	Permanent	Director General	1999	
Preparation of Annual Budgets Work Teams	Preparation of the annual budget for administrative units within the Municipality	Permanent	-	2000	
Teams for the Preparation of the Closing Accounts for Accounts not included in the Budget	Preparation of the closing accounts for the year 2000 for accounts not included in the budget as details required for these accounts not completed	Permanent	Finance Director	2000	
Preparation of final Closing Accounts Work Team	-	Permanent	Director General	1999	
Permanent Committee for Conducting the Inventory of Fixed Assets	-	Permanent	Director General	1994	
Direct Purchasing Committee	-	Permanent	Director General	15/12/1997	
Tenders Committee	-	Permanent	Director General	15/12/1997	
Tender Opening Committee	-	Permanent	Director General	15/12/1997	
Committee for Conducting Direct Purchases	-	Permanent	Director General	15/12/1997	
Personnel Affairs Committee	-	Permanent	Director General	2/11/1998	
Committee for the destruction of financial documents	-	Permanent	Director General	4/11/1998	
Committee for conducting Inventory of the Treasury	-	Permanent	Director General	31/12/1998	
Shopping Festival Committee	-	Permanent	Director General	30/1/2001	

those so qualified. Graph No. 2 illustrates the percentage of Emirati personnel in the department compared to expatriate employees during the years from 1986 – 2001.

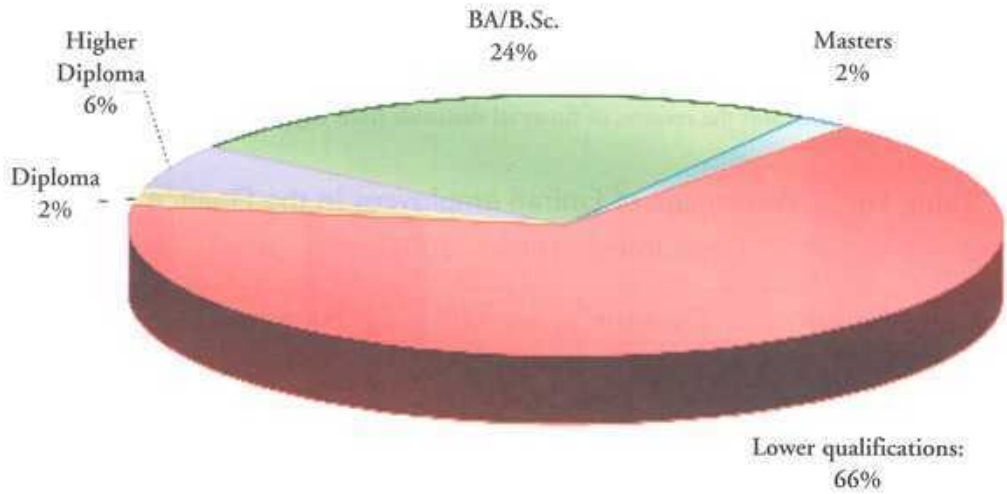
The main duties & responsibilities of the Finance Department & its affiliated Sections

The department is responsible for the preparation of the financial plan and estimated annual budget of the Municipality and follows up their implementation. It is also responsible for the collection of fees and monitoring of income, the estimated compensation and payment of compensation to those affected by general projects, and the revision of financial demands from suppliers and contractors as

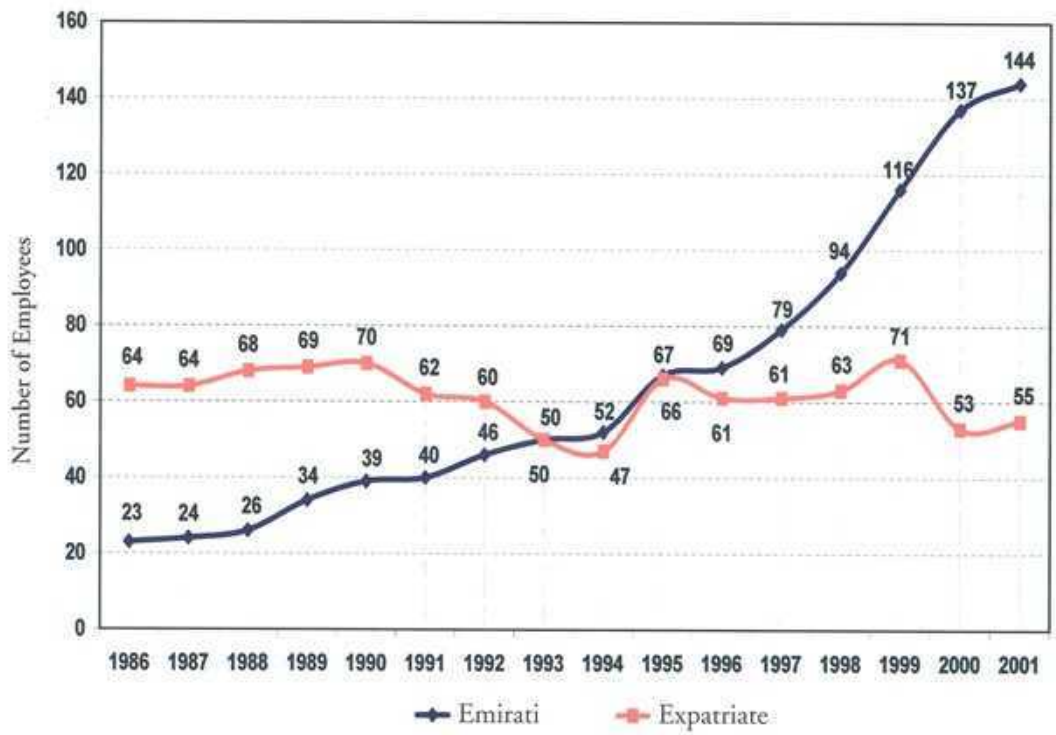
Table No. 2 Percentage of Emirati employees in the Finance Department, 1986 – 2001.

Year	Emirati	Expatriate	Total	Percentage of Emiratisation
1986	23	64	87	26%
1987	24	64	88	27%
1988	26	68	94	28%
1989	34	69	103	33%
1990	39	70	109	36%
1991	40	62	102	39%
1992	46	60	106	43%
1993	50	50	100	50%
1994	52	47	99	53%
1995	67	66	133	50%
1996	69	61	130	53%
1997	79	61	140	56%
1998	94	63	157	60%
1999	116	71	187	62%
2000	137	53	190	72%
2001	144	55	199	72%

Table No. 2 Percentage of Emirati employees in the Finance Department, 1986 – 2001, by qualification.



Graph No. 2 Comparison between numbers of Emiratis and expatriates in the Finance Department, 1986 – 2001



well as the preparation of payments and delivery to beneficiaries. Other duties include the maintaining of ledgers to record all financial transactions and the presenting of regular reports on the conduct of work and the financial status of the Municipality. The Sections affiliated with the Finance Department and their responsibilities are as follows:

General Budget Section

- Presenting of the financial plan for the Municipality's expenditure and revenues and following up of implementation.
- Implementing of an effective monitoring system for all expenditure and revenues.
- Conducting financial analysis of expenditure and revenues in order to identify the negative and positive deviations, in addition to providing the necessary recommendations in this respect.

Fees and Revenues Section

- Collection of all revenues and monitoring of income.
- Study and revising, where appropriate, of the Municipality's fees and the putting forward of suggestions to develop and diversify the sources of income.

Accounts Section

- Application of sound financial accounting procedures and a competent internal audit system for all expenditure and revenue transactions related to the Municipality.
- Preparation and delivery of payments to creditors (contractors, consultants and suppliers) in addition to the payment of salaries to employees.
- Preparation of settlements, closing accounts entries and regular, cumulative and annual financial reports as well as clarifying the Municipality's financial status.

Treasury Section

- Undertaking collection and payment transactions according to the approved rules and procedures.
- Preparation of estimated data for the daily cash balance.

Compensation Section

- Receiving, documenting and evaluating requests for compensation related to property affected by development work carried out by the Municipality.
- Preparation of a list of compensation requests and provision of suggestions to the Compensation Committee for review and implementation.
- Active implementation of compensation systems and procedures, including monitoring procedures.
- Preparation of reports and regular statistical and financial comparisons.

Finance Department Expenditure

Graph No. 3 shows the actual expenditure for the Finance Department for the years 1988 – 2002. The marked increase of the Finance Department's expenditure in 1998 was due to the

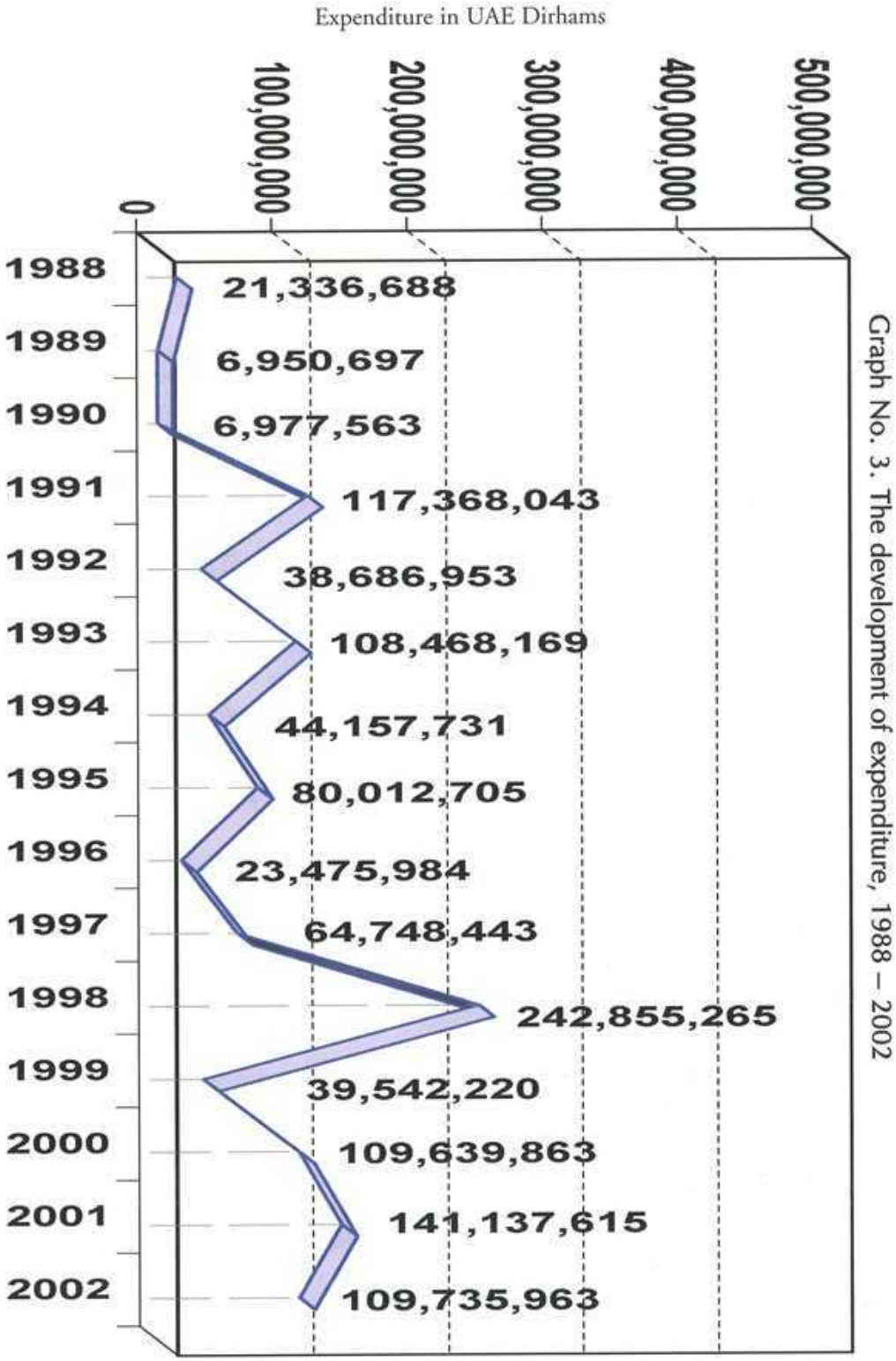
beginning of the process of calculating compensation for those affected by the implementation of public utilities projects as part of the Department's expenditure.

Finance Department's Revenues (Actual)

Graph No. 4 illustrates the revenues of the Finance Department between 1988 – 2002. The

Table No. 3. Total expenditure and revenues for the Finance Department, 1988 – 2002

Year	Total Expenditure	Total Revenue
1988	21,336,688	129,553,966
1989	6,950,697	154,660,697
1990	6,977,563	149,250,495
1991	117,368,043	184,009,284
1992	38,686,953	190,904,902
1993	108,468,169	202,742,575
1994	44,157,731	250,114,947
1995	80,012,705	264,138,274
1996	23,475,984	345,492,871
1997	64,748,443	354,590,888
1998	242,855,265	613,360,814
1999	39,542,220	805,996,274
2000	109,639,863	709,784,115
2001	141,137,615	784,025,504
2002	109,735,963	871,047,256
Total	1,155,093,902	6,009,672,863

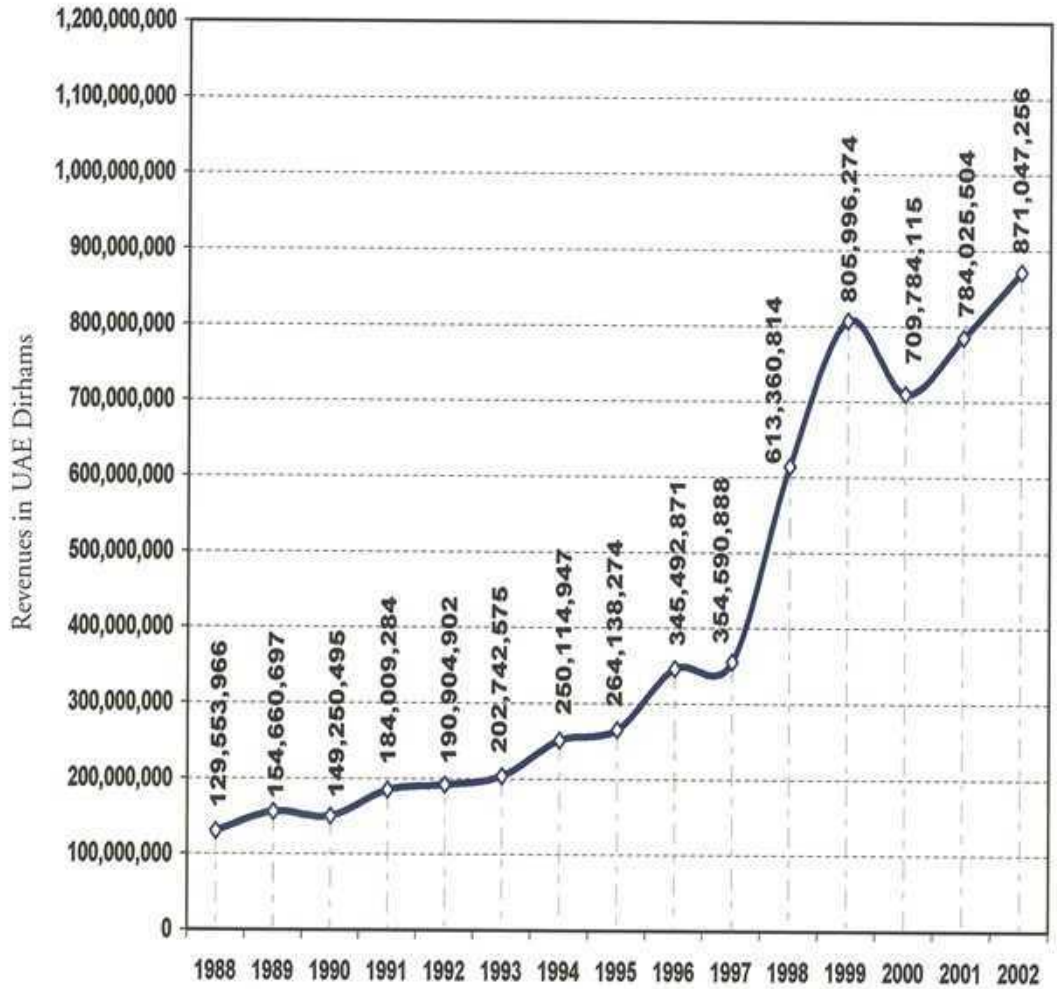


Graph No. 3. The development of expenditure, 1988 – 2002

increase from 1988 onwards can be ascribed to a number of factors, of which the most important are competent administration, discipline, active monitoring, legislation regarding market fees, the sales of hotel and furnished apartments and housing revenues.

Table No. 8 on page (222) illustrates the development of revenues and expenditure between 1988 – 2002, by Section.

Graph No. 4. Total revenues collected for the Finance Department, 1988 – 2002



Revenues and Expenditure (Municipality)

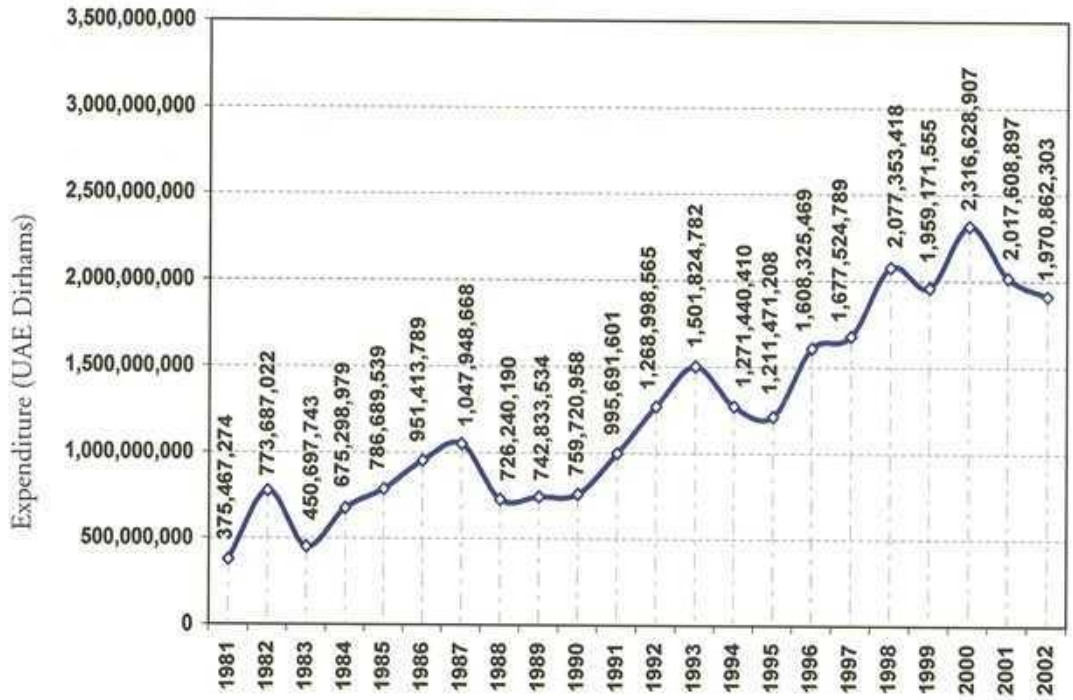
In the financial year of 1960, the total Municipality budget was 352,000 Indian rupees, the currency then in circulation in Dubai. By 1962, this had increased to 1,040,000 rupees, a three-fold increase. Forty years later, in 2002, expenditure had risen to around two billion dirhams, and revenues had risen to 1.5 billion dirhams. Table No. 4 illustrates the averages according to approved budget chapters, showing that the greater percentage of expenditure is on projects.

Table No. 4. Total expenditure, 1981 – 2002

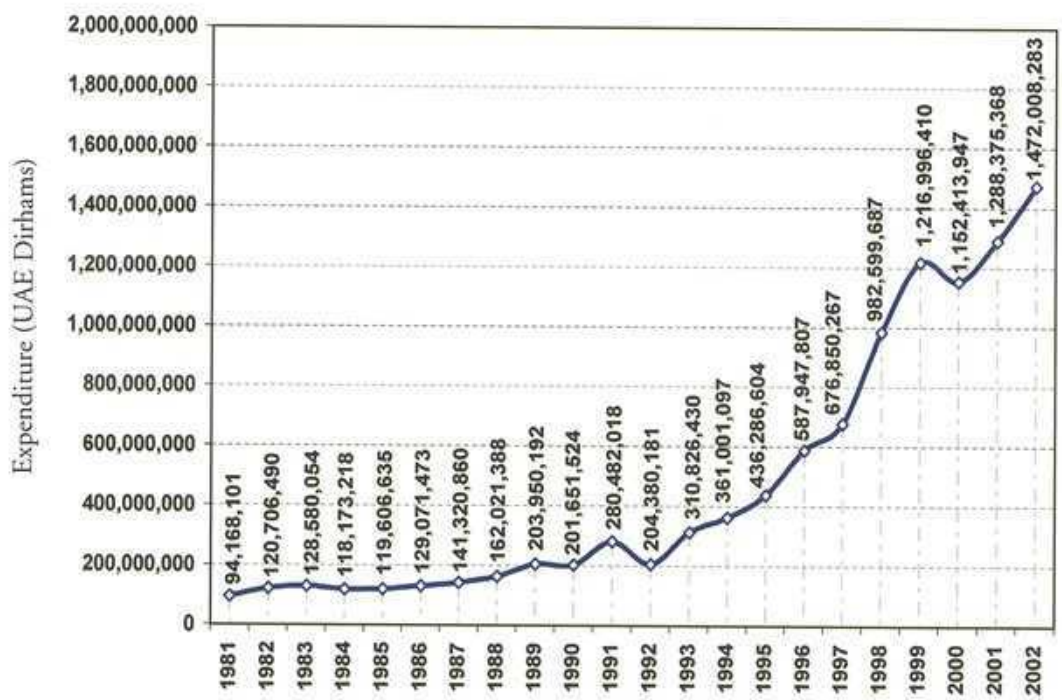
Year	Chapter One Salaries & Supplements	Chapter Two Administrative Expenditure	Chapter Three Capital Expenditure	Total Projects	Total Expenditure	Total Revenues	Percentage of expenditure on payroll	Percentage of expenditure on current expenses	Percentage of expenditure on capital expenses	Percentage of expenditure on Projects	Percentage of Revenues to Expenditure	Percentage of Expenditure compared to foundation year 1981	Percentage of Revenues compared to foundation year 1981
1981*	82,423,533	108,255,634	10,150,414	174,637,693	375,467,274	94,168,101	22%	29%	3%	47%	25%	100%	100%
1982	103,541,820	142,536,414	12,452,269	515,156,519	773,687,022	120,706,490	13%	18%	2%	67%	16%	206%	128%
1983	119,023,880	29,639,633	10,970,199	291,064,030	450,697,743	128,580,054	26%	7%	2%	65%	29%	120%	137%
1984	120,440,617	225,400,306	17,661,106	311,796,950	675,298,979	118,173,218	18%	33%	3%	46%	17%	180%	125%
1985	122,977,242	252,253,640	11,557,932	399,900,725	786,689,539	119,606,635	16%	32%	1%	51%	15%	210%	127%
1986	131,853,034	37,585,386	17,103,057	764,872,312	951,413,789	129,071,473	14%	4%	2%	80%	14%	253%	137%
1987	137,816,776	37,375,832	15,084,547	857,671,513	1,047,948,668	141,320,860	13%	4%	1%	82%	13%	279%	150%
1988	146,795,082	55,547,285	15,657,417	508,240,406	726,240,190	162,021,388	20%	8%	2%	70%	22%	193%	172%
1989	155,411,260	54,273,280	21,360,339	511,788,655	742,833,534	203,950,192	21%	7%	3%	69%	27%	198%	217%
1990	177,976,802	63,484,736	39,955,741	478,303,679	759,720,958	201,651,524	23%	8%	5%	63%	27%	202%	214%
1991	214,335,315	183,399,128	42,653,249	555,303,909	995,691,601	280,482,018	22%	18%	4%	56%	28%	265%	298%
1992	228,236,561	107,243,420	34,114,087	899,404,497	1,268,998,565	204,380,191	18%	8%	3%	71%	24%	338%	323%
1993	249,982,743	178,154,488	43,755,450	1,029,932,101	1,501,824,782	310,826,430	17%	12%	3%	69%	21%	400%	330%
1994	256,669,760	129,955,512	21,021,519	863,793,619	1,271,440,410	361,001,097	20%	10%	2%	68%	28%	339%	383%
1995	272,777,290	163,184,107	32,614,784	742,895,027	1,211,471,208	436,286,604	23%	13%	3%	61%	36%	323%	463%
1996	294,849,672	139,583,819	93,020,194	1,080,871,784	1,608,325,469	587,947,807	18%	9%	6%	67%	37%	428%	624%
1997	305,875,574	191,213,383	81,136,119	1,099,299,713	1,677,524,789	676,850,267	18%	11%	5%	66%	40%	447%	719%
1998	329,782,011	472,263,310	87,478,152	1,187,829,946	2,077,353,418	982,599,687	16%	23%	4%	57%	47%	553%	1,043%
1999	353,875,089	234,125,571	64,056.080	1,307,114,815	1,959,171,555	1,216,996,410	18%	12%	3%	67%	62%	522%	1,292%
2000	399,001,853	366,943,792	74,895,421	1,475,787,841	2,316,628,907	1,152,413,947	17%	16%	3%	64%	50%	617%	1,224%
2001	441,064,676	446,913,186	71,204,405	1,058,426,629	2,017,608,897	1,288,375,368	22%	22%	4%	52%	64%	537%	1,368%
2002	477,063,349	404,366,833	126,736,692	962,695,429	1,970,862,303	1,472,008,283	24%	21%	6%	49%	75%	525%	1,563%
Total	5,121,773,939	4,023,698,695	944,639,173	17,076,787,791	27,166,899,599	10,489,418,044	19%	15%	3%	63%	39%	7220%	11,139%

*No data for previous years is availabls.

Graph No. 5. Total expenditure, 1981 – 2002



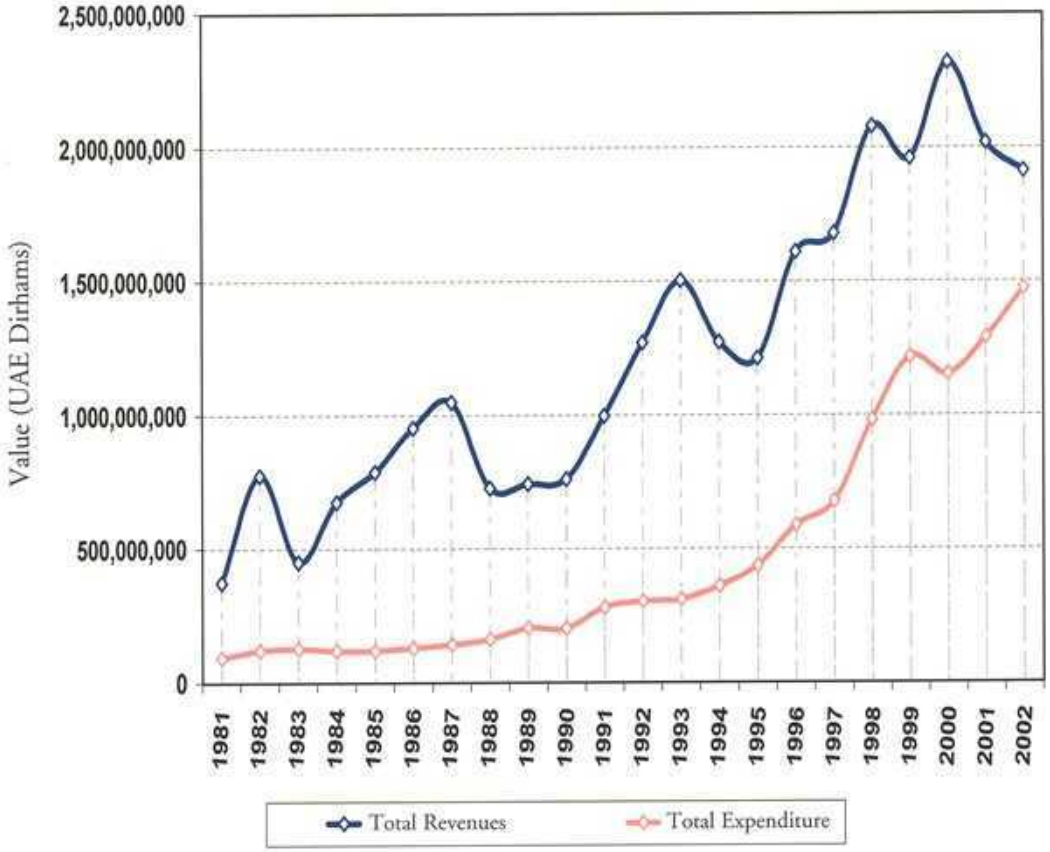
The following graph, No. 6, shows total revenues collected between 1981 – 2002



Comparison between Municipality Expenditure and Revenues

One key aspect of the work of the Finance Department has been a strategy of developing its sources of revenue, so as to contribute in a major way to the funding of the Municipality's expenditure. Considerable success has been achieved in this, as shown in Graph No. 7.

Graph No. 7. Comparison between Municipality Expenditure and Revenue, 1981 – 2002



A summary of main indicators of the preceding graph is as follows:

1) Total Revenues as a percentage of Total General Expenditure in 1981: 25%.
2) Total Revenues as a percentage of Total General Expenditure in 1986: 14%.
3) Total Revenues as a percentage of Total General Expenditure in 1991: 25%.
4) Total Revenues as a percentage of Total General Expenditure in 1996: 37%.
5) Total Revenues as a percentage of Total General Expenditure in 2000: 50%.
6) Total Revenues as a percentage of Total General Expenditure in 2001: 64%.
7) Total Revenues as a percentage of Total General Expenditure in 2002: 75%.

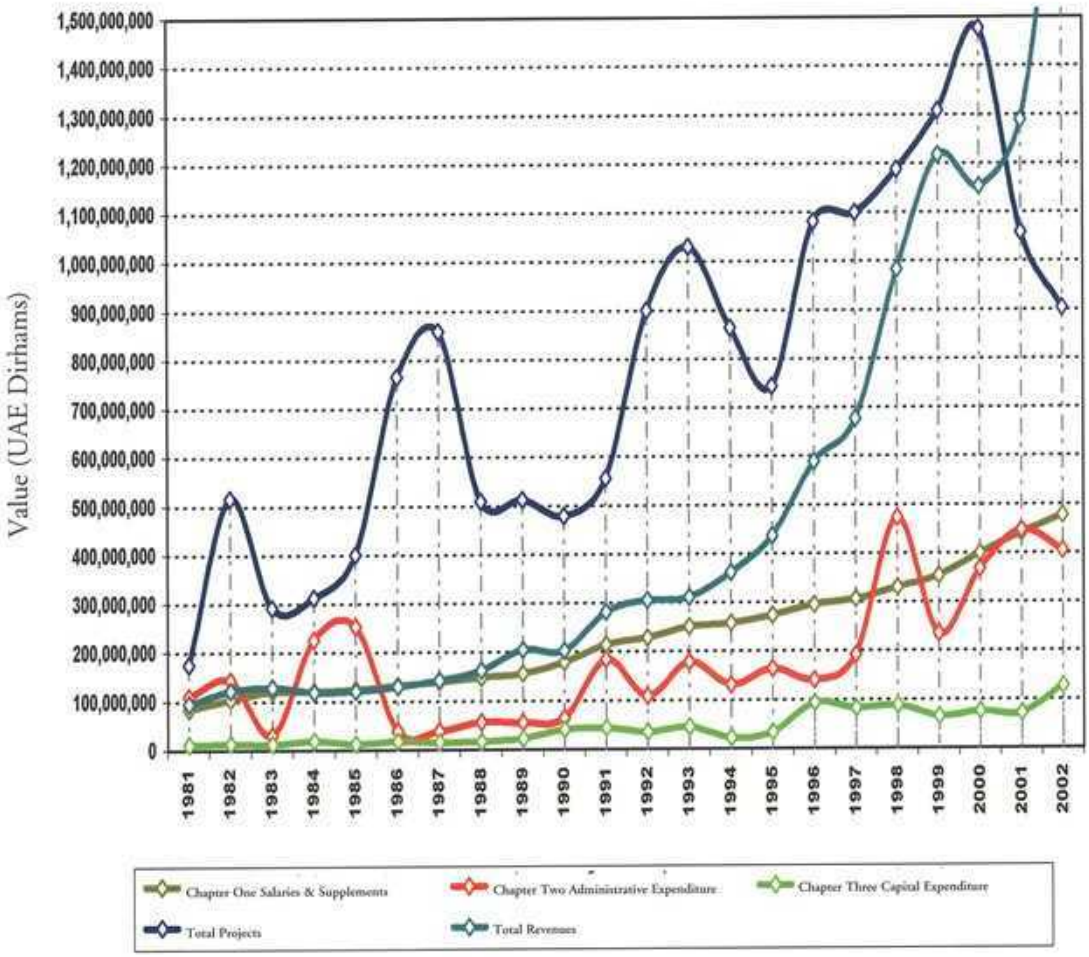
The long term objective is to reach a balance between total revenues and total general expenditure, the development of these being stated in Table 4 and Graph 8, on page (215)

Table No. 5. The Municipality's Expenditure and Revenues, classified according to budget chapters, 1981 – 2002.

Year	Chapter One Salaries & Supplements	Chapter Two Administrative Expenditure	Chapter Three Capital Expenditure	Total Projects	Total Expenditure	Total Revenues
1981	82,423,533	108,255,634	10,150,414	174,637,693	375,467,274	94,168,101
1982	103,541,820	142,536,414	12,452,269	515,156,519	773,687,022	120,706,490
1983	119,023,880	29,639,633	10,970,199	291,064,030	450,697,743	128,580,054
1984	120,440,617	225,400,306	17,661,106	311,796,950	675,298,979	118,173,218
1985	122,977,242	252,253,640	11,557,932	399,900,725	786,689,539	119,606,635
1986	131,853,034	37,585,386	17,103,057	764,872,312	951,413,789	129,071,473
1987	137,816,776	37,375,832	15,084,547	857,671,513	1,047,948,668	141,320,860
1988	146,795,082	55,547,285	15,657,417	508,240,406	726,240,190	162,021,388
1989	155,411,260	54,273,280	21,360,339	511,788,655	742,833,534	203,950,192
1990	177,976,802	63,484,736	39,955,741	478,303,679	759,720,958	201,651,524
1991	214,335,315	183,399,128	42,653,249	555,303,909	995,691,601	280,482,018
1992	228,236,561	107,243,420	34,114,087	899,404,497	1,268,998,565	204,380,191
1993	249,982,743	178,154,488	43,755,450	1,029,932,101	1,501,824,782	310,826,430
1994	256,669,760	129,955,512	21,021,519	863,793,619	1,271,440,410	361,001,097
1995	272,777,290	163,184,107	32,614,784	742,895,027	1,211,471,208	436,286,604
1996	294,849,672	139,583,819	93,020,194	1,080,871,784	1,608,325,469	587,947,807
1997	305,875,574	191,213,383	81,136,119	1,099,299,713	1,677,524,789	676,850,267
1998	329,782,011	472,263,310	87,478,152	1,187,829,946	2,077,353,418	982,599,687
1999	353,875,089	234,125,571	64,056.080	1,307,114,815	1,959,171,555	1,216,996,410
2000	399,001,853	366,943,792	74,895,421	1,475,787,841	2,316,628,907	1,152,413,947
2001	441,064,676	446,913,186	71,204,405	1,058,426,629	2,017,608,897	1,288,375,368
2002	477,063,349	404,366,833	126,736,692	962,695,429	1,970,862,303	1,472,008,283
Total	5,121,773,939	4,023,698,695	944,639,173	17,076,787,791	27,166,899,599	10,489,418,044

Graph No. 8

Development of the Municipality's Revenues and Expenditure, 1981 – 2002



Projects Expenditure

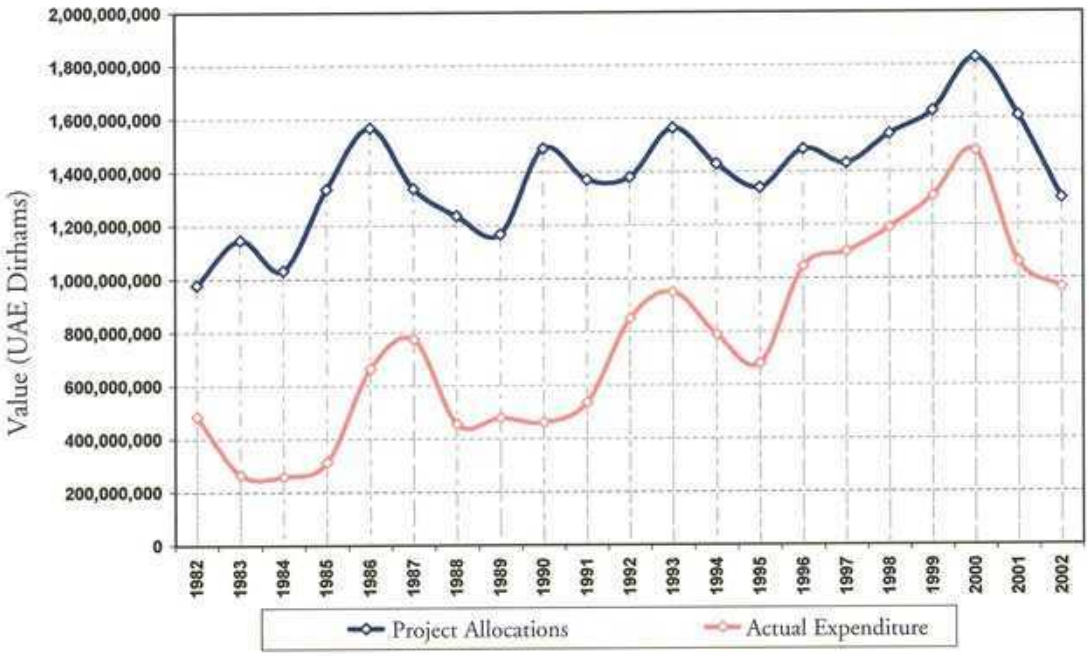
1) Percentage of actual expenditure against allocated sum in 1982: 49%
2) Percentage of actual expenditure against allocated sum in 1986: 42%.
3) Percentage of actual expenditure against allocated sum in 1991: 39%.
4) Percentage of actual expenditure against allocated sum in 1996: 70%.
5) Percentage of actual expenditure against allocated sum in 2000: 81%.
6) Percentage of actual expenditure against allocated sum in 2001: 66%.
7) Percentage of actual expenditure against allocated sum in 2002: 74%.

Table No. 6. Municipality Projects Expenditure compared to allocated sums, 1982 – 2002

Year	Approbations for Projects	Actual Expenditure	Percentage of expenditure against allocations
1982	977,802,000	483,270,402	49%
1983	1,146,409,000	264,565,325	23%
1984	1,031,405,000	257,304,388	25%
1985	1,336,816,000	312,310,079	23%
1986	1,566,130,000	662,668,808	42%
1987	1,337,645,000	771,781,837	58%
1988	1,236,312,000	453,485,824	37%
1989	1,166,522,000	477,045,701	41%
1990	1,488,173,000	459,079,849	31%
1991	1,371,030,000	535,185,262	39%
1992	1,380,615,000	849,597,002	62%
1993	1,563,308,000	948,366,277	61%
1994	1,428,270,000	787,578,177	55%
1995	1,339,390,000	679,187,606	51%
1996	1,484,665,000	1,044,384,895	70%
1997	1,432,084,000	1,099,299,713	77%
1998	1,541,422,000	1,187,829,945	77%
1999	1,627,405,000	1,307,114,815	80%
2000	1,826,521,000	1,475,787,840	81%
2001	1,608,731,000	1,058,426,628	66%
2002	1,298,493,000	962,695,429	74%
Total	29,189,148,000	16,076,965,804	55%

Note: The value of expenditure on projects in this table does not include expenditure on Popular Housing/ (Council Housing) between 1981 to 2002. The data provided is from 1982 due to absence of data for 1981.

Graph No. 9. Municipality expenditure on projects compared with the allocated sums, 1982 – 2002.



The transition to modern systems and the e-government system, 1998 – 2001

During this period, there was a transition to more powerful, more comprehensive and flexible automated programmes for accounts and finance, in line with the Municipality's objective of achieving a proper analysis and classification or all expenditure and revenues.

This involved the introduction and implementation of programmes with a high international reputation that had the capacity to make better use of the services offered and also to improve problem solving. In 2000, the "Smart Stream" system was introduced, to improve the quality of services offered to customers, both internally and externally. through the provision of financial audit.

Among the main specifications of the system were that it was easy and flexible to use for amending the structure of financial management, to establish new administrative units and to write different types of reports, both specific and functional. Among other features were the ease of electronic procedures, the way in which it helped to prepare for e-Government, the ability for it to be linked to other systems, its audit system and its capacity to permit simple and easy-to-prepare financial analysis.

Customer Services Systems were also established to help in providing customer satisfaction, one of the Municipality's objectives, through the introduction of a system known as IVR, to facilitate the making of enquiries by telephone about financial transactions.

Another innovation was the establishing of a service to reply to customers' queries by assigning an accountant to look into the requirements and problems related to suppliers.

It also made it possible to use the Internet to establish communication with banks to enquire about financial transactions and to arrange for the electronic transfer of monthly salaries by the

supplying of diskettes with all relevant data, as well as facilitating the sending of budgets and the automatic preparation of cost accounting.

Since 1995, Dubai Municipality has been implementing a cost accounting system laid down by Administrative Directive No 1008 for 1995 on the implementation of the cost accounting system. A cost accounting manual was updated and approved by Administrative Directive No 119 for 1999. The General Budget Section in the Finance Department is in charge of revising and analysing data and preparation of a final report that includes cost accounting data.

Cost Accounting is a financial system which aims to improve work efficiency and productivity at the least cost possible, in addition to specifying the output prices (achievements) through the analysis of cost elements and the comparing of these against the estimated cost and the studying of deviations from this, thus assisting the department to make informed decisions.

The objectives of Cost Accounting

1) Specifying the cost of outputs (achievements) and work, to reduce costs as much as possible.
2) Knowing the cost of services offered to the public, companies and various establishments, to assist in specifying the fees which must be collected in return for these services.
3) To assist the department in making decisions to expand or reduce the services offered, with the aim of providing effective help to those in charge of calculating cost. As part of this process, Administrative Directive No. 119 was issued in 1999 to approve the Cost Accounting Manual for Dubai Municipality. A special booklet on the subject was issued in 2000. Graphs Nos. 10 and 11 illustrate a model of an administration within the Municipality, while Table No. 7 on page 221 illustrates a Municipality cost accounting report.

Financing and implementing the budget and its historical development

The task of Municipality budgeting has grown significantly, in line with the Municipality's

Graph No. 10. Development of Total Cost for Roads Administration

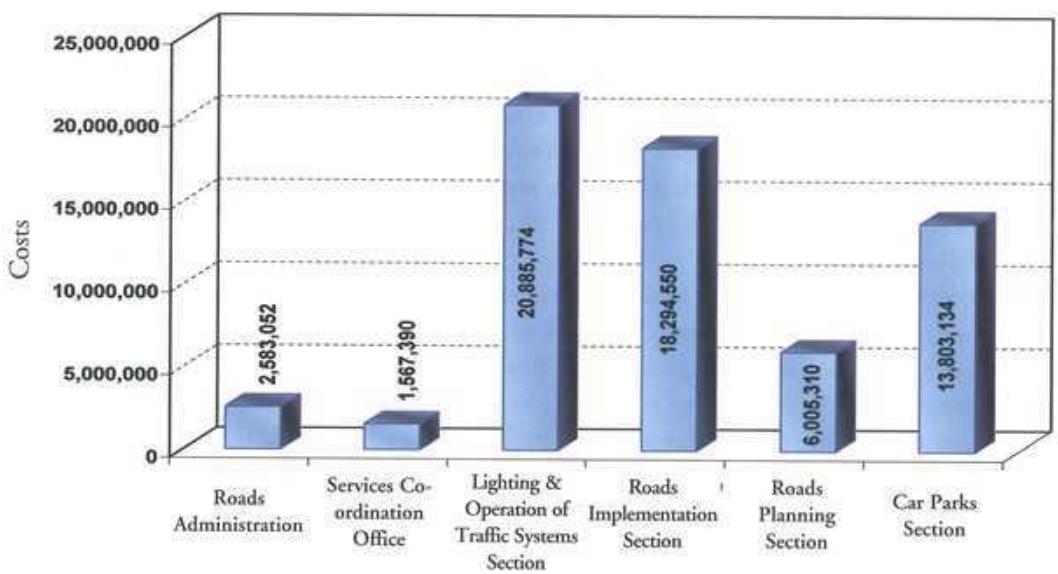
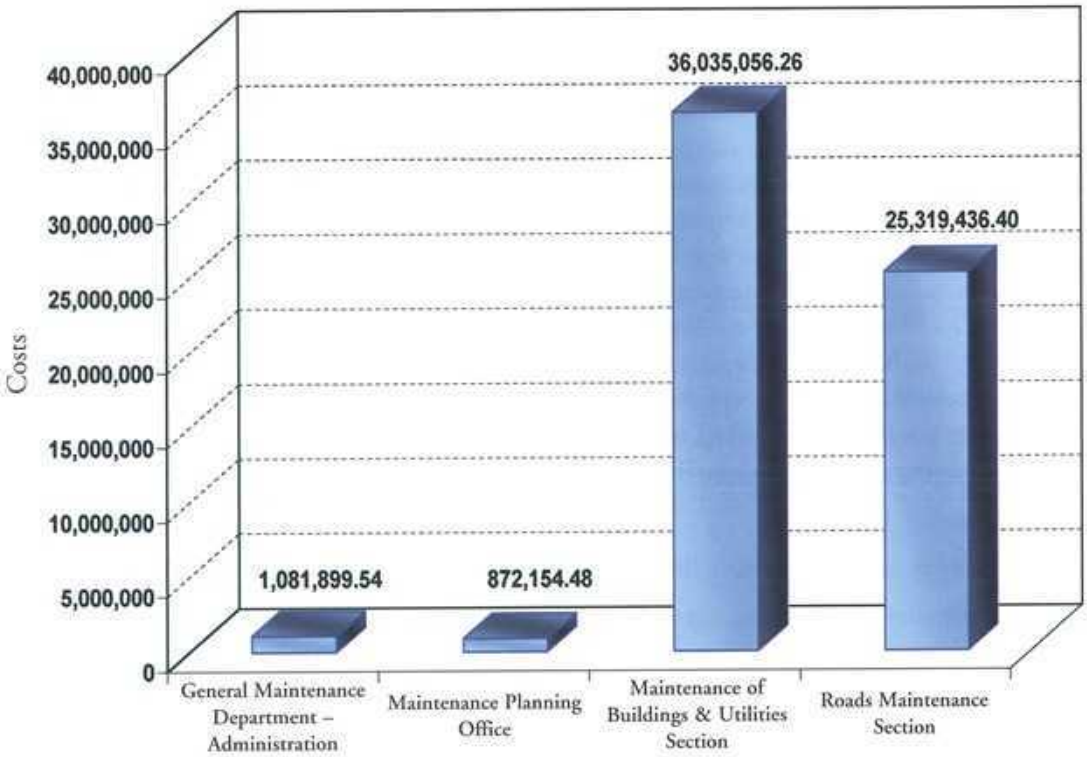


Chart No. 11. Total Costs of General Maintenance Department



development as a whole. This has stemmed from the belief that the best possible use must be made of the available resources so that the budget itself fully reflects reality at all stages, including the introduction of the appropriate amendments to it. Part of this process has been the work undertaken to increase revenues and to reduce costs.

Until 31st July 1998, the Municipality had its own independent bank accounts, into which its own revenues were paid as well as the annual allocation from the Ruler's Office.

From 1st August 1998, all Municipality revenues, and those of other Dubai Government offices and departments, have been paid into a unified government account under the supervision of the Diwan and the Financial Audit Office. The Municipality Finance Department, however, maintains a record of all deposits, so as to keep a record of annual revenues. Since that date, the Ruler's Diwan has made monthly payments to the Municipality, representing one-twelfth of the approved annual budget.

Payments relating to projects and instalments paid to contractors are made in accordance with the agreed procedures and with the contract signed by both parties. This process commences with the submission by the contractor to the supervising consultant of a request for approval of the payment of the first instalment. This, in turn, is passed by the consultant to the department concerned.

It is then passed to the Contracts and Purchasing Department who, in turn, forward it to the Finance Department for payment, following completion of all of these procedures, within a maximum period of sixty days.

With regard to purchase requisitions, the sum is paid to the supplier after official approval by the department concerned or by the Stores Department, in accordance with the approved relevant payment procedures..

Pioneering Initiatives relating to the Internet

As part of the Municipality's efforts to simplify its procedures, the Department has sought to provide a computer for each employee, the number reaching 145 by mid-2001, this representing one for each department employee, excluding labourers and field workers.

The Finance Department has also ensured the provision of a link through the Municipality's internet website for use by customers. The average number of hits on the Finance Department's link was 2,159 from August to 31st December 2000. In 2001, 8,508 people visited the site. Thereafter, the department discontinued its provision of printed periodicals and reference material, and posted them on the website.

In order to provide better services to its customers, the department has implemented a suite of policies relating to Internet usage, these being circulated as part of the department's procedures.

- A summary is as follows:
- Launching of a plan to move the automated enquiry of financial transactions service to the website after the successful introduction of service by telephone (IVR).
- The estimated percentage of transactions and services offered through the Internet was 70% in 2002, with a plan to increase this to 90% by the end of 2003.
- The use of the Internet –based simplified working procedures in the department through the delegation of some authority to Internet users to complete some types of transactions.
- Enquiries about cheques relating to suppliers, consultants and contractors.
- Enquiries about the Municipality's bank accounts.

The Department's initiatives relating to good causes and National occasions (service to the community)

The participation by the Finance Department in certain occasions, celebrations and festivals is primarily related to its authorisation of special offers (sales) during the annual Dubai Shopping Festival, along with its membership of the committee for unification of government resources and its participation in Dubai International Excellence Award. The department also took part actively in the dubai 2003 Project which was outside the scope of the Municipality's normal work but which was one of the main events in the Emirate of Dubai in 2003. This entailed involvement in the preparations for the joint meetings of the World Bank and the International Monetary Fund, IMF, which included preparations to receive approximately 20,000 international delegates for discussions on financial and economic matters at an international level. Five members from the Finance Department participated in the preparation committees for this event (http://www.dubai2003.org).

Table No. 7. Costs for the Roads Sector in 2000

Unit	Previous Years			Total Payroll	Total Current Expenditure	Total Depreciation	Higher Administration Costs	Total Costs for 2000
	1987	1998	1999					
Office of Assistant Director General for Roads & Projects Affairs	1,539,143.00	1,930,498.00	2,091,536.53	1,062,098.98	42,787.56	31,118.26	1,331,545.53	2,467,550.33
Roads Department – Administration	2,098,288.00	2,834,471.00	2,113,313.00	1,406,770.24	88,753.60	29,970.36	1,057,557.40	2,583,051.59
Services Co-ordination Office		0.00	1,221,834.12	1,324,239.02	25,421.27	44,644.20	173,085.14	1,567,389.64
Lighting and Operating Traffic Lighting Systems Section	19,510,094.00	9,947,731.00	12,965,855.95	2,581,593.13	17,295,693.88	671,058.52	337,428.07	20,885,773.60
Road Implementation Section	2,365,295.00	32,681,129.00	22,726,717.52	2,134,039.18	11,048,456.01	4,833,124.03	278,930.37	18,294,549.59
Road Planning Section	3,667,707.00	4,634,879.00	6,008,752.20	4,522,974.46	549,001.25	342,157.71	591,177.03	6,005,310.44
Car Parks Section		2,690,586.00	6,583,445.74	9,199,553.40	465,600.25	2,935,549.06	1,202,430.98	13,803,133.69
Total Cost	25,543,096.00	49,954,325.00	49,506,705.24	19,762,399.19	29,384,172.67	8,826,533.52	2,583,051.59	60,556,156.96
General Projects Department – Administration	1,855,149.00	144,021.00	1,349,628.03	667,252.11	39,628.54	3,145.71	863,947.88	1,573,974.24
Projects Implementation Section	4,774,501.00	8,776,474.00	3,984,206.61	3,340,883.68	1,596,497.58	212,872.71	316,271.48	5,466,524.90
Projects Design Section		1,465,143.00	2,304,774.04	2,359,287.75	29,182.48	6,806.88	223,346.72	2,618,623.84
Historical Buildings Section	7,202,359.00	12,589,585.00	14,053,216.68	10,926,256.28	3,151,109.25	535,025.38	1,034,356.04	15,646,746.95
Total Cost	11,976,860.00	22,831,202.00	20,342,197.32	16,626,427.70	4,776,789.31	754,704.43	1,573,974.24	23,731,895.69
General Maintenance Department – Administration		1,173,804.00	1,126,900.62	489,717.37	18,756.20	27,380.91	546,045.06	1,081,899.54
Maintenance Planning Office		0.00	749,258.71	790,154.43	120.00	0.00	81,880.05	872,154.48
Building and Utilities Maintenance Section	8,595,565.00	32,911,513.00	28,693,407.88	4,721,252.59	28,649,595.03	2,174,967.08	489,241.56	36,035,056.26
Road Maintenance Section	12,142,824.00	11,906,248.00	15,664,277.21	4,929,081.70	16,979,195.28	2,900,381.53	510,777.93	25,319,436.44
Total Cost	20,738,389.00	44,817,761.00	45,106,943.80	10,440,488.72	45,626,910.31	5,075,348.81	1,081,899.54	62,226,647.18
Total Cost for Roads & General Projects Affairs	58,258,345.00	117,603,288.00	114,955,846.66	46,829,315.61	79,789,872.29	14,656,586.56	5,238,925.37	146,514,699.83

Table No. 8. Total expenditure and revenues for the Finance Department, by Section, 1988 – 2002

Year	Finance Dept. Expenditure (Administration)	General Budget Section Expenditure	General Budget Section Revenues	Fees & Revenue Section Expenditure	Fees & Revenue Section Revenues	Accounts Section Expenditure	Accounts Section Revenues	Compensations Section Expenditure	Compensations Section Revenues	Treasury Section Expenditure	Treasury Section Revenues	Finance Department Expenditure	Finance Department Revenues
1988	0	0	0	0	117,287,516	5,626,950	12,266,450	15,709,738	0	0	0	21,336,688	129,553,966
1989	0	0	0	0	139,186,242	5,614,339	15,474,455	1,336,358	0	0	0	6,950,697	154,660,697
1990	0	0	0	0	140,313,019	6,304,349	8,937,476	673,214	0	0	0	6,977,563	149,250,495
1991	709,212	533,700	0	2,685,098	146,382,308	3,464,585	37,626,976	109,118,695	0	856,753	0	117,368,043	184,009,284
1992	635,260	427,365	0	2,842,639	166,856,062	3,149,879	24,048,840	30,536,982	0	1,076,828	0	38,686,953	190,904,902
1993	1,001,271	544,909	0	3,248,308	191,576,098	3,498,606	11,166,477	98,999,545	0	1,175,530	0	108,468,169	202,742,575
1994	1,021,095	712,602	0	3,839,452	239,829,189	3,286,037	10,285,758	34,250,578	0	1,047,967	0	44,157,731	250,114,947
1995	819,084	1,186,942	0	5,169,561	241,020,449	2,986,388	23,035,875	68,946,159	81,950	904,571	0	80,012,705	264,138,274
1996	885,271	1,157,699	0	5,634,590	330,158,679	3,210,774	15,317,892	11,526,457	16,300	1,061,193	0	23,475,984	345,492,871
1997	773,002	1,263,532	0	5,830,150	332,646,792	3,675,537	21,177,917	52,539,714	766,179	666,508	0	65,748,443	354,590,888
1998	3,153,099	1,364,326	0	5,882,610	548,695,577	3,097,182	28,650,452	227,759,340	14,786	1,598,708	0	242,855,265	613,360,814
1999	1,150,589	1,482,281	0	5,895,562	769,224,915	3,029,506	33,122,139	25,449,881	3,649,221	2,534,401	0	39,542,220	805,996,274
2000	1,556,995	2,038,386	0	7,464,680	684,229,256	3,430,833	25,548,529	92,238,514	0	2,910,456	6,330	109,639,863	709,784,115
2001	1,529,910	2,845,484	653	9,029,414	771,113,075	4,461,773	6,944,790	120,876,539	5,959,411	2,394,495	7,576	141,137,615	784,025,504
2002	1,847,860	3,021,035	34,992	9,615,024	861,978,473	4,126,393	4,118,401	88,393,746	4,914,330	2,731,904	1,060	109,735,963	871,047,256
Total	15,100,648	16,578,262	35,645	67,137,088	5,716,497,650	58,963,131	277,722,427	978,355,460	15,402,177	18,959,314	14,966	1,155,093,903	6,009,672,863

Chart No. 12. Development of total expenditure for the Finance Department, by Section, 1988 – 2002

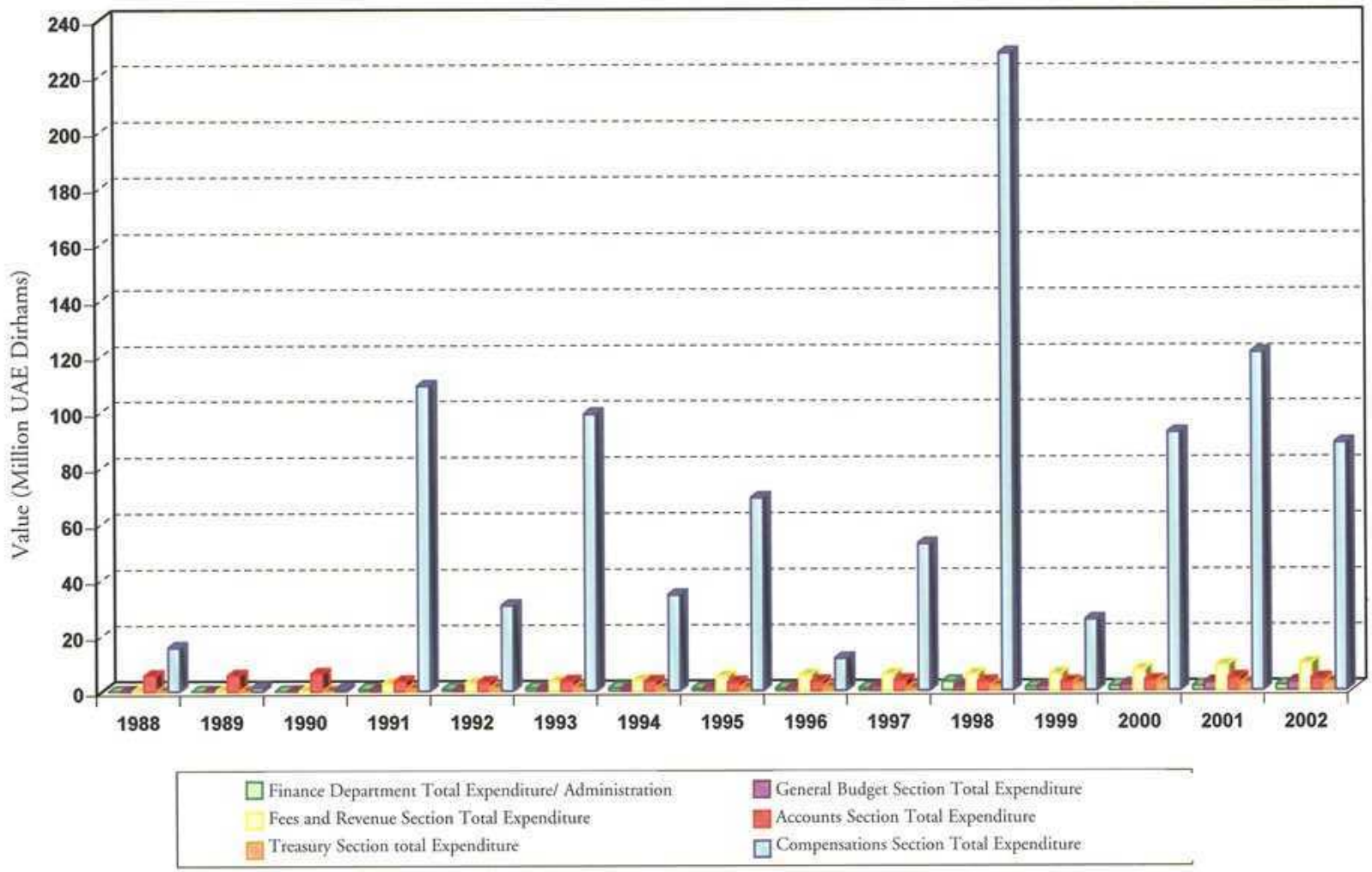
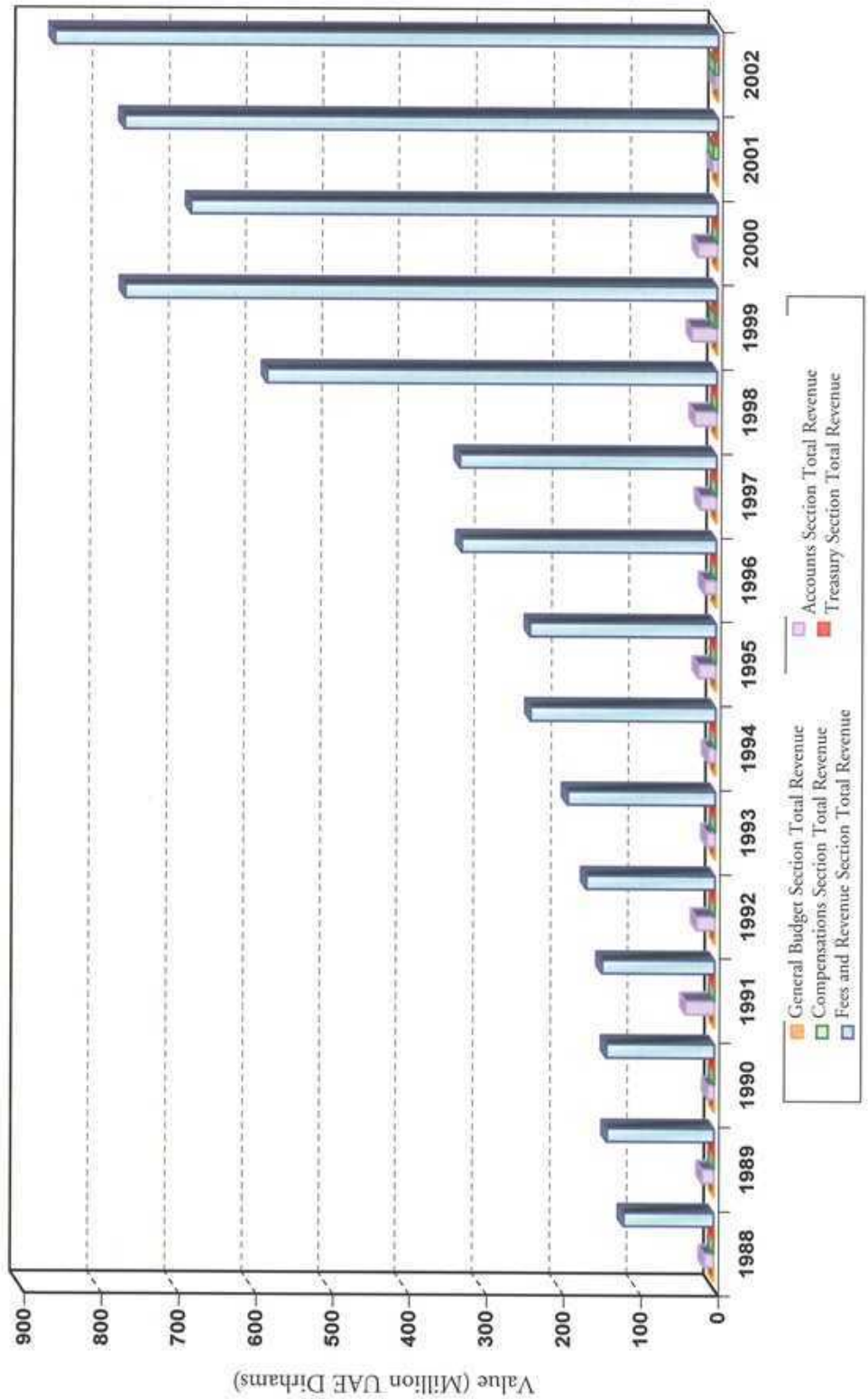


Chart No. 13. Development of total revenues for the Finance Department, by Section, 1988 – 2002



Compensation Section

Compensation Section

Following the completion of the first general planning framework for the city of Dubai in the early 1960s, the Muncipality began a programme of widening some of the existing roads. In accordance with the directives of the late H.H. Sheikh Rashid bin Saeed Al Maktoum, compensation was paid to owners of land and of commercial entities affected by this process.

These payments were made by the Compensation and Valuation Committee, which had been set up at the time of the Municipality's creation.

Two types of compensation were given – in land and in cash.

H.H. Sheikh Rashid specified that land in the Al-Baraha and Bur Saeed areas should be allocated as compensation for those whose land was taken in this early period. Thus, in September 1964, it was decided that the heirs of Bakheit Al-Madawi should be given land in Al-Baraha in exchange for their plot No.28 in Al Ra's/Deira.

An early example of compensation in cash was that provided in August 1966 to the children of Hamoud Al-Matawa, who received a total amount of 9,287 Qatar/Dubai riyals, the currency then in use in the Emirate. This sum represented 75 per cent of the value of the property taken. On 27th June 1967, however, an order was issued to provide for compensation in full for any property taken.

The process of road expansion, and of a consequent need for compensation to be paid, got under way in October 1961, with the approval of Decree No. 94 by the Municipality Council for the widening of Al-Khail Road and for the payment of compensation to land owners. Between 1961 and 1964, a number of internal roads in the Deira and Bur Dubai areas were expanded or built. Among the projects carried out during this period were:

- Expansion of a number of roads in Al-Ra's area.
- Expansion of roads in Al-Souq Al-Kabir, Deira
- The old Municipality Road from Bander Talib to Al-Khail Road
- Expansion of a number of roads in Al-Bateen and Sabkha areas in Deira, as well as the Al-Musala Road and others in Al-Dhaghaya, Al-Marar, Ayal Nassir and north of Deira.
- The expansion of Ali bin Abi Talib Street and Al-Banyan Sooq in Bur Dubai.

The Compensation Committee was charged with responsibility for collection of data, including files on land ownership, and for the organisation and supervision of compensation payments, including the appropriate valuation of the plots or businesses concerned. This work included:

- Following up the compensation procedures for those properties affected.
- Ensuring the effective implementation of compensation rules and procedures, including monitoring measures.
- Preparing reports and regular statistical and financial comparisons.

With the expansion of the services carried out by the Municipality in Dubai, H.H. the late Sheikh Rashid bin Saeed Al-Maktoum ordered in April 1969 that all the powers, jurisdiction and authority assigned to the Dubai Municipality Council should be entrusted to H.H. Sheikh Hamdan bin Rashid

Al-Maktoum, in the capacity of Head of Dubai Municipality.

Because of the need for confidentiality with regards to the issue of compensation payments, Administrative Order No. 19 for 1969 was issued. This stated that all documentation relating to compensation was not to be presented to the Compensation and Valuation Committee until after it had been seen by the Municipality's Director General. This was followed by the issue of Administrative Order No. 20 for 1969. This laid down that no procedures relating to compensation for affected properties which have been viewed by the Compensation and Valuation Committee should commence until the properties had been viewed by H.H. Sheikh Hamdan bin Rashid, as. Head of the Municipality.

In 1970, Administrative Order No. 12/1970 was issued, bringing all employees involved with compensation within the Municipality's Financial Administration. The Order also appointed a Head of the Compensation Section, and specified the duties of the Section.

Further regulations relating to the payment of compensation were issued in 1971. Thus Administrative Order No.35/1971 laid down that maps submitted with applications for payment were not to be approved until they had been sent, along with the title deeds, to the Land and Properties Office for written verification of ownership. Only then could payments to property owners be made.

On 8th August 1971, Administrative Order No. 40/1971 ruled that any appeal against decisions by the Compensation and Valuation Committee as well as requests for re-valuation should not be entertained without a written order from H.H. the Ruler or from H.H. the Head of the Municipality.

On 14th November 1971, Administrative Order No. 57/1971 specified that the Deputy Director General of the Municipality was to be responsible, on behalf of the Compensation Section, for the receipt of any requests submitted by property owners affected by planning projects for the review of their cases, this being laid down so as to ensure that the correct compensation was paid to deserving parties. It was also laid down that the Compensation Section should pass on all requests it received to the Deputy Director General.



The Compensations Evaluation Committee

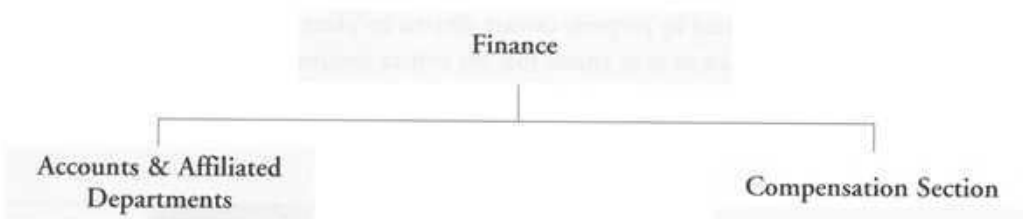
A further Administrative Order, No. 34/1976, was issued in 1976 to ensuring the proper registering of work and to facilitate a fast handling of compensation cases, including payment. This Order authorised the Head of the Compensation Section to sign on behalf of the Municipality's Director General on matters related to applications and property compensation procedures and all other matters relating to the Section, after receipt of prior approval from the Director General or the Deputy Director General.

On 11th January 1976, a special committee was formed to value properties in the Bur Saeed industrial area and the brick factories on the Sharjah road, behind Al-Ittihad Road, with a view to preparing for the development of those areas.

In 1977, Administrative Order 910 approved the introduction of a Manual for Procedures in the Compensation Section. This covered the documentation and clarification of procedures as well as the organisation of the Compensation Section, including clarifying its relationship with whose who had dealings with it, whether internally (Municipality Departments and Sections) or externally (compensation applicants).

In 1984 the Organisation Chart for the Financial sector of the Municipality, including the Compensation Section, was as follows:

Chart No. 8: Financial Sector Organisation Chart – 1984



At the beginning of the 1990s, the continued rapid development of Dubai prompted further development of procedures related to compensation. Thus, on 6th July 1991, H.H. the Head of the Municipality issued a special order providing for the establishment of a Land Valuation Committee, to be comprised of six members with experience in the buying and selling of land.

Administrative Order No. 79/1991, issued by the Municipality's Director General, set up the Buildings Valuation Committee, whose members included six Municipal employees with experience in the construction industry. This body also took over the responsibility of the former Representation Committee, comprised of three persons from outside the structure of the Municipality, who had knowledge of the citizens and of different areas, including those people resident within them.

At the end of the 1990s, work was completed in the Compensation Section to include a link with the databases in the various Sections within the Planning and Buildings Department and the Financial Administration as well as with the Municipality's Geographical Information System. This was designed to simplify the implementation of compensation procedures relating to properties affected by various planning projects.

Tables (1) and (2), below, illustrate the actual payment (in cash and land) as cash compensation for properties affected by planning projects for the period 1972-2002 and compensation in land for the years 1965-2002.

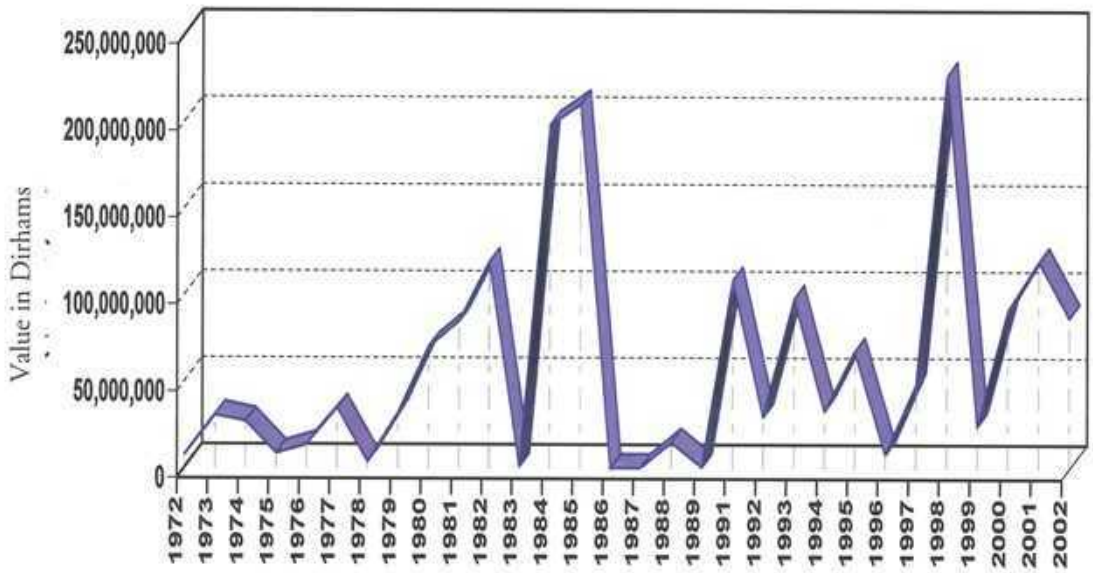
Table No. 1 Compensation in Land

Year	Area Compensated (in Square Feet)
1965	230
1966	2,600
1968	59,923
1969	31,111
1970	38,848
1971	116,885
1972	324,916
1973	696,140
1974	449,824
1975	50,454
1976	315,853
1977	63,957
1978	80,501
1979	162,888
1980	2,620
1981	76,729
1982	100,566
1983	11,900
1984	1,579,461
1985	66,925
1987	576
1989	6,750
1991	4,957
1992	133,408
1993	230,861
1994	408,062
1995	790,156
1996	1,658,368
1997	318,128
1998	1,283,566
1999	1,100,712
2000	1,136,478
2001	1,458,103
2002	2,181,824
TOTAL	14,944,280

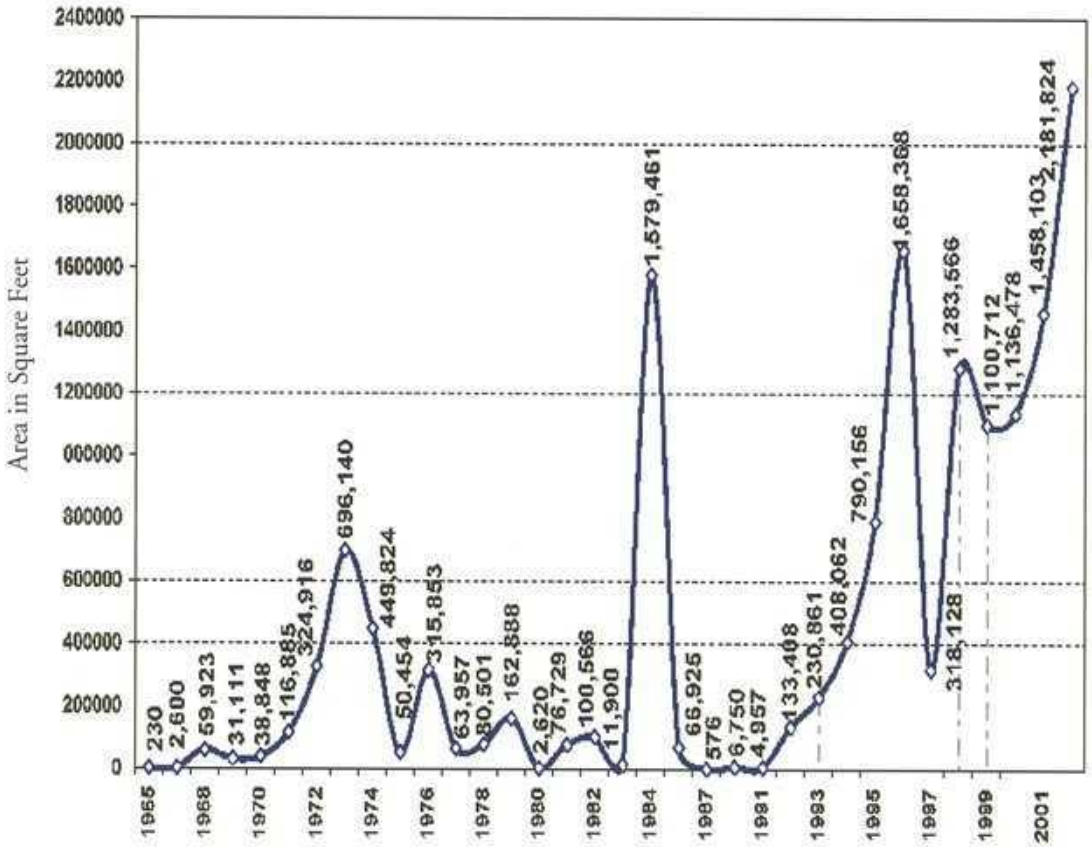
Table No. 2 Cash Compensation

Year	Value of Cash Compensation in Dirhams
1972	7,580,415
1973	30,560,011
1974	26,756,327
1975	8,518,603
1976	13,392,182
1977	34,596,203
1978	3,509,730
1979	31,947,599
1980	70,083,043
1981	84,607,649
1982	119,045,382
1983	1,015,219
1984	197,859,985
1985	209,824,203
1986	55,300
1987	453,500
1988	14,937,610
1989	541,194
1991	108,463,232
1992	29,557,693
1993	97,935,203
1994	32,998,909
1995	67,700,140
1996	7,991,103
1997	48,177,819
1998	226,523,559
1999	24,514,184
2000	91,067,249
2001	119,528,079
2002	87,053,053
TOTAL	1,796,794,378

Graph No. 14: Development of compensation in cash, 1972-2002



Graph No. 15 : Development of compensation in land, 1965 - 2002

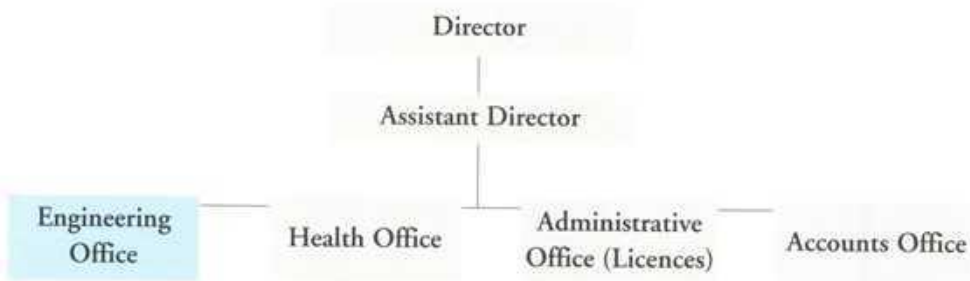


Building & Housing Department

One of the priorities of the Dubai Municipality since it was established has been to organise and to supervise construction activity. This has grown immensely since the nineteen-sixties, when the number of engineers and technicians employed by the Municipality began to grow rapidly, a process which has continued ever since. From the outset, the Municipality has endeavoured to use the latest systems and building methods.

In 1962, the first Organisation Chart for the buildings sector was established, covering four sections, those for Engineering, Health, the Administrative Office (Licences) and the Accounts Office, as shown in Chart No.1.

Chart No. 1. Organisation Chart for Dubai Municipality in 1962



The process of expanding the engineering services offered by the Municipality then got under way. In 1964, the Municipality had only two engineers, one surveyor and two assistant technicians responsible for these services.

One early task was the drawing up of a system for issuing licences for engineering firms and consultancy offices and for classifying them. The procedure for this was laid down by terms of a Local Order issued in 1967, which forbade the offices of engineering consultants from taking on contract work or commercial activities related to building materials. They were also forbidden to copy designs made by other firms, so as to protect copyright in such materials.

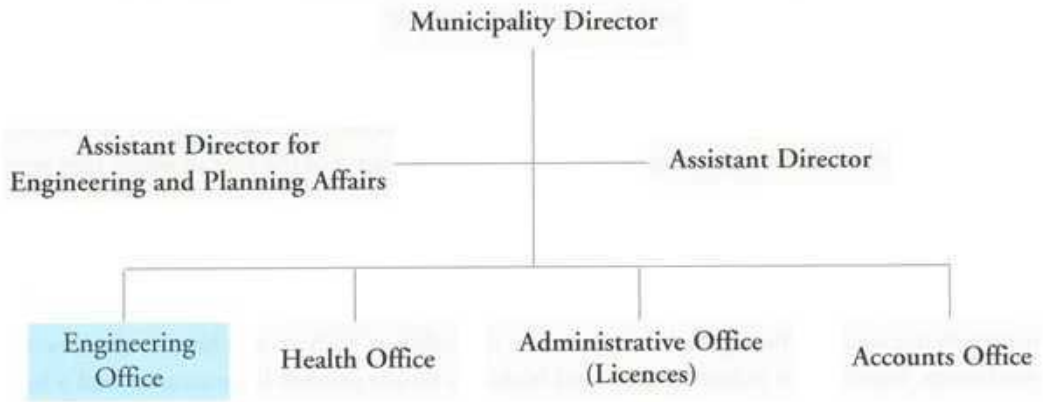
In order to regulate the process of collecting sand, for making concrete, and earth and sabkha for the use in back-filling sites, another order, Local Order No. 18 for 1967, was issued, specifying those areas which could be used as sources of such material.

With the expansion of the engineering and technical expertise available within the Municipality, it was decided that any construction plans for buildings should be presented for review, licencing and approval by the Director-General before work could commence.

Administrative Order No. 8 for 1968 was, therefore, issued to regulate plans for building and maintenance and provide for the issuing of the relevant licences.

At the beginning of 1969, as a result of the increasing workload of the Municipality, engendered partly by the increasing number of applicants for permissions related to engineering work, it was decided to introduce administrative and technical amendments to the existing system so as to speed up the completion of applications relating to planning and buildings. Accordingly Administrative Order No. 4 for 1969 was issued, relating to the appointment of a Technical Assistant for the Director of Engineering and Planning Affairs. The Organisation Chart was amended, as shown in Chart No. 2.

Chart No. 2. Organisation Chart for Dubai Municipality in 1969



Issuing of Laws and Building Regulations

With the increase in demand for Building Licences, in 1970 Local Orders approved by the Dubai Municipality Council were issued, laying down the Building Rules and Regulations for Dubai Municipality.

These stipulated that no construction work could take place until a Building Licence had been issued and until after there had been a study of the area concerned, including delineation of its precise dimensions. They also stated that all construction work must be undertaken in according with the specifications of the approved plans and the conditions stipulated in the building licence. Additionally, the Municipality engineers were given the right to enter these locations to inspect them and take samples for laboratory tests. These laws also emphasised the importance of safeguarding the safety of labourers through implementing the appropriate safety procedures and spelt out the relevant requirements for prevention, sewerage, rainwater drainage, water and electricity supplies and telephone connections. The laws also stipulated that use of a building could commence only after issuing of a Certificate of Completion.

The issuing of these laws provided the basic framework governing the carrying out of construction work in Dubai. This framework included:

First: The introduction of the need for proper building plans and the issuing of a Building Licence/Permit.

Second: A study of the exact area involved and the issuing of location and issue of a Building Plot Certificate

Third: Regular inspection of the process of construction and a monitoring of building materials used.

Fourth: Issue of a Certificate of Completion for the building, once completed and before use.

Further revisions to organisational procedures and the issuing of new laws related to construction activity followed. Thus, in 1972, a decree was issued pertaining to the importance of issuing a Certificate of Completion for buildings which had been completed in order to ensure that the building rules and specifications had been implemented in accordance with the Building

Licence Certificate, so as to ensure that contractors abide by the relevant rules and regulations. Water and electricity services were not to be connected until this certificate had been produced.

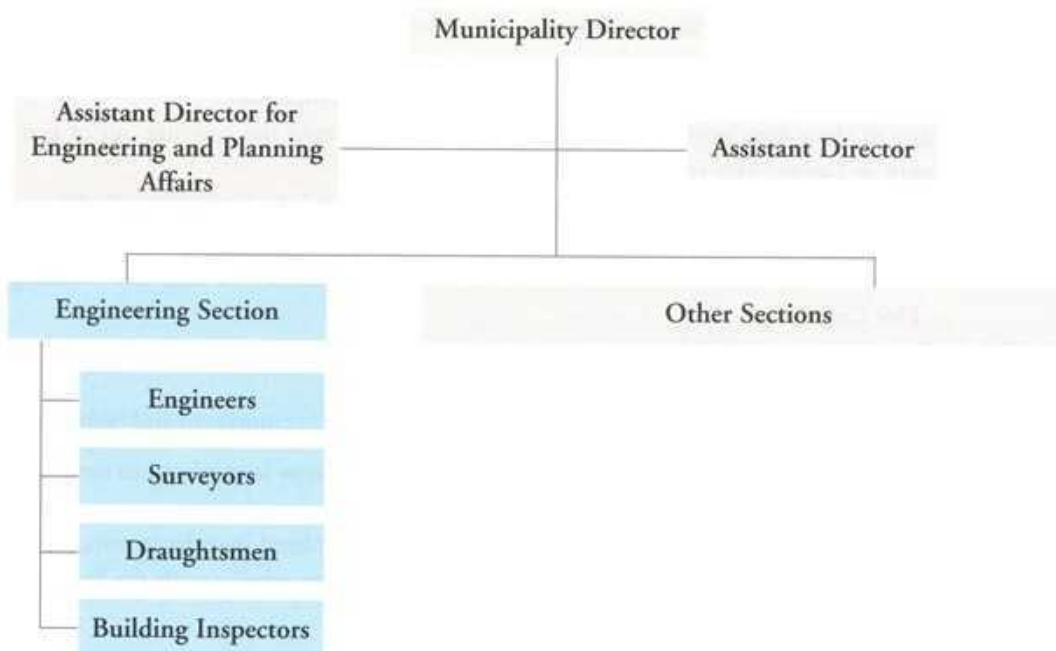
The need to take care of the architectural and aesthetic appearance of buildings was then addressed, to ensure that new buildings were in harmony with existing ones. In 1972, for example, Local Order No. 17 laid down rules specifying the importance of maintenance, both of buildings and surrounding walls, and on the need to remove old, deteriorating and abandoned buildings which were out of keeping with the general appearance of the area in which they were located.

In 1973, Administrative Order No. 55 was issued, as part of a drive to ensure that buildings were protected against the danger of fire. This spelt out that, where required, building plans would have to be modified so as to obtain approval from the fire services, prior to a building licence being issued. This applied, in particular, to buildings such as warehouses, showrooms, workshops, buildings in industrial areas and buildings which covered large areas or had a high elevation.

In order to ensure that the contractor implemented the fire, health and safety regulations in buildings, in accordance with the Building Licence, Administrative Order No. 80 was issued in 1974. This linked the issue of a Certificate of Completion for multi-storey buildings to the obtaining of approval from the fire services, stating that the relevant fire prevention procedures and requirements had been implemented.

In 1974, a support mechanism was established for the Engineering Section with its varied engineering and technical duties and responsibilities which, by this time, included planning, the issuing of building licences, building inspections, surveying, draughtsmanship and sewerage. In addition, a Chief Engineer was appointed, as shown in Chart No. 3

Chart No. 3. Organisation Chart for Dubai Municipality (Engineering) in 1974



The establishment of the Building Section

In the mid-seventies, there was a sudden and marked boom in construction in Dubai, affecting housing, commercial and industrial buildings. The number of applications for licences increased, as did the number of individual applicants seeking help to complete their licence applications. It was, therefore, decided to create an independent section in the Municipality to undertake this work, as part of the Engineering Section. Administrative Order No. 24 for 1976 was issued to establish this Building Section, providing for it to be independent, and to be run by a Head of Section assisted by an engineer to carry out technical supervision. The duties of the Section and its Units were specified as follows:

1- Building Licences Unit

The work of this Unit concentrates on the issuing of Building Licences and on reviewing the carrying out of the specifications and laws and the rules for new buildings, annexes, modifications and maintenance laid down by the Municipality. This Unit was established with a Head of Unit and Secretary, followed by the increase of the number of civil engineers and draughtsmen from two to three each and the appointment of an architect.

2- Building Inspection Unit

This Unit was responsible for the inspection of buildings to see that they had been constructed in accordance with the approved plans, for reporting buildings presenting hazards and for halting work on unlicenced buildings or on those violating their licences and preparation of reports on such buildings. This Unit originally had two inspectors (later rising to a total of fourteen). Subsequently, two engineers were seconded from the Planning Section, one to work as a civil engineer and the other given the responsibility of managing the Unit.

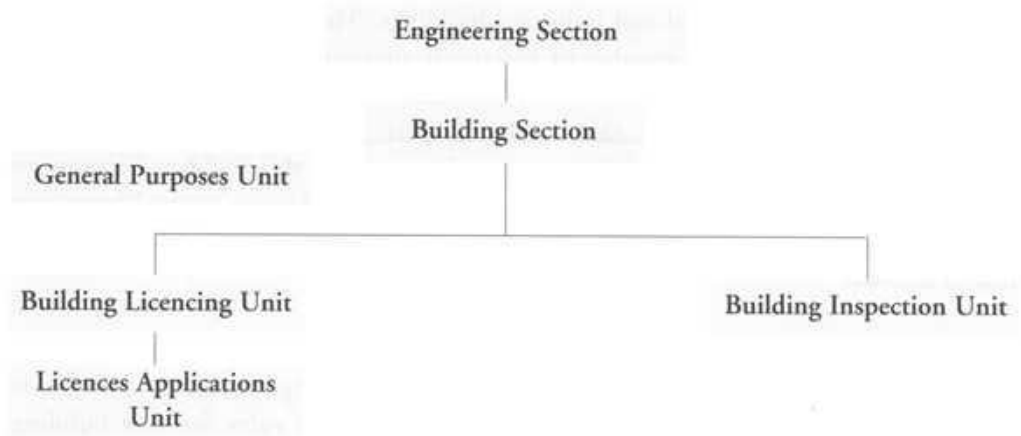
There were also two autonomous units within the Building Section, the Licence Applications Unit and the General Purposes Unit.

The Licences Application Unit, linked to the Building Licences Unit, was responsible for the receipt of construction plans and designs presented for approval and licencing and the delivery of these to the relevant person. It was also responsible for receiving deposits and fees.

The General Purposes Unit had three employees, two inspectors and a third specially-selected local representative with knowledge of the national population of Dubai. They received instructions directly from the Head of the Buildings Section with regard to applications presented to the General Purposes Committee affiliated to the Municipality Council that relate to government housing for nationals and the distribution of such housing. The Unit was also responsible for maintenance work or extensions required for government houses.

Following its establishment in 1976, the Organisation Chart for the Building Section was as shown in Chart No. 4.

Chart No. 4. Organisation Chart for Building Section in 1976



Buildings Inspection Unit	
Post	No.
Head of Unit	1
Civil Engineer	3
Architect	1
Draughtsman	3
Secretary	1
Messenger	2
Total	11

Building Section Posts	
Post	No.
Head of Section	1
Assistant Head of Section	1
Secretary	1
Messenger	1
Total	4

General Purposes Unit	
Post	No.
Inspector	2
Local Representative	1
Total	3

General Purposes Unit	
Post	No.
Clerk	3
Total	3

Building Licences Unit	
Post	No.
Head of Unit	1
Civil Engineer	1
Building Inspector	14
Secretary	1
Messenger	2
Total	19

Both the Building Section and the Planning Section were initially affiliated to the Engineering Section, this creating some overlap in terms of authorities and responsibilities. Administrative Order No. 25 for 1976 was, therefore, issued to divide and re-distribute responsibilities. The responsibilities of the Building Section then included supervision of the Building Licences Committee, inspection and study of buildings and the approving of and issuing of Building Licences, as well as monitoring the construction of buildings at all stages. The Building Licences Committee itself was transferred from the Planning Section under the terms of this administrative re-organisation.

Once the duties and responsibilities of the Building Section had been defined and clarified, they were then allocated to the Building Licences and Monitoring Units.

The following duties were initially allocated to the Building Licences Unit:

Receipt of licence applications and the study of plans from the architectural and construction aspects, verifying the ownership of property, studying construction problems brought to the attention of the Municipality and the issuing of Building Licences.

Under the terms of Administrative Order No. 18 for 1976, new responsibilities were added, including the audit of Building Licences and of survey landmarks (Certificate of Building Landmarks) as well as enduring that construction work was carried out in accordance with the licence and the laws and rules of the Municipality. This included a monitoring of the construction materials, to ensure that they were suitable, checking to ensure that the consultant engineer was present on site, as appropriate, and laying down guidelines on the organisation and appearance of construction sites.

This was followed by the issuing of further Administrative Orders dealing with the work of the Building Licences Committee, designed to speed up the decision-making process. These included:

- Administrative Order No. 48 for 1976, specifying the maximum timescale for the completion of licence applications presented to the Municipality.
- Administrative Order No. 64 for 1976, laying down a framework for the recording of written objections from committee members and also dealing with the timely completion of the processing of applications.

Another step forward was taken with the creation by the Municipality of a sub-committee known as the 'Facade Committee.' This was given the responsibility for ensuring that the facades of new buildings requiring licences were in accordance with the relevant aesthetic and artistic requirements. This was of particular importance in key central areas.

- A number of other Administrative Orders related to buildings were also issued in 1976. Among them were:
  - Administrative Order No. 3 for 1976, relating to controlling the process of issuing building licences for land in residential areas or on main streets.
  - Administrative Order No. 4 for 1976, relating to the rejection of applications for licences to build boundary walls, but no other structures, on land granted to applicants by the Government.
- Administrative Order No. 6 for 1976, relating to the setting up of a committee to list dilapidated houses and shops or those which had been abandoned, were in a dangerous condition or that were overlooking Beniyas Square.

- The work of the Building Section was, of course, of very considerable importance, in view of the rapid process of development then under way in Dubai. Administrative Order No. 52 for 1976, therefore, spelt out the necessity of a copy of the building inspectors' daily reports on their inspections being sent to the Municipality's Director, so that the Administration was kept up to date with progress and would be enabled to provide comments, if any.

Building Section and the development of brick factories

In 1985 there were a number of brick factories in the Abu Hail area, these originally having been established on a temporary basis. With the preparation of a new planning structure for the city of Dubai, it was decided that these should be transferred to a new location. In order to ensure that this task was carried out in accordance with the appropriate technical requirements, Administrative Order No. 104 for 1985 was issued to establish a committee headed by the Deputy Chief Engineer with its members including engineers from the Building Section, the Building Materials Laboratory and the Planning Section. This committee was charged with the responsibility of laying down the necessary conditions and specifications for the moving of the factories to the Al-Qusais area.

After the carrying out by the committee of examinations in the field and of the appropriate discussions, including the proper co-ordination with the Roads Section and the Health Section, Administrative Order 115 for 1986 was issued. This laid down conditions for construction of new brick factories in the Al-Qusais area, specifying the styles of building permitted, the materials to be used and the nature of boundary walling for the compounds and also provided for Engineering Consultancy Testing brick specifications in the Building Materials Laboratory offices to be instructed to follow the new rules.



Testing of blocks at the Building Materails Lab

The production of building materials of suitable quality is of high importance, because of its direct relationship with the safety of buildings constructed in Dubai. Bricks are one of the key materials used. Following on from the Administrative Order mentioned above, therefore, Administrative Order No. 111 for 1985 was issued to form a committee of engineers from the Building Section and the Building Materials Laboratory, headed by the Deputy Chief Engineer, with the task of laying down the specifications to be implemented by all brick factories, of spelling out the relevant regulations and of deciding upon the appropriate penalties to be imposed on any violators of these rules.

The Dubai Municipality then turned its attention to refining and expanding the engineering and technical tasks carried out by the Building Section, through the issue of a number of further Administrative Directives.

Administrative Order No. 134 for 1986 was issued to regulate the height of parking shelters and the height of public buildings in the city, in addition to prohibiting the use of car parks for other uses.

Conditions were then put in place to guarantee the safety of the structures of buildings, by providing that the contractor and engineering consultancy offices should share full responsibility for the safety of a building for ten years from the date of its completion. In the event of any evidence of danger to, or being caused by, the building during this period, then a committee was to be formed, headed by the Head of the Building Section, to study the problem and how best to deal with it, under the terms of Administrative Order No. 291 for 1986

Administrative Order No. 215 for 1987 amended the maximum permissible height for public buildings.

In cases where the foundations of buildings when constructed exceeded the boundaries of the plot, extending into adjacent roads, obstruction to excavations related to the laying of utility services could be caused. To deal with this issue, Administrative Order No. 221 for 1987 prohibited such foundations from going beyond plot boundaries, to prevent any possible interference with the public utilities service network.

In order to deal with a need to expand the responsibilities of the Building Licences Committee, Administrative Order No. 22 for 1988 was issued to re-form the Committee and to spell out its duties in terms of auditing, studying suggestions made to it, giving the appropriate opinions and signing Building Licences. In order to update the procedures for the issuing of Trade Licences for engineering consultancy offices and contracting companies, as well as for the renewal or amendment of existing licences, Administrative Order No. 210 was issued for 1988 to set up a committee for this purpose. Comprised of the Head of the Building and Housing Department, the Head of the Planning Department and the Chief Engineer, the tasks of this committee included the receiving and studying of requests for new, amended or renewed licences and the taking of the appropriate decisions.

Following the widespread introduction of metric measurements and the phasing out of using a feet and inches unit of measure in many countries during the 1970s, a need to make a similar change in Dubai was recognised. Memorandum No. 275 from the Municipality Director-General in 1988 provided for a transitional period not exceeding five years during which both metric and imperial measures should be used, followed by use of the metric system alone. This decision was taken following recommendations from the Financial and General Purposes Committees and the Planning Committee.

Developments in the Building Inspection Unit

In 1987 the Building Inspection Unit issued a book entitled ìResponsibilities of Building Inspectorsî in which the development of the Unit up to that time was explained. Key points can be summarised as follows:

Firstly, the responsibilities of the Unit were extended to cover the whole of the Emirate of Dubai, making three sectors, with the addition of the rural sector (outside Dubai and Deira). An employee was designated as being in charge of each sector.



Building Inspection

Secondly, a range of new duties and rules were introduced for the Unit. Among these, it was laid down that the Building Section was not to issue approval for the commencement of construction work until such time as the Dubai Water and Electricity Authority and Etisalat had confirmed, in writing, that there would be no damage caused to cables, pipes and connections for general services as a consequence of the proposed building work.

It was also specified that at each construction site, a sign should be erected giving details of the firms responsible as contractor and consultant, these signs to be removed only upon the issuing of an insurance certificate for the building. A sample was prepared and specifications were laid down for such signs.

Obligations were placed on contractors that they should provide for a drainage of groundwater to a lower level when undertaking construction work and contractors and consultants were made responsible for the provision of the appropriate industrial health and safety measures on site. Finally, they were made responsible for the safe storage of all construction materials, to protect them from damage.

Third: Buildings affected by planning:

Besides its duties and responsibilities related to new buildings, the Section was also made responsible for matters affecting older buildings scheduled for demolition for planning and other reasons. For this purpose, a detailed procedure was laid down, which commenced with a decision being made by the Committee for General Purposes at the Municipality Council on the affected buildings. The Building Inspector is then to send a notification to the owner, requesting him to contact the relevant Sections at the Municipality. Measurements are then taken of each building with a special plan being drawn up, along with a report on their condition.

In accordance with this report, the Compensation Committee then checks the location and evaluates the property after which the due compensation is paid to the owner. A letter is then issued by the Head of the Building and Housing Section to the Dubai Water and Electricity

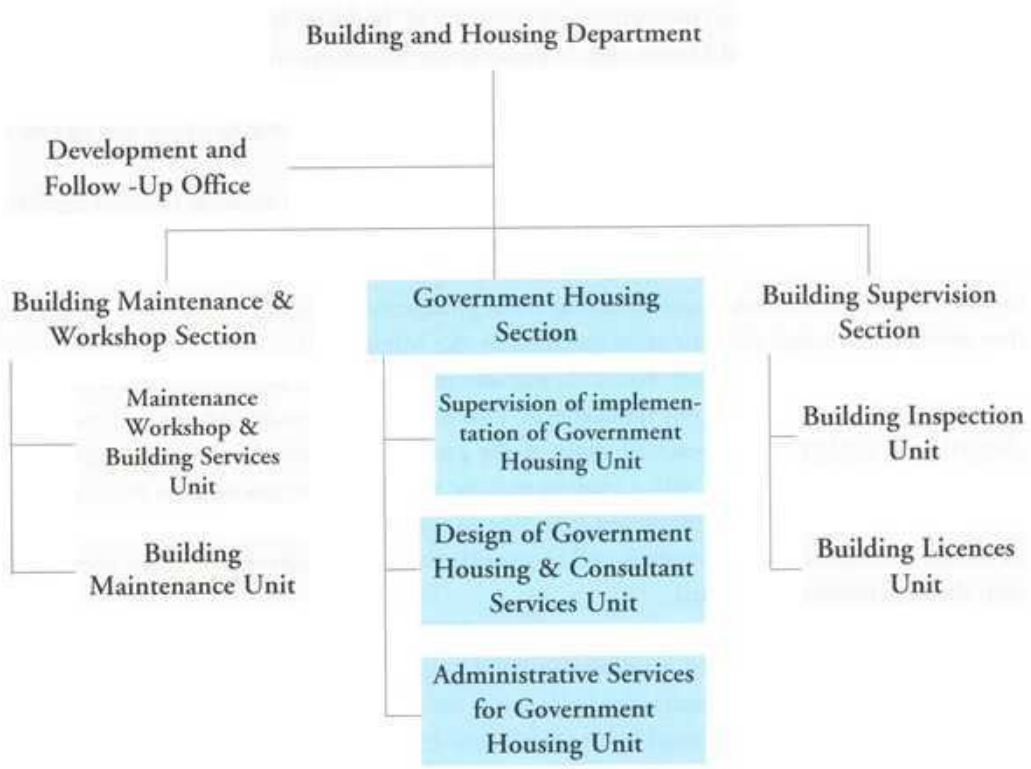
Authority and Etisalat requesting them to cut off their services and to relinquish their responsibilities. If the building is on a main street, where traffic flow can be affected by the process of demolition, then the police and the Roads Section are duly notified to make the necessary arrangements. The Inspector is responsible for ensuring that the correct building is demolished and for making the necessary arrangements with the contractor responsible for the removal of the building debris. Signs are also posted on the boundary walls of buildings due to be demolished.

Amendment of the Organisation Chart

In 1988, studies relating to the reorganisation of Dubai Municipality's structure was completed in respect of the individual sectors and their functional specifications, authorities and responsibilities. In that year, Administrative Order No. 223 was issued, making amendments to the Organisation Chart for the Building Section, through the addition of new authorities, responsibilities and operational functions.

The title Buildings Section was amended to Building and Housing Department, as illustrated in Chart No. 5.

Chart No. 5. Organisation Chart for Building and Housing Department in 1988



Related duties, responsibilities and functions were grouped into Sections, Units and Units.

Issuing of this new Organisation Chart was followed by the issuing of Administrative Order No. 247 for 1988, which re-formed the Building Licences Committee, headed by the Director

of the Building and Housing Department, and specified the weekly meetings of the Committee.

After the new administrative re-organisation in the Building and Housing Department was completed, under the terms of Administrative Order 223 for 1988, it proved necessary to issue a number of other Administrative Orders and internal instructions directed to engineers and inspectors working in the Building Supervision Section with regards to a tightening up of the monitoring and audit process for those projects, so that building rules and regulations were properly enforced.

In 1988 and 1989 several directives were issued to companies involved in the building industry relating to the need for the general appearance of the city to be safeguarded and for adjacent buildings to be protected. These also spelt out the penalties for violations and the importance of keeping to the terms of the licences issued. Building Inspectors were requested to monitor the implementation of these directives during their inspection visits. Directive No. 55 for 1989 also introduced a fixed fee for connecting buildings to the public sewerage system in the Emirate of Dubai.

Important developments since the beginning of the 1990s:

Since 1990, the Emirate of Dubai has seen a rapid growth in construction, as a result of the dramatic economic and commercial development. This has obliged the Buildings and Housing Department to speed up the completion and licencing of building applications. To help in this process, a number of Local Orders and Administrative Directives were issued, as well as internal instructions.

Local Order No. 48 for 1990 covered the enforcing of and the amending of the fees laid down in the 1970 building laws and regulations for the Emirate of Dubai.

In order to safeguard the cleanliness of the city, in particular with relation to building debris and the remains of ready-mixed cement, Administrative Order 251 for 1990 was issued to grant the building inspectors the authority to monitor companies working with cement and contractors or factories that dump waste resulting from production or building work, to ensure that they only use as dumps only the areas specified by the Municipality.

Another Administrative Order, No. 271, was also issued in 1990 with the objective of speeding up the process of completing applications. This followed the establishment of a committee charged with undertaking a practical study of the process of completing building applications and the associated paperwork with a view to making recommendations on how the time taken could be reduced. The Administrative Order was issued to approve the recommendations stated in the committee's memorandum and to provide for their implementation, in cooperation with the departments concerned.

In 1991, steps were taken to act on complaints from the public that contracting companies were working around the clock, causing continual noise from building sites. Local Order No. 61 for 1991 was issued to specify the noise levels for construction work, in accordance with Technical Directive No. 44, issued by the Safety and Environment Protection Section.

Another move, in 1991, was taken to safeguard the public health and the cleanliness of the environment. Administrative Order No. 222 for 1991 was issued to provide directives on the necessity of all buildings being provided with a special location for refuse disposal, so as to facilitate its removal from the building and safe disposal in an appropriate place. The Order laid

down specifications for refuse disposal rooms and for the refuse collection system as well as for a system for the transporting of refuse to the proper containers.

In accordance with recommendations by the Technical Committee that proper studies should be carried out of areas designated for use by companies as housing camps for their labour force, the Building and Housing Department, the Health Department and the Drainage Department were requested to review the construction of and maintenance of housing for labour as well as the presence of the appropriate health and safety procedures for workers living in this type of housing. Administrative Order No. 5 for 1991 was issued to provide for the drafting of a decree on labour camps in the Emirate of Dubai.

Another step taken, under the terms of Administrative Order No. 79 for 1991, was the establishment of a committee to study and evaluate the existing buildings and establishments affected by Dubai Municipality projects, as part of the process for implementing planning projects. The Committee was headed by the Director of Building and Housing, with other members including engineers from that section, while a rapporteur for the Committee was provided by the Compensation Section. The committee was tasked with the preparation of a plan of work for estimating and evaluating such properties and to present this plan for approval.

Following the receipt of a number of comments about projects being carried out by service providers, an internal circular was issued by the Building Inspection Section in May 1991 regarding the assigning of Building Inspectors to the duty of reporting on open Inspection Chambers on the streets belonging to Etisalat.

With a view to providing proper checks on the quality of sand used in ready-mix cement mixers, Administrative Order No. 143 for 1991 was issued laying down regulations on the use of sand which meets the appropriate specifications. The Order also prescribed methods of storing the sand to ensure that it is protected against pollution with salt and provided for the Building Research Section to carry out tests on sand for use in construction, to monitor its quality and to issue the appropriate certificates. The Building and Housing Inspectors and the Building Research and Quality Control Section were given the responsibility for implementing this order and for documenting any violations.

Following recommendations from the Committee for Monitoring Cleanliness and Public Health in 1991, internal directives were issued noting that Building Inspectors must inform contracting companies of the importance of protecting sidewalks during building construction projects by putting up side barriers and horizontal platforms above the sidewalks for pedestrians to walk on as well as protecting pedestrians against any construction material that may fall from above.

Another regulation dealt with advertising boards on tops of buildings, governing their aesthetic appearance as well as laying down health and safety rules. This took the form of a circular issued by the Director of the Building and Housing Department on 27th April 1992, which referred to Administrative Order No. 334 for 1986 regarding the bylaws of Local Order No. 30 for 1986 concerning the monitoring of advertisements in the Emirate of Dubai and to ensure tighter control on them. The circular provided for the commissioning of an engineering consultancy office to prepare a design and plans for these advertisements and rules for the licencing of them, and also spelt out specifications and regulations for such advertising boards.

With extensive dredging and the extraction of sand under way at Jebel Ali, Organisational

Directive No. 1 for 1993, issued by H.H. The Head of the Municipality, gave permission for specified companies to continue work for a period of twelve months only, following which all such work was to cease.

In the same year, Administrative Order 196 for 1993 instructed the Building and Housing Department to implement this Organisational Directive in coordination with the departments concerned.

Development of the Organisation Chart

All of these changes, together with the increasing amount of work being undertaken by the Building and Housing Section, required an amendment of the Organisation Chart for the Section and its various components, as well as of their duties. This was undertaken under the terms of Administrative Order No. 90 for 1994, which made the following changes.

The Building Maintenance and Workshop Section, which had been affiliated to the Building and Housing Section since 1988, was transferred to the General Projects Department.

The Building Licencing Unit was upgraded to become a Section, with two Units, the Architectural Inspection Unit and the Engineering Inspection (Structures) Unit.

A new Building Monitoring Section was established. This had two Units, Licences and Inspection.

An Engineering Supervision Unit and a Safety and Demolition Unit were also established, being affiliated to the Building Monitoring Section, along with the Building Inspection Unit. The Engineering Supervision Unit was created following a recognition that the work of the Building Inspection Unit would be carried out more effectively if it was split into two parts, one to be responsible for regulating building locations and the other to be responsible for engineering and technical aspects. The remaining tasks of the Building Inspection Unit were the regulating of construction sites and their general appearance, labour accommodation on site, ensuring that the relevant documentation relating to the project was available for inspection and generally ensuring adherence to Dubai Municipality rules and laws.

The new Safety and Demolition Unit was given responsibility for arranging for demolition work, through issuing the appropriate tenders, preparing the required reports on dilapidated buildings, abandoned buildings or those affected by planning, issuing Building Demolition Licences for privately-owned buildings, preparing reports on the most suitable methods of demolition, following an inspection of the building concerned, and then supervising the process of demolition to ensure that it was properly carried out.

The Unit was also given responsibility for demolition and removal of building waste for projects carried out by the Municipality and for organising the demolition of buildings affected by city planning projects.

Building and Housing Department and the Organisation Chart for 1994

In 1994 the Building and Housing Department became one of the two administrations under the direct supervision of the Assistant Director-General of Planning and Building Affairs. A new Organisation Chart was then issued, under the terms of Administrative Directive No. 90 for 1994 as shown in Chart No. 6.

Chart No. 6. Organisation Chart for the Building and Housing Department in 1994

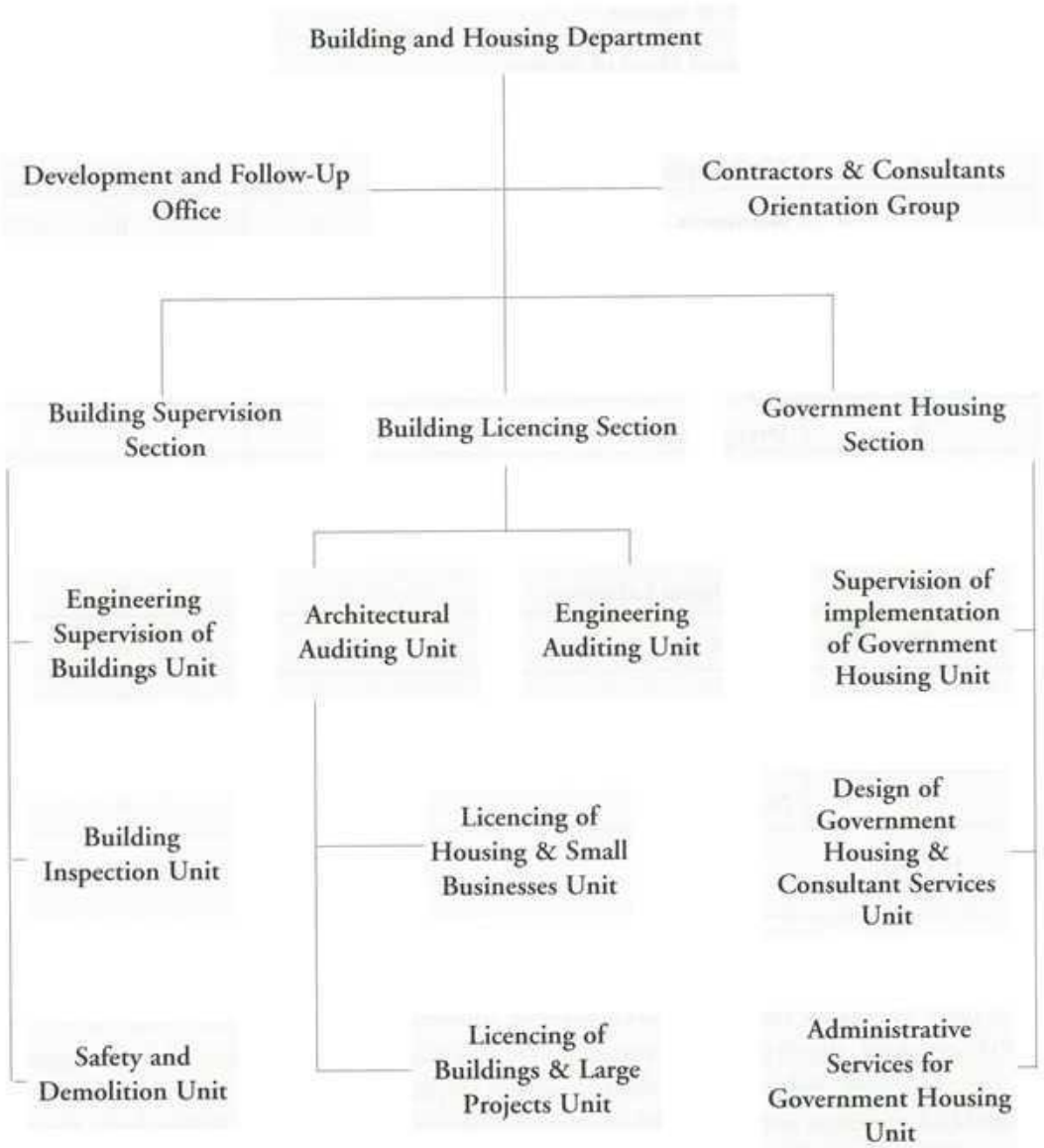


Table No. 1. Number of Employees in Building and Housing Department in 1994

Item	Post	Number
1	Head of Section	3
2	Assistant Head of Section	1
3	Head of Unit	7
4	Civil Engineers	11
5	Architects	6
6	Engineers on the Building Monitoring Committee	3
7	Inspection and Monitoring Engineers	7
8	Inspectors	30
9	Draughtsmen	9
10	Supervisors	2
11	Demolition Supervisors	11
12	Demolition Labourers	8
13	Drivers	6
14	Typists	9
15	Clerks	20
16	Messengers	6
TOTAL		139 positions

Organising the practice of Engineering Consultancy

In order to organise the practice of engineering consultancy activities, Local Order No. 89 for 1994 was issued, specifying that a register should be established of the offices of those engaging in this profession. Related requirements were put in place and a special committee was then established to register and licence the practice of Engineering Consultancy, laying down the relevant fields of expertise and classifications.

Administrative Directive No. 51 for 1998 was issued along with by-laws related to Local Order No. 89 for 1994. These specified the registration procedures and the scope for the practice of engineering consultancy, the procedures for establishing engineering consultancy offices, the renewal of licences, requirements for reclassification and the technical criteria used for evaluations, as well as the nature of qualified engineering personnel required. Examples of an Engineering Consultancy Services Contract and Appointment of Local Services Representative Contract were also produced.

Organising Construction Work

The issuing of procedures related to engineering consultancy was followed by the issuing of Local Order No. 3 for 1999, dealing with the organisation of construction work. This emphasised the necessity for such work to be properly licenced and spelt out the details of the fees charged and other details relating to deposits, fines, the specification of technical and organisational rules for construction work and safety procedures. The obligations and responsibilities of contractors and the rules for the monitoring of the inspection procedures carried out by the administration's inspectors and employees were also specified.

Building Rules and Specifications

Administrative Directive No 125 for 2001 dealt with Building Rules and Specifications By-laws. These specified the heights of buildings under a system of classifications, room areas, their internal distribution, apertures, balconies, and projecting areas, as well as all matters relating to utilities, services, preventative restrictions, safety, fire safety, plumbing requirements for private buildings and the requirements for drinking water tanks. Conditions relating to refuse rooms and refuse collection areas were also laid down.

Establishment of the Rural Inspection Unit

Until early 1995, the rural areas of the Emirate of Dubai were known as the 'external areas', with one engineer and one inspector being allocated to them. As a result of the dramatic increase in construction work in these areas, these two posts became insufficient to cope with the work. In 1996, therefore, the Building and Housing Department and the Administrative Development Office conducted a joint study of the rural areas. The result was the establishment of the Rural Inspection Group, charged with organising and stepping up the number of buildings inspections in these areas. On 2nd March 1998, an internal circular provided for the beginning of work by the Rural Inspection Group and laid down the allocation of work amongst the engineers and inspectors of the Buildings Inspection Unit. The next year, Administrative Directive No 54 for 1999 established the Rural Inspection Unit within the Building and Housing Department. In March 1999 the Unit moved as a whole to the Municipality's Al-Rashidiya Centre which became the headquarters for this Unit.

The Committee for Evaluation of establishments affected by Municipality Projects

Established by Administrative Order No. 79 for 1991, this committee continued to meet regularly to evaluate projects. The procedures followed entailed the relevant area inspector in the Building Monitoring Section making a drawing of the location, marking clearly the affected area. The relevant building plans were then obtained from the Municipality's archive, followed by a field trip by the committee members to the affected location. A technical report was then prepared, including the structural condition of the building. Based upon the reports of the Building Inspector and the Evaluation Committee, as well as the plans and documents available, the committee then meets to prepare its evaluation.

Following the carrying out of a general study of its work, the Evaluation Committee prepared a manual on Compensation Procedures for Buildings Affected by Planning Projects. This was approved by Administrative Directive No. 910 for 1997.

This was followed by Administrative Directive No. 1477 for 1997, which gave the committee per-

manent status, as the "Committee for the Evaluation of Establishments Affected by the Municipality's Projects." This had five permanent members, four from the Building and Housing Department and the fifth, the rapporteur, from the Compensations Section.

This Directive specified the duties of the committee as being to study and evaluate the requests for compensation related to establishments, buildings and farms affected by the Municipality's projects, and to propose the appropriate compensation value, taking into consideration the location and the general structural state of each building.

Establishment of the Contractors and Consultants Orientation Office

This group commenced its duties under the name "Contractors and Consultants Orientation Group" in accordance with Administrative Directive No. 90 for 1994. It was renamed, in accordance with Administrative Directive No. 288 for 1999, as the "Contractors and Consultants Orientation Office".

The main responsibilities and duties of the Building and Housing Department and its affiliated Sections

The key task of the Department and its Sections is to ensure adherence to building regulations and to the required safety specifications within the Emirate of Dubai, as well as offering government assistance in the field of general housing, according to the relevant directives. It is also responsible for the evaluation and classification of licenced consultants and contractors.

Government Housing Section

The duties of this Section include:

- Receipt, documentation and sorting of applications for government housing, land requests and the effective supervision and monitoring of the implementation of government housing.



Government Housing

- Preparation of regular studies on housing conditions in the Emirate of Dubai and to suggest suitable procedures for remedying any problems.
- Offering advice and information to the public regarding housing design and construction.
- Revising plans presented by consultancy offices for the construction of government housing in addition to supervising the approved plans and carrying out the required maintenance for government housing.

Building Inspection Section

The duties of this Section include:

- Undertaking systematic inspection of projects implemented within the Emirate to ensure that they are carried out in accordance with the approved building licences as well as enforcing the rules and regulations pertaining to them, to ensure the projects abide by the related laws and legislation.
- Monitoring the labourers within the building industry to ensure they have valid permits.
- Issuing of Completion of Building Certificates.

Building Regulations and Licencing Section

The duties of this Section include:

- Issuing of Building permits after an architectural and structural audit of the plans.
- Ensuring that the Municipality's Organisational Unit requirements and those of the Local Offices, private establishments and public establishments within the Emirate are enforced.

Building and Housing Department and e-government

The Building and Housing Department has used computers to issue building licences and papers related to insurance deposits since 1991. The use of computers was gradually expanded to include the issue of Certificates of Completion, Building Inspection Committee procedures and statistical work relating to activities carried out by the Sections within the Department.

By 2000, the Building and Housing Department had made major progress in its use of computer technology, this being regularly updated, and had extended its use to cover the three sections within the department: Building Inspection, Building Licencing and Government Housing.

In 2000, the Contractors and Consultants Qualifying Office within the Building and Housing Department began computerised testing of all the required technical staff needed by contracting companies and engineering consultancy offices.

The Office also updated all the documentation relating to contractors and consultants on computer to be used as a reference for applicants who do not have access to these technical services. Files are updated without referral to hard copies, thereby reducing the percentage of referral to hard-copy files by 15% by the end of 2000.

In order to promote knowledge of building laws, regulations and contracts within the industry, and more widely, as appropriate, the Building and Housing Department in 2001 issued Circular No. 110 to all consultancy offices and contracting companies in the Emirate of Dubai giving details of all the services offered through the Internet.

TABLE 2: Employee details within the Building and Housing Department in 2002

Item	Job Title	Number of employees within the Department & its Sections					Total
		Department Office	Building Inspection Section	Building Licence Section	Government Housing Section	Orientation Office	
1	Department Director	1	-	-	-	-	1
2	Assistant Department Director	1	-	-	-	-	1
3	Head of Section	-	1	1	1	-	3
4	Head of Unit	-	3	3	4	-	10
5	Head of Unit	-	-	-	-	1	1
6	Specialist	-	-	1	-	-	1
7	Architect	-	1	7	7	2	17
8	Civil Engineer	-	6	5	2	-	13
9	Services and Safety Engineer	-	3	-	9	-	12
10	Other Specialities	-	1	4	1	-	6
11	Follow-up Engineer	1	-	-	-	-	1
12	Trainee Engineer	-	2	3	-	-	5
13	Assistant Engineer	-	-	1	1	-	2
14	System Analyst	1	-	-	-	-	1
15	Technical Coordinator	-	1	-	-	-	1
16	Social Researcher	-	-	-	2	-	2
17	Administrative Officer	1	-	-	-	-	1
18	Assistant Administrative Officer	-	2	-	3	-	5
19	Inspector	-	39	7	9	-	55
20	Trainee Inspector	-	5	-	-	-	5
21	Draughtsman	-	1	7	8	-	16
22	Secretary	2	1	1	1	-	5
23	Administrative Support (Clerk) & Typist	1	10	14	9	1	35
24	Driver	-	7	-	2	-	9
25	Technical Labourer	-	2	-	1	-	3
26	Labourer	-	8	-	-	-	8
27	Messenger	1	2	2	4	1	10
	Total	9	95	56	64	5	229

TABLE 3 : The number of employees in the Building and Housing Department, 1985 – 2002

Year	Number of Emiratis	Number of Expatriates	Total
1985	12	83	95
1986	15	88	103
1987	15	93	108
1988	20	93	113
1989	22	109	131
1990	24	108	132
1991	28	108	136
1992	30	104	134
1993	34	106	140
1994	35	104	139
1995	36	105	141
1996	40	111	151
1997	43	120	163
1998	46	122	168
1999	49	136	185
2000	56	146	202
2001	62	152	214
2002	78	151	229

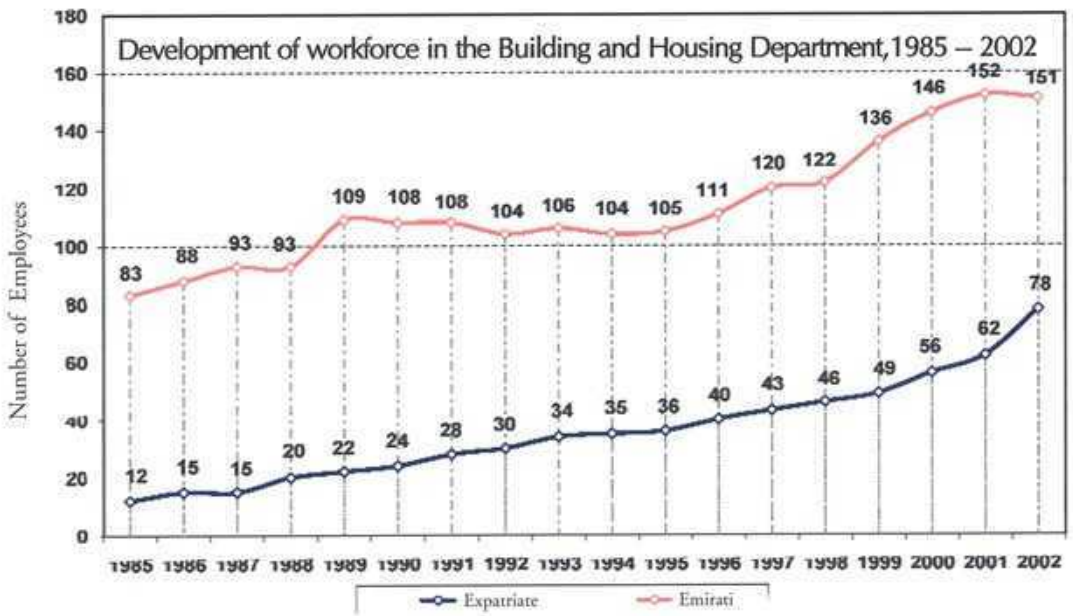


TABLE 4: Total expenditure and revenues for the Building and Housing Department including projects, 1988 – 2002

Year	Expenditure (in dirhams)	Revenue (in dirhams)
1988	5,656,265.00	1,404,045.00
1989	6,427,951.00	2,320,087.00
1990	13,343,611.00	3,007,615.00
1991	11,561,865.00	3,736,105.00
1992	9,126,583.00	6,237,340.00
1993	9,834,149.00	8,567,921.00
1994	23,376,911.00	13,056,459.00
1995	20,884,033.00	9,990,490.00
1996	23,464,747.00	12,096,556.00
1997	25,571,257.00	14,927,210.50
1998	66,031,554.96	17,865,667.50
1999	118,737,462.38	15,804,236.00
2000	124,903,823.37	14,921,659.35
2001	101,921,364.89	17,601,616.06
2002	97,335,854.00	22,392,810.00
Total	658,177,432.00	163,929,817.30

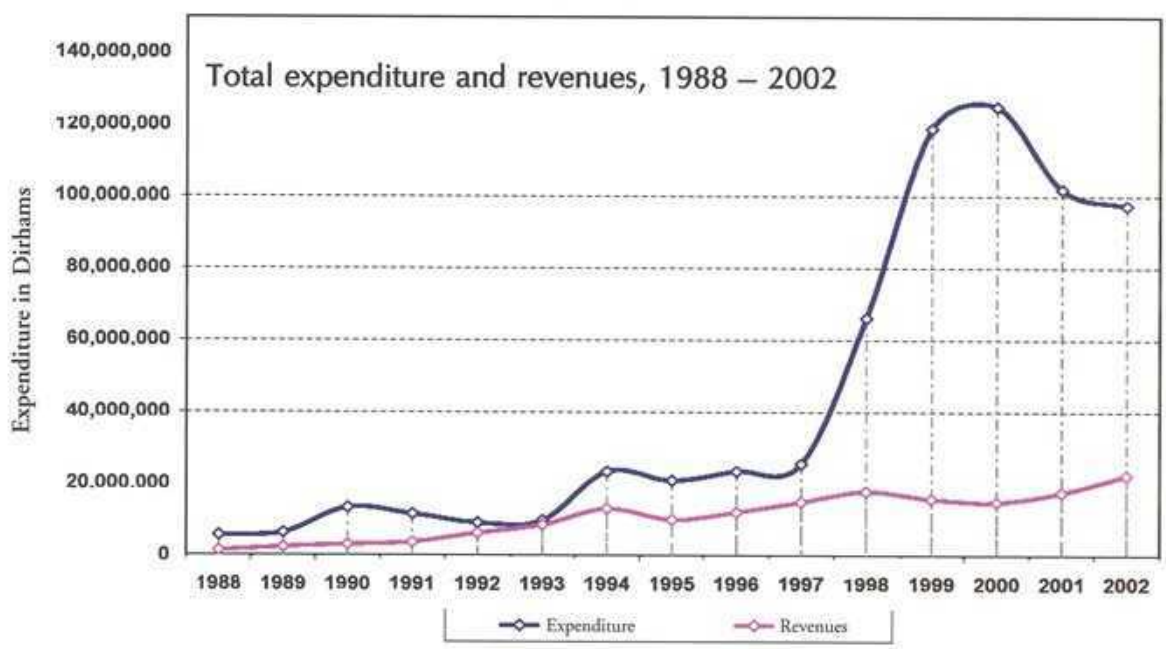


TABLE 5: Total Revenues for the Building and Housing Department, by Section, 1988 – 2002 (in dirhams)

Year	Total Revenue for Building & Housing - Administration	Total Revenue for Government Housing	Total Revenue for Building Inspection Section	Total Revenue for Building Regulations & Licence Section	Total Revenue for Building & Housing Department
1988	0	0	0	1,404,045	1,404,045
1989	0	0	0	2,320,087	2,320,087
1990	0	0	0	3,007,615	3,007,615
1991	0	0	134,383	3,601,722	3,736,105
1992	0	0	0	6,237,340	6,237,340
1993	0	0	239,221	8,328,700	8,567,921
1994	0	0	0	13,056,459	13,056,459
1995	133,547	0	1,210,829	8,646,114	9,990,490
1996	103,027	0	2,224,865	9,768,664	12,096,556
1997	2,300	0	1,591,962	13,332,949	14,927,211
1998	525,835	12,500	1,983,469	15,343,863	17,865,668
1999	577,995	32,900	1,829,339	13,364,002	15,804,236
2000	399,660	38,800	2,421,843	12,061,357	14,921,659
2001	459,580	162,699	3,114,698	13,864,639	17,601,616
2002	494,660	317,220	3,751,401	17,829,530	22,392,811
Total	2,696,604	564,119	18,502,009	142,167,085	163,929,818

Total revenues for the Building and Housing Department, by Section, 1988 – 2002

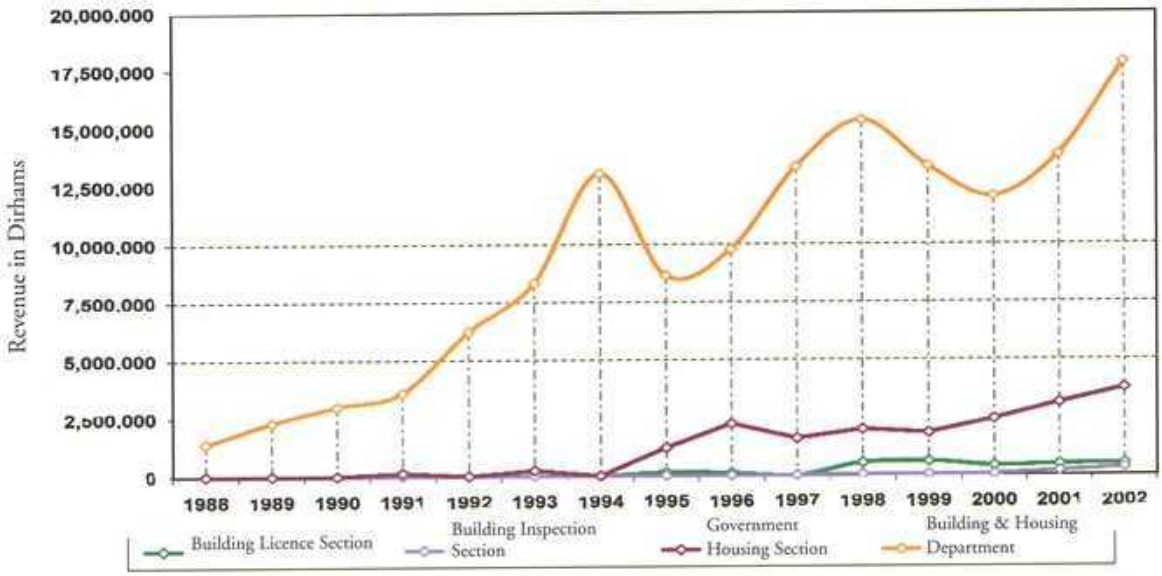


TABLE 6: Total Expenditure for the Building and Housing Department, by Section, 1988 – 2002 (in dirhams)

Year	Building & Housing - Administration	Government Housing Section	Building Inspection Section	Building Regulations & Licence Section
1988	5,036,987	619,278	0	0
1989	5,846,595	581,356	0	0
1990	13,343,611	0	0	0
1991	1,015,243	3,187,176	4,244,364	0
1992	880,876	3,157,099	4,242,232	0
1993	1,024,809	3,575,347	4,948,639	0
1994	810,039	3,529,889	5,021,888	1,028,742
1995	1,075,056	3,557,557	4,422,675	2,339,033
1996	779,811	3,706,465	6,157,415	2,899,986
1997	989,890	4,075,350	6,437,481	2,882,829
1998	1,213,318	51,913,255	7,199,544	2,895,238
1999	1,207,401	51,754,383	6,778,497	2,847,165
2000	1,660,524	53,272,525	7,934,554	3,414,163
2001	2,146,650	57,126,906	9,001,484	4,235,612
2002	2,011,525	42,362,994	10,717,121	5,290,279
Total	39,042,336	282,419,580	77,105,894	27,833,048

Total expenditure for the Building and Housing Department, by Section, 1988 – 2002

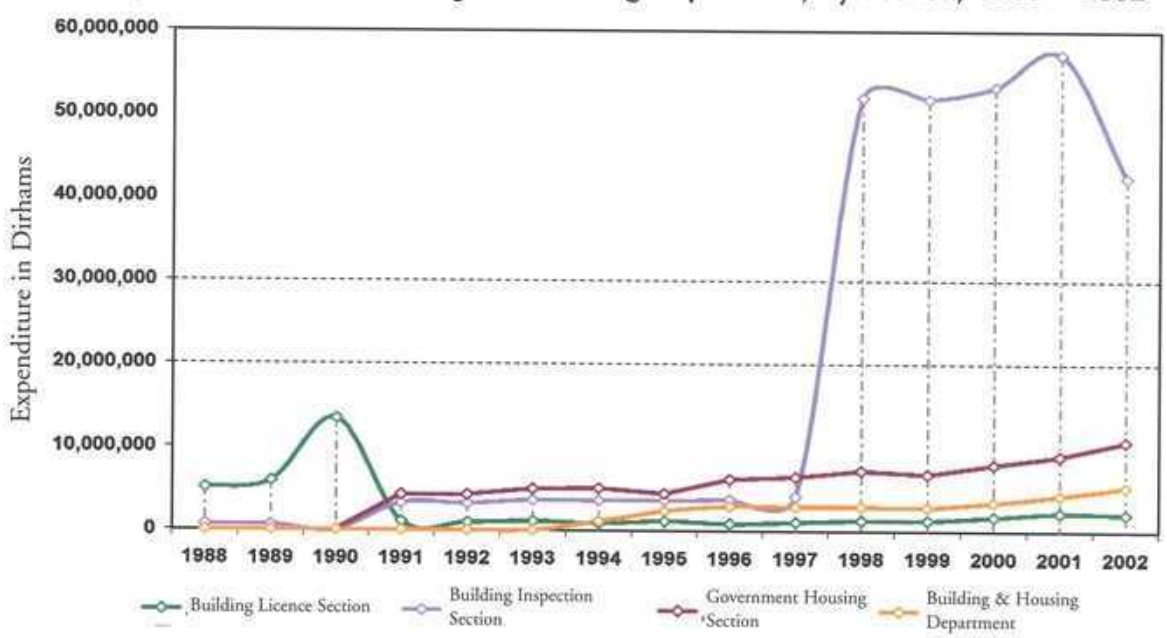


TABLE 7: Activities of the Building Inspection Section, 1977 – 2002

Year	Certificates of Completion	Deposits	Decoration & Annexes Licences	Disputes	Structural Audits
1977	850	800	900	50	1,000
1978	600	1,135	950	40	889
1979	634	117	736	75	792
1980	536	1,539	1,113	47	644
1981	700	1,000	2,200	70	710
1982	1,195	1,060	2,193	35	1,390
1983	1,484	1,669	2,355	102	2,841
1984	1,446	3,348	1,846	85	2,680
1985	982	1,604	1,738	90	2,732
1986	1,119	1,875	1,978	65	2,569
1987	947	1,950	2,200	50	2,637
1988	829	2,124	3,008	60	2,957
1989	896	1,587	2,930	107	6,531
1990	848	1,624	1,574	90	6,468
1991	817	1,963	2,031	108	5,168
1992	661	2,082	2,015	72	5,943
1993	760	2,027	1,487	93	7,986
1994*	1,017	2,051	1,182	113	10,342
1995	1,226	2,045	1,067	110	10,293
1996	1,169	2,184	848	65	7,971
1997	2,936	2,093	3,617	74	9,606
1998	1,683	3,097	4,859	111	11,208
1999	1,818	3,345	3,479	84	11,985
2000	1,919	3,530	4,003	108	14,124
2001	2,497	2,621	3,358	96	13,038
2002	2,259	3,660	4,336	155	15,621
TOTAL	31,828	52,130	58,003	2,155	158,125

* The Building Licence Section became responsible for issuing Decoration and Annexes Licences in 1994.

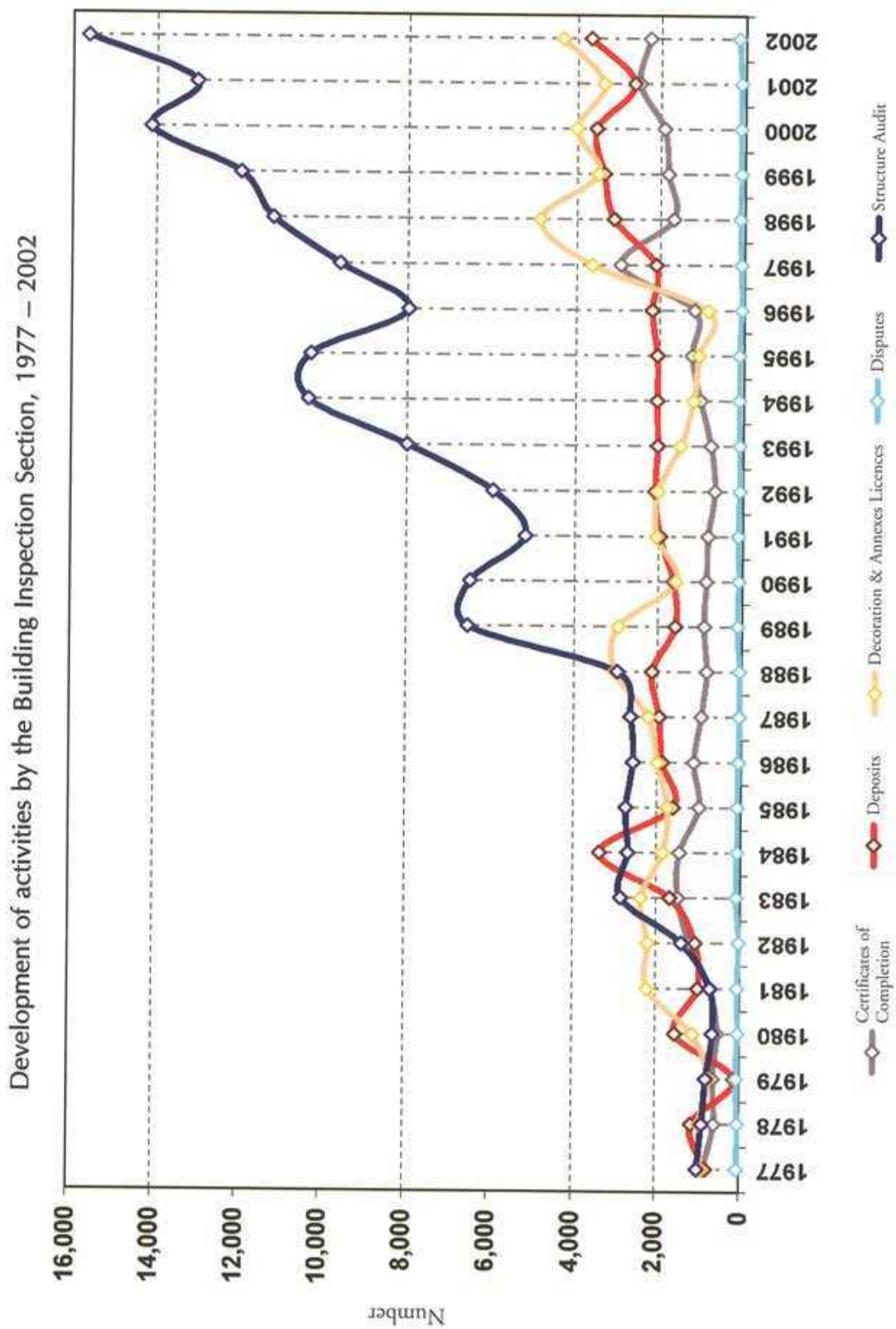
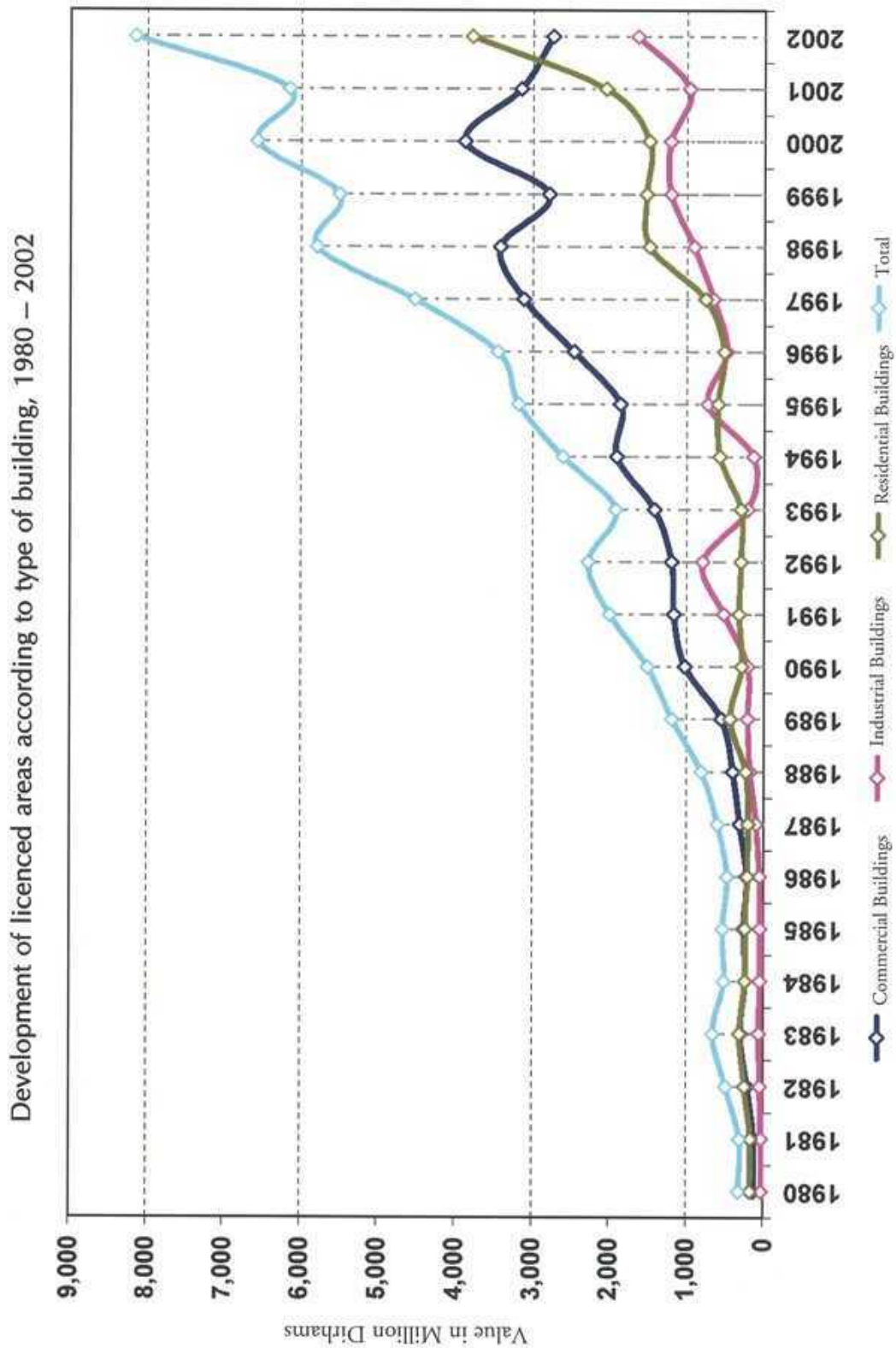

Development of activities by the Building Inspection Section, 1977 – 2002
Number
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
Certificates of Completion
Deposits
Decoration & Annexes Licences
Disputes
Structure Audit

TABLE 8: Activities of the Building Regulations and Licence Section, 1980 – 2002

Year	Value in Million Dirhams			Value in Millions of Dirhams	Development of areas in square feet			Total area in square feet
	Investment Buildings	Industrial Buildings	Residential Buildings		Investment Buildings	Industrial Buildings	Residential Buildings	
1980	127	25	165	317	508,746	101,749	661,370	1,271,865
1981	122	24	159	305	467,619	93,524	607,905	1,169,048
1982	204	39	242	485	812,590	154,779	967,369	1,934,738
1983	292	52	305	650	1,124,354	199,885	1,174,325	2,498,565
1984	233	41	233	507	897,447	156,078	897,447	1,950,971
1985	249	43	234	526	906,397	173,565	848,542	1,928,504
1986	216	50	202	468	795,372	190,198	743,500	1,729,070
1987	304	92	197	593	1,159,071	363,630	749,987	2,272,688
1988	394	175	229	799	1,803,268	793,438	1,009,830	3,606,536
1989	547	205	433	1,184	3,339,816	1,071,262	1,890,462	6,301,539
1990	1,017	204	281	1,503	4,839,849	1,011,312	1,372,495	7,223,656
1991	1,161	516	318	1,994	5,864,735	2,629,019	1,617,858	10,111,611
1992	1,191	787	293	2,271	8,656,154	5,826,258	2,164,039	16,646,450
1993	1,413	203	296	1,913	17,856,487	2,690,703	3,913,751	24,460,941
1994	1,900	132	569	2,601	26,384,832	4,656,147	7,760,245	38,801,223
1995	1,856	727	595	3,178	15,824,177	6,275,105	5,183,782	27,283,064
1996	2,457	476	515	3,448	19,922,075	3,928,297	4,208,889	28,059,261
1997	3,114	655	755	4,524	28,040,746	5,689,427	6,908,590	40,638,763
1998	3,415	902	1,478	5,795	27,316,887	6,829,222	11,382,036	45,528,146
1999	2,781	1,200	1,519	5,500	20,796,808	9,150,596	11,646,213	41,593,617
2000	3,880	1,208	1,482	6,570	20,875,462	6,262,639	7,654,336	34,792,437
2001	3,146	961	2,044	6,152	19,264,254	7,005,183	8,756,479	35,025,917
2002	2,737	1,635	3,780	8,152	16,791,741	11,934,503	16,224,633	44,950,877
Total	32.7 Billion	10.3 Billion	16.3 Billion	59.35 Billion	244.3 Million	77.2 Million	98.3 Million	419.8 Million


Development of licenced areas according to type of building, 1980 – 2002
Value in Million Dirhams
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
Commercial Buildings
Industrial Buildings
Residential Buildings
Total

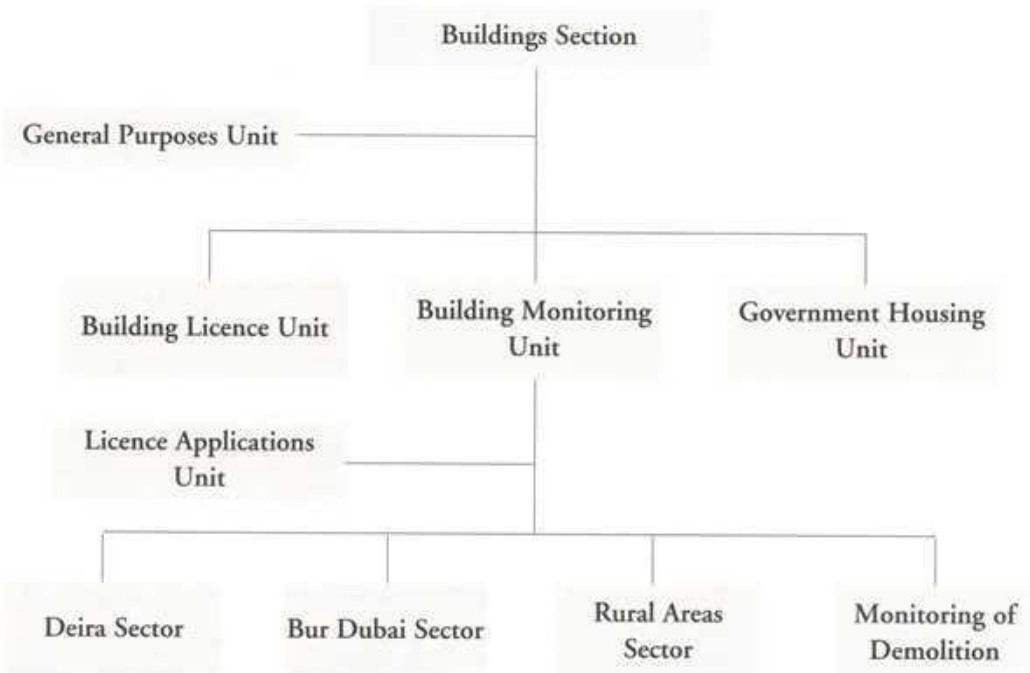
Government Housing Section

During the nineteen seventies, the Government of Dubai attached considerable priority to a wide-ranging policy designed to help UAE citizens of limited incomes, to help them achieve their aspirations for advancement. Part of this policy was a programme to provide them with suitable housing.

This was carried out through the distribution of plots of land, public housing and financial aid to facilitate the construction of new buildings and the extending of existing ones. Until 1980, this programme was administered through the Office of H.H. The Ruler of Dubai, which was responsible not only for building homes for the public, but also for providing all necessary services such as roads, sewage and lighting.

In that year, however, an order was issued to establish a Government Housing Section within the framework of the Dubai Municipality. Initially, the Administration of the new section was handled by the Execution Section of the Municipality Council's Administration, then being transferred to the Buildings Section at the beginning of 1983, as shown in Figure 7, below:

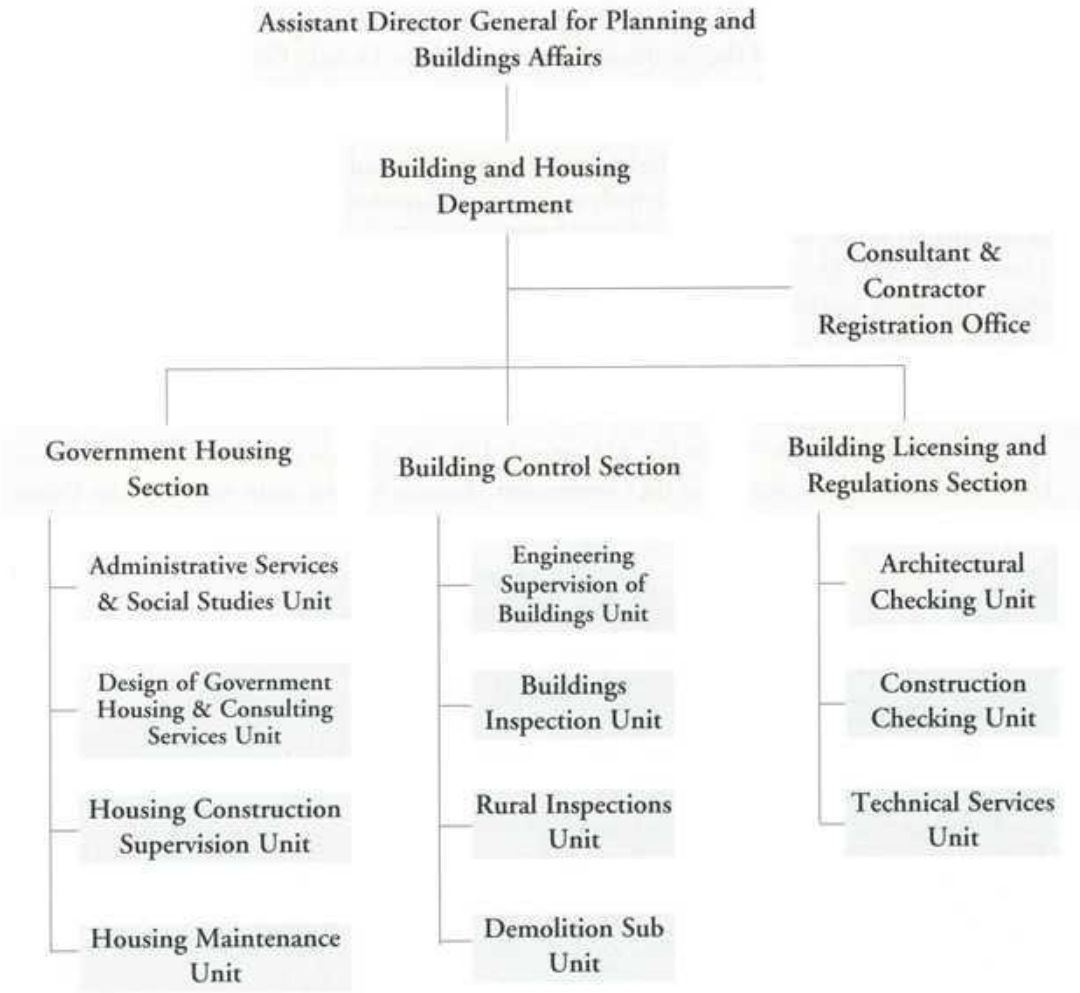
Illustration No. 7: Organisation Chart for the Buildings Section in 1983



Development of the Organisation Chart:

In order to take account of changes in the various duties and responsibilities of the individual sections, Units and units for Building and Housing Department since 1994, Administrative Decision No 288 in 1999 laid down the framework for a new organisation chart for the Building and Housing Department as shown in Figure No.8.

Illustration No. 8: Organisation Chart for the Building and Housing Administration 1999



Development of Government Housing services

After the Government Housing Section was created within Dubai Municipality in 1980, it assumed the task, from 1980-1083, of overseeing the distribution of grants made by the General Purposes Committee of the Municipality Council. Most of these were to finance the extension of popular housing, and were for amounts ranging between Dh 100,000 and Dh 150,000.

In 1983, the Municipality decided to provide further assistance through the offering of free engineering and architectural assistance and Administrative Order no. 86 was issued, appointing an engineer as Deputy Head of Buildings Unit for Popular Housing and Extensions and placing this person in charge of designing and supervising construction of popular homes and extensions. This arrangement proved effective, as the Unit was there-

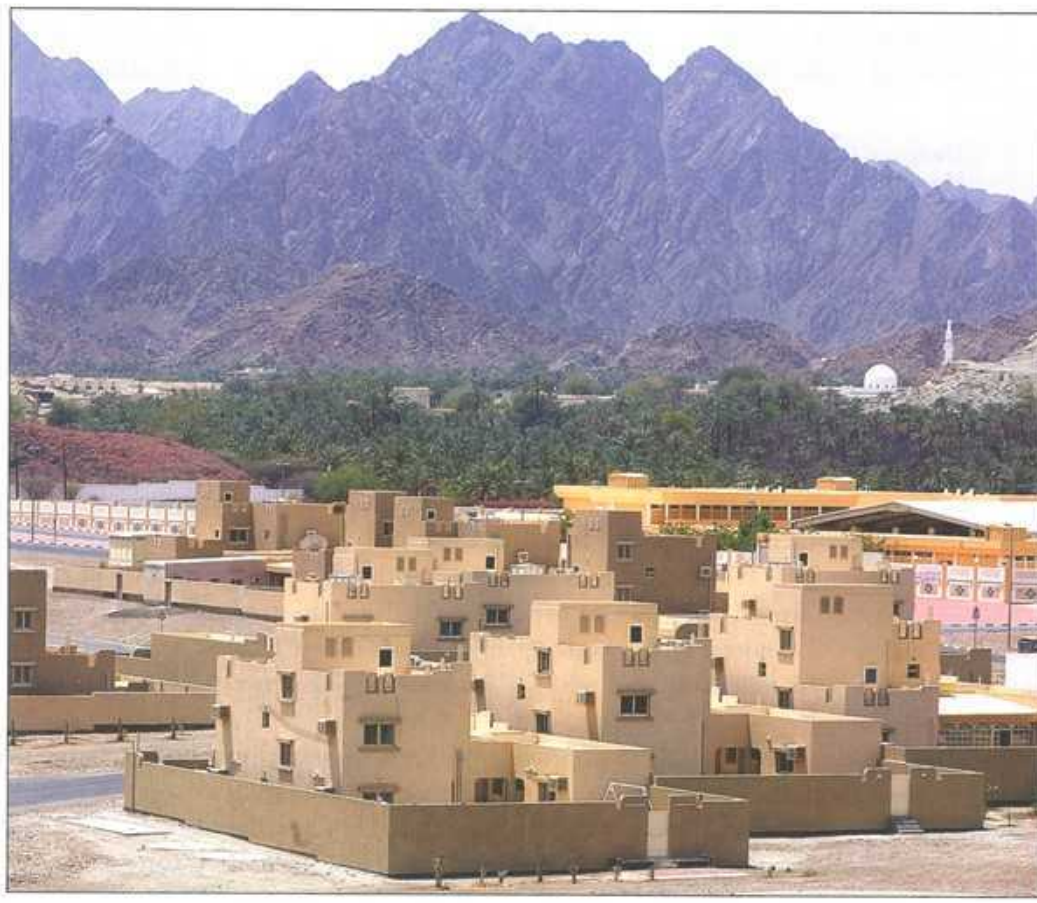
by clearly identified as being responsible for implementation of Government policies on housing in general, as well as its development and improvement.

In accordance with instructions from Government to devise the best possible housing policy for UAE citizens in Dubai, the Municipality first decided to focus on the development and improvement of the traditional housing style in Dubai. This was based on houses with relative narrow buildings around an internal courtyard, to ensure privacy. Covering an area of 2,500 square feet (232 square metres), and providing all necessary internal facilities, this improved design continued to be used until 1984.

Services performed by the Municipality were also extended to the provision to citizens, in designated areas, of plots of land of 10,000 square feet (929 square metres) in size. These plots were levelled and connected to the necessary utilities and services, following which financial assistance of around Dh 200,000 per person was provided. This programme was carried out during the years 1981-1984.

In 1984, Administrative Order 474 was issued, specifying the responsibilities of the Government Housing and Extensions Unit.

In 1988, Administrative Order No 223 amended the Organisation Chart for the Buildings Unit. This involved the creation of the Government Housing Section, with three separate Units:



Popular houses in the inland village of Hatta



Architect's design for a government style house

- One responsible for implementing the tasks of the Government Houses Unit.
- One for Design of Government Housing and Consulting Services.
- One for Administrative Services.

The main duties of the Section were defined as follows:

1) To accept applications from citizens related to housing, such as for popular houses, and empty residential land or for grants to assist in building or for maintenance, extensions and replacement, in addition to the preparation of social studies and surveys.

2) To prepare architectural and construction designs suitable for homes in accordance with the citizens' wishes, their needs and modern trends, taking into account local traditions and cultural requirements, and to provide other assistance such as provision of consultancy services, technical services and agreements with contractors, up to the date of delivery of the completed building to its owner.

3) To implement and oversee the construction of homes and other buildings, under the direct supervision of the Government Housing Section, and to supervise the construction of new residential compounds in both urban and rural areas, within the framework of an overall plan to upgrade the housing stock of the Emirate and to provide new dwellings to deserving citizens.

In 1989, the area of land provided for housing grants was increased to fifteen thousand square feet (1,393 square metres) and the ceiling for financial assistance was also raised, to Dh 250,000. At the time, this amount was sufficient for the construction of a three bedroom house with an extension (consisting of a sitting room, kitchen and bathroom) in addition to a perimeter wall. Such a size was appropriate for the needs of a medium-size family consisting of five to seven peo-

ple. Allocation of new grants was suspended at the beginning of 1990 but the implementation of projects agreed prior to that date continues today.

Initially, the Government of Dubai provided cash grants to citizens who had been given plots of land. In 1993, this system was replaced by interest-free loans, of up to Dh 500,000, repayable over twenty-five years, these loans being provided through a special financial programme for Government-funded private housing.

In parallel, another programme continued of building homes for those citizens unable to take on the task of building their own, with Government assuming the responsibility for maintenance and, where required, the building of extensions. Such homes (small villas) are generally of three or four rooms, built on plots of an area of between 3,000 ñ 5,000 square feet.

The Government Housing Section manages the Programme for Financing Private Homes, producing technical reports relating to the state of homes belonging to applicants for loans. During the period from 1993 to 2002, the number of reports produced annually was as follows:

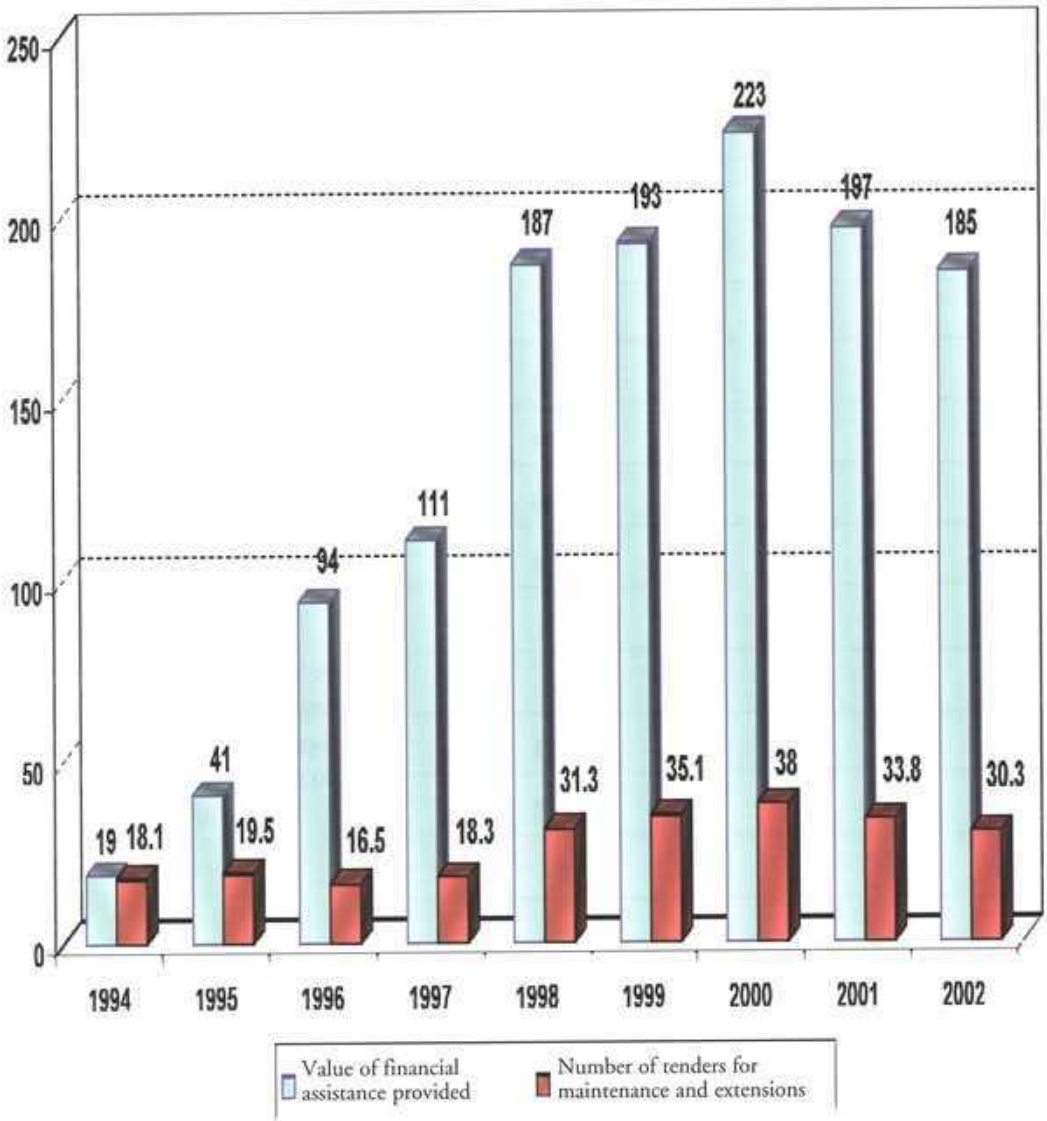
On 14th February 1996, the late H.H. Sheikh Maktoum bin Rashid Al Maktoum, Ruler of Dubai, issued an Order to allocate to the Municipality the responsibility of receiving all requests

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. of reports	1048	104	354	206	140	150	40	146	18	63

Table No.1. Details of the financial assistance provided for maintenance and simple extensions from 1994 until the end of 2002.

Year	Number of occasions on which assistance was provided for maintenance & extensions	Value of financial assistance provided (in dirhams)
1994	19	18,128,000
1995	4	19,525,000
1996	94	16,542,000
1997	111	18,338,000
1998	187	31,333,000
1999	193	35,121,000
2000	223	37,967,000
2001	197	33,744,000
2002	185	30,350,000
TOTAL	1,250	241,048,000

Development of financial assistance for maintenance and extensions between 1994 up to end of 2002



for maintenance and extensions for these houses listed in the annual Municipality budget, setting a maximum amount of Dh 200,000 per house, whether for maintenance, an extension or both.. The Director General of the Municipality was given authority to approve additional sums for exceptional cases.

This was followed by Administrative Order No. 308, issued by the Director General of the Municipality, to lay down the conditions and requirements relating to the grants for home maintenance.

Table No. 2. Occasions on which financial assistance was provided for large-scale extensions between 1981 – 2002.

Year	Number of Projects	Comments
1981	137	The total cost of large-scale extension projects carried out between 1981 and 2002 amounted to Dh 719 million.
1982	246	
1983	231	
1984	340	
1985	357	
1986	362	
1987	403	
1988	299	
1989	168	
1990	84	
1991	67	
1992	141	
1993	172	
1994	81	
1995	82	
1996	30	
1997	24	
1998	33	
1999	20	
2000	14	
2001	8	
2002	2	
TOTAL	3,301	

Table No 3: Major Government Housing projects

Serial No.	Project	Project Cost in Millions of Dirhams	Stage of implementation
1	24 homes in Hatta	16.9	Completed in 1985
2	88 homes in Hatta	50.4	Completed in 1999
3	20 homes in Al Quoz	6.8	Completed in 1999
4	20 homes in Qusais	6.8	Completed in 1999
5	39 homes in Zabeel	41.0	Completed in 2000
6	26 home in Jumaira	28.2	Completed in 2000
7	50 homes in Al Quoz	15.8	Completed in 2000
8	8 homes in Hatta	5.719	Completed in 2000
9	30 homes in Zabeel	15.5	Completed in 2000
10	45 homes in Hatta	23.7	Completed in 2001
11	12 homes in Zabeel	12.45	Completed in 2002
12	8 homes in Zabeel	8.722	Completion due in 2003
13	50 homes in Oud Al-Matina	18.0	Completion due in 2003
14	67 homes in Hatta	30.29	Completion due in 2003
15	62 homes in Hatta	28.5	Completion due in 2003
16	70 homes in Hatta	33.97	Completion due in 2003
17	23 homes in Lihbab	17.00	Completion due in 2003
TOTAL	660 Homes	359.751 Million	

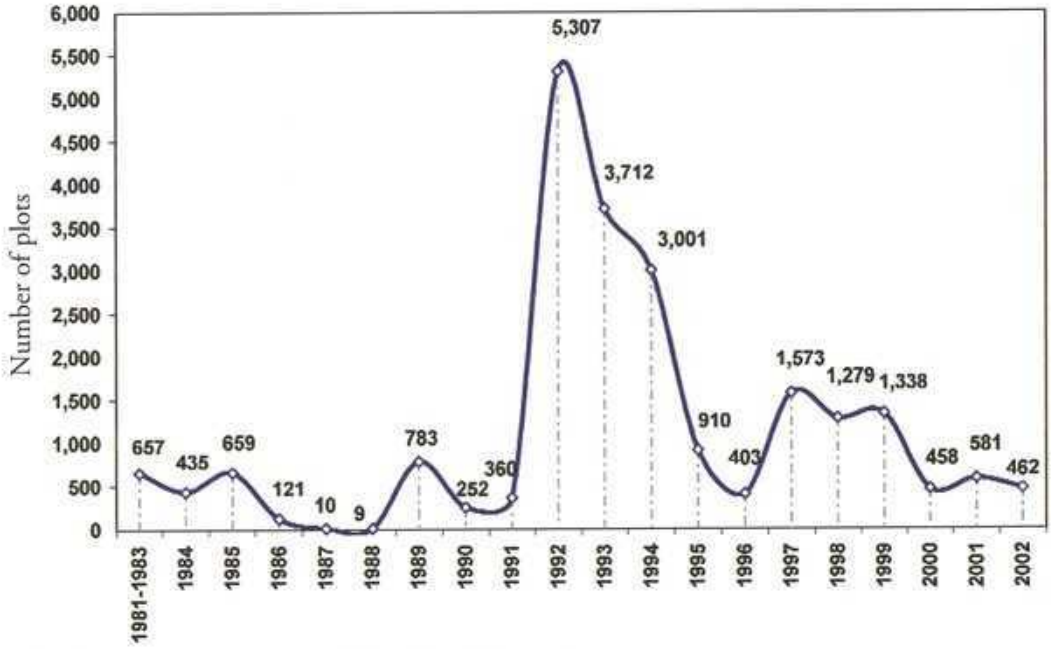
TOTAL for tables 1, 2 & 3 Dh 1,102,855,800

* value of projects implemented under the sole supervision of the Municipality.

Table 4: Number of residential plots of land granted, 1981 – 2002.

Years	Number of plots granted
1981 – 1983	657
1984	435
1985	659
1986	121
1987	10
1988	9
1989	783
1990	252
1991	360
1992	5,307
1993	3,712
1994	3,001
1995	910
1996	403
1997	1,573
1998	1,279
1999	1,338
2000	458
2001	581
2002	462
TOTAL	22,315

Number of plots granted between 1981 – 2002



Award for Government Housing Section

In 2000, the efforts of the Government Housing Section and its various activities relating to the building of Government housing projects were acknowledged with the award of a Certificate of Appreciation from the Council of Arab Ministers of Housing and Construction for an 88-house project at Hatta.


بسم الله الرحمن الرحيم

مجلس وزراء الاسكان والتعمير العرب

شهادة تقديرية

قرر مجلس وزراء الإسكان والتعمير العرب

منح دولة الإمارات العربية المتحدة

جائزة المشروع السكني المنفذ بالمنطقة بالشارقة 88 مسكن بمركز حتا بإمارة دبي

لعام 2000

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الدورة : 18

الأمين العام لجامعة الدول العربية



Examples of covers from booklets for government housing designs

Publications

In order to explain the role of the Government Housing Section and to help it to establish a better relationship with citizens benefiting from its services, as well as to enhance their understanding of the Section's work, a number of booklets have been issued.

The first, issued in 1989, presented various house designs offered to the public as well as a brief description of architectural functions and of how to choose what is suitable. The procedures relating to applications to the programme were also explained.

In 1994, another booklet included a series of designs classified according to the areas in which they could be built, so as to simplify matters for citizens of low income and their families. This booklet also contained information to help them in dealing with other parties, such as contractors and others, and to help them to convey their ideas and to specify their requirements in a clear manner.

In 1999, a third booklet was issued, which contained a variety of designs and ideas which are easy to implement, this being intended to help citizens to submit their ideas to firms of engineering consultants so that the necessary drawings can be prepared for implementation, the issuing of the necessary licences and for the supervision of the process of implementation.

Establishment & Development of the Personnel Department

Over the years since it was established, the growth of the Municipality and its various functions has led to the frequent introduction of new administrative units within the framework of the Organisation Chart. Associated with this has been a continual increase in the number of employees, requiring, at an early stage, the establishment of a Personnel Section, to handle employee affairs.

At the beginning, the section carried out its work manually, maintaining individual files relating to each employee. The functions of the section were the hiring of new employees, including manual labourers, termination, housing, procedures related to contracts, promotions and holidays, the handling of any required disciplinary action and certificates, the handling of affairs relating to manual labourers working in the health, agriculture and engineering sectors, the carrying out of investigations, where necessary. Other functions included the handling of external correspondence and audit.

It soon became apparent that there was a need for a formal structure to deal with personnel affairs and work began on the drafting of internal regulations covering issues such as holidays, working hours and disciplinary action. These were then amended, as appropriate, to take account of any changes within the Municipality that led to an increase in activities. Prior to 1973, few specific job titles had been created, and there was little in the way of a grading structure. After 1973, however, attention began to be paid increasingly to such topics.

In the mid-1970s, the Municipality's Organisation Chart was amended with the formal establishment of a Section to carry out duties related to personnel affairs. Its task are shown in Chart No. 1.

Chart No. 1. Organisation Chart for Personnel Section, 1975 – 1985

Director-General

Head of Personnel Section

Employees carrying out duties relating to personnel affairs (holidays, salaries, end of service benefits and employment procedures)

Further development continued to take place within the Administration of the Municipality as a whole, including increases in personnel, and a revision of the structure relating to personnel affairs was required. On 25th October 1986, therefore, Administrative Directive No 286 was issued, providing for an initial review of the administrative Units in different parts of the Municipality. This was implemented in two stages.

- First, employees were classified according to job type, with those carrying out similar work being assigned to Units within each section that were appropriate. This was the beginning of the introduction of Units in the Municipality.

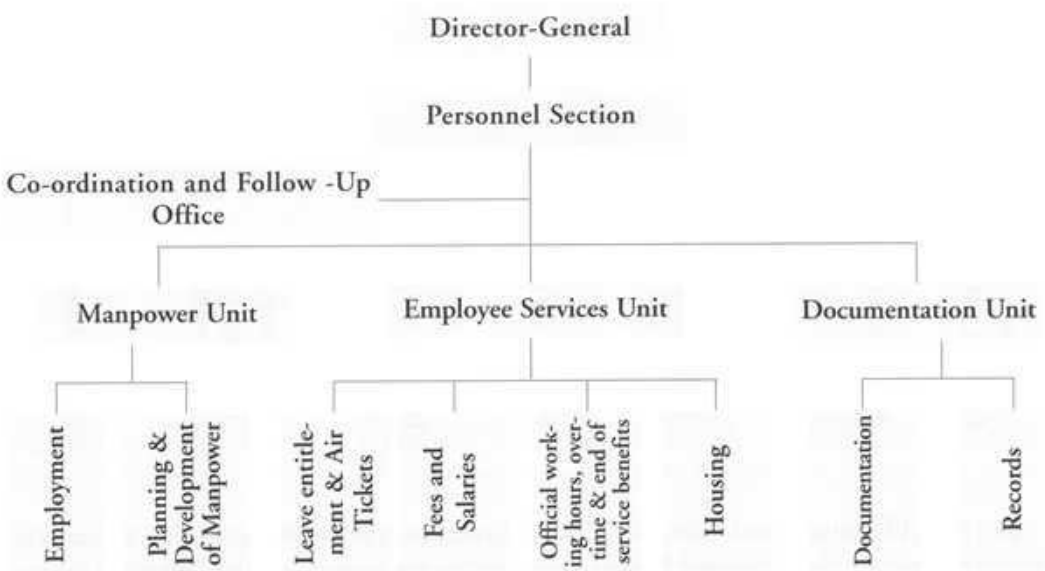
- Following completion of this task, the existing administrative structures were amended, while new activities such as training and organised methods of work were introduced. To cope with this, three Units were created within the Personnel Section.

  – These were the Manpower Unit, handling both employment and planning.
  – The Employee Services Unit, divided into four groups handling holidays and air tickets, fees and salaries, working hours and overtime and, finally, housing.
  – The Documents and Records Unit.

In 1986, a major step forward was made in terms of the use of computer technology and the introduction of automated procedures. First, a database of employees and manual labourers was created. Work then began on procedures relating to end of service benefits, holiday entitlements and bonuses, this continuing until the end of the decade.

On 18th December 1988, Administrative Order No. 311 was issued, re-organising the Personnel Section to take account of the increased number of employees, to improve the quality of staff and to amend job titles, as appropriate. A special Centre was established to deal with enquiries from Municipality staff and to handle enquiries from the public or to provide help in completing applications. The revised structure is illustrated in Chart No. 2.

Chart No. 2. Organisation Chart for Personnel Section in 1988



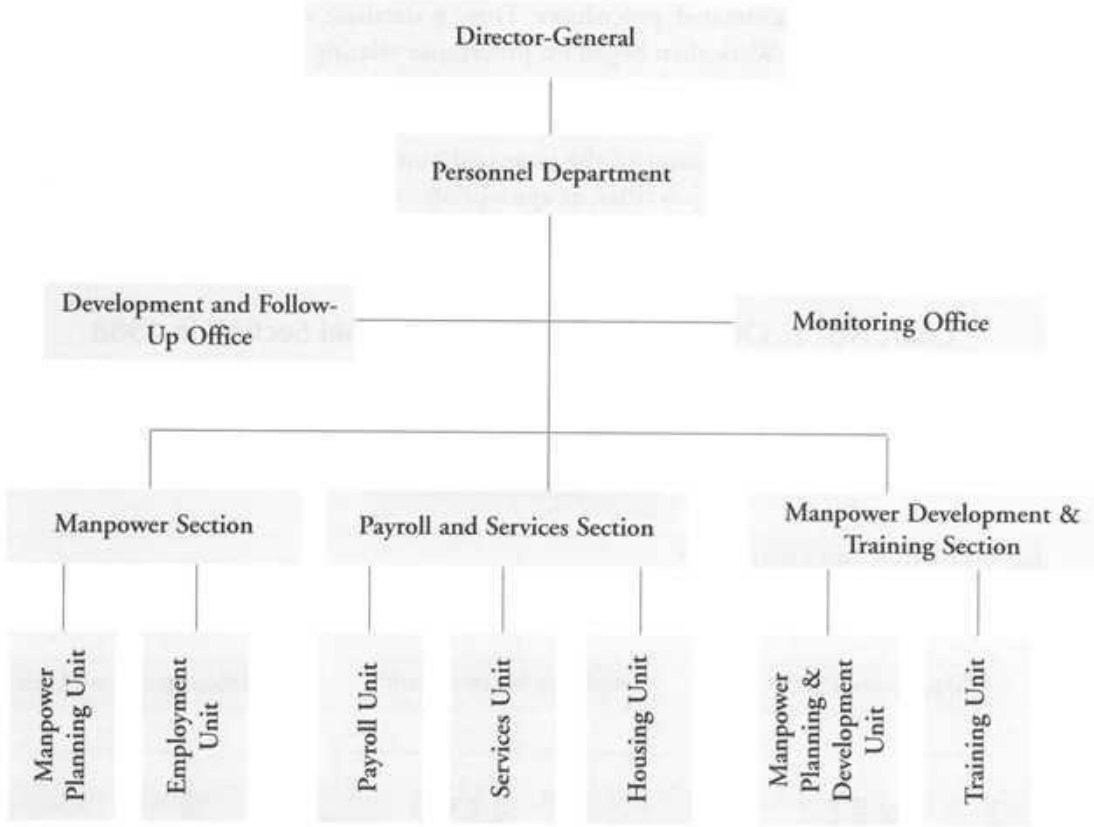
In 1988, work also began on the preparation of a proper job classification system, based on specialisations, and on allocating employees on the basis of their job titles and their specific job grades, of which a total of 14 were defined.

On 25th May 1991, Administrative Order No 147 amended the Organisation Chart to raise the Personnel Section to the level of a Department, under the direct supervision of the Director-General. Three subsidiary sections were established:

1– Manpower
2– Payroll and Services
3– Manpower Development and Training.

A Development and Follow-Up Office and a Monitoring Office were also created, as shown in Chart No. 3.

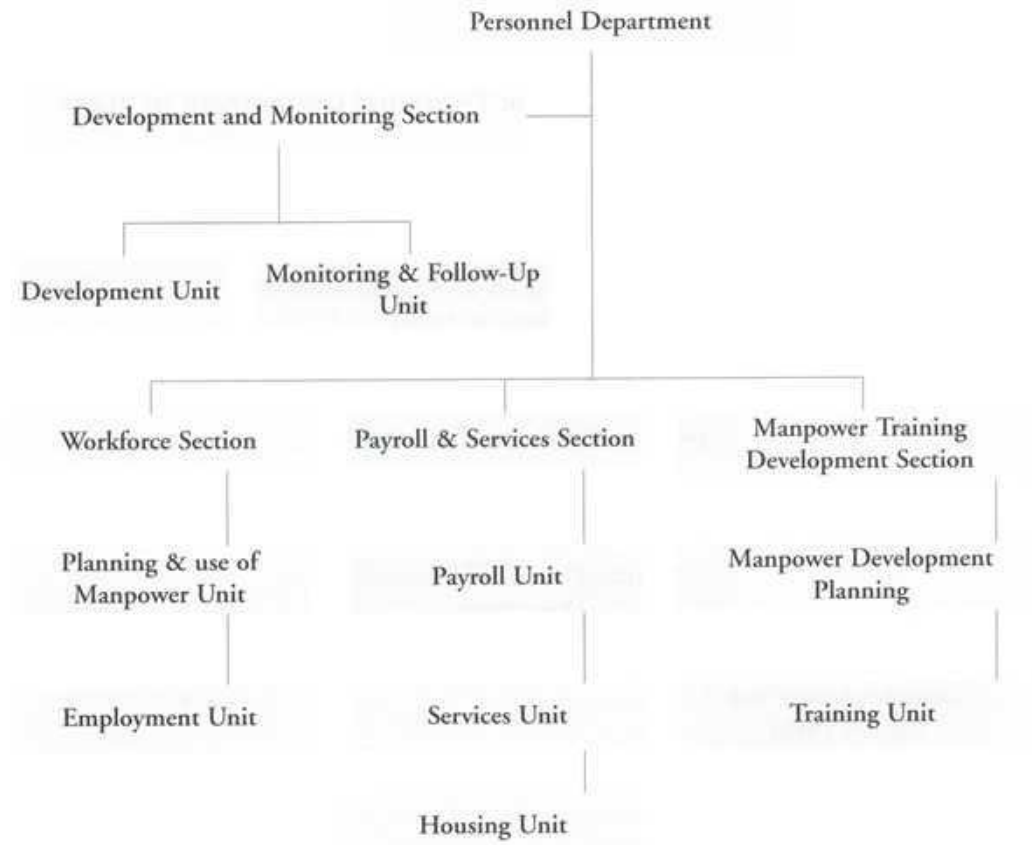
Chart No. 3. Organisation Chart for the Personnel Department in 1991



In 1992 Administrative Order No 273 was issued to approve the amended administrative structure for the Personnel Department and, in the same year, the Personnel System for employees working in local offices within the Emirate of Dubai was issued. This was followed by the issuing of executive regulations for Emirati employees appointed on the basis of work contracts.

In 1993, Administrative Order No. 215 was issued to amend Administrative Order No 273 for 1992, combining the duties of the Development and Follow Up Office and Audit Office into one Section, the Development and Monitoring Section, as illustrated in Chart No. 4.

Chart No. 4. Organisation Chart for the Personnel Department in 1993





A training course in progress

In 2000, Administrative Directive No. 261 for that year was issued to approve a further revision of the Organisation Chart for the Department, establishing four Sections, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for Personnel Department in 2000

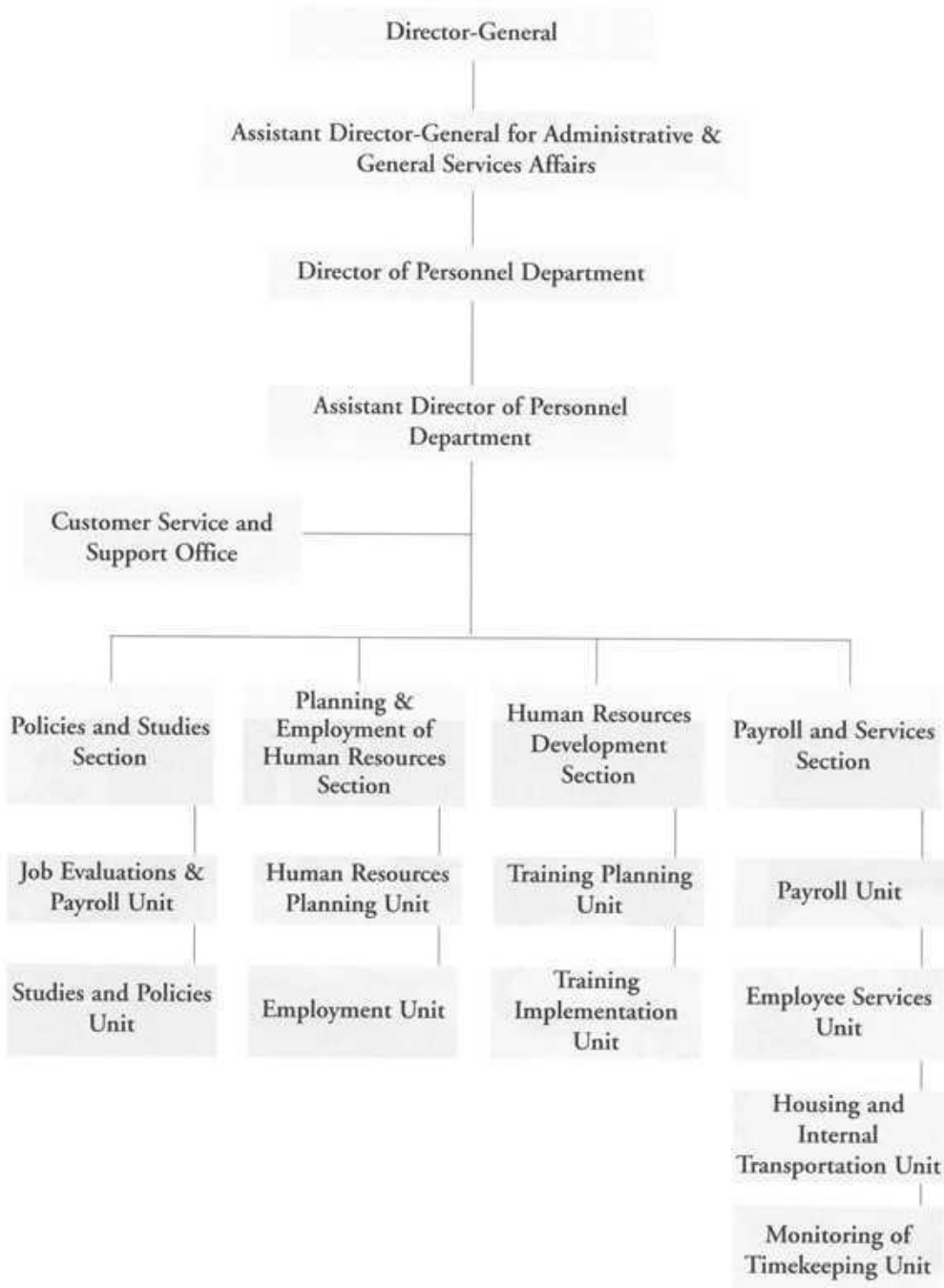


Chart No. 7 Organisation Employment Chart for the Personnel Department in 2001

Personnel Deptment

Director of Personnel Department	1
Assistant Director of Personnel Department	1
Legal Advisor	1
Secretary	2
Messenger	1

Customer Service and Support Office

Head of Customer Service and Support Office	1
Personnel Committee Reporter	1
Administrative Officer	1
Support Officer	1
Assistant Customer Service Officer	3
Administrative Support	2
Administrator for documentation of employment applications	1
Documentation Administrator	1
Archiving Administrator	2
Receipt of employment applications Administrator	1
Typist	1
Photocopier	1
Messenger	1

Planning and Employment of Human Resources Section

Head of Planning & Employment of Resources	1
Secretary	1
Workforce Planning Specialist	1
Assistant Administrator for incoming & outgoing correspondence	1
Administrative Support	1
Employee	1

Human Resources Planning Unit

Head of Human Resources Planning Unit	1
Administrative Officer	2
First Administrative Officer Planning	1
Planning Officer	1
Internal Procedures Officer	1
Human Resources Planning Officer	2
End of service Administrator	1

Employment Unit

Head of Employment Unit	1
Administrative Officer	1
Employment Officer	2
Administrative Officer	2
Employment Procedures Administrator	2
Assistant Administrative Assistant Advertising	1
Documentation of employment applications Administrator	1

Payroll and Services Section

Head of Payroll and Services Section	1
Secretary	1
First Administrative Support	1
Mail Administrator	1
Clerk	1
Heavy Vehicles Driver	1
Employee	1

Payroll Unit

Head of Payroll Unit	1
Administrative Officer end of service/retirement	1
Administrative Officer Contracts	1
Performance Evaluation Officer	1
Trainee Payroll Officer	1
Assistant Overtime Officer	1
Assistant end of service Officer	1
Support Administrator	3

Monitoring of Timekeeping Unit

Head of Timekeeping Unit	1
Timekeeping auditor	10

Employee Services Unit

Head of Services Unit	1
Employment Benefits Officer	1
Administrative Officer	1
Services Officer	1
Trainee Services Officer	1
Assistant Administrative Officer	2
First Administrator leave entitlement	1
Passports & Residence Administrator	2
Support Administrator	5

Housing Unit

Head of Housing Unit	1
Family Housing supervisor	1
Singles Housing Supervisor	1
Laborer Housing Supervisor	2
Data Input Clerk	1
Administrative Support	2
Housing Administrator	1
Mosque Imam	2
Messenger	1
Heavy Vehicles Driver	2
Light Vehicles Driver	1
Carpenter	1
Housing Labourer	14
Laborer	7

Human Resources Development Section

Head of Human Resources Development Section	1
Secretary	1
Development specialist	1
Support Administrator	1
Typist	1
Employee	1

Training Planning Unit

Head of Training Planning Unit	1
First Training Planning Officer	1
Trainee Training Planning Officer	1
Assistant Training Planning Officer	1
Trainee	

Training Implementation Unit

Head of Training Implementation Unit	1
First Training Officer	1
First Administrative Officer	1
Second Administrative Officer	1
Assistant Training Officer	1
Assistant Administrative Officer	1

Policies and Studies Section

Head of Policies and Studies Section	1
Personnel Affairs Specialist	1
Administrative Support	1
Employee	1

Job Evaluations and Payroll Unit

Head of Job Evaluations and Payroll Unit	1
Job Evaluation Specialist	1
Administrative Officer	1
First Job Analyst	1
Job Analyst	1
Administrative Officer for Salary Surveys	1
Administrative Support	1

Studies and Policies Unit

Head of Studies and Policies Unit	1
Workforce Planning Officer	1
Policies Administrative Officer	1
Administrative Support	1

The Main Duties and Responsibilities of the Personnel Department and its Affiliated Sections

The Personnel Department is responsible for the preparation, study and development of human resources within the Municipality, these tasks including planning, monitoring, training, employment, salaries, allowances, promotions, benefits and administration of employee housing.

Policies and Studies Section

The responsibilities of this Section include:

- Implementation and modernisation of policies, legislation and the Municipality's procedures as well as undertaking studies and research relating to human resources and the holding of the necessary seminars and workshops.
- Preparation of plans, annual work plans and the carrying out of studies and statistical surveys relating to work performance, salaries, benefits and compensations.
- Studying of all problems, issues, and obstructions that may affect the carrying out of work and making the necessary suggestions and recommendations.
- Preparation of studies for analysis and classification of jobs, updating existing job descriptions and preparing new ones for proposed new posts, carrying out this work in co-ordination with the relevant units of the organisation, as well as preparing descriptions of the Department's duties.

Human Resources Planning and Employment

The responsibilities of this Section include:

- Preparation, implementation and follow-up of human resources development plans for the short, medium and long term.
- Initiating the implementation of plans related to the development of employment in the Municipality, such as the Emiratisation programme.
- Efficient supervision of the preparation of the human resources budget and monitoring its implementation, once approved.
- Analysis and preparation of job descriptions and their evaluations.

Human Resources Development Unit

The responsibilities of this Unit include:

- Compiling a comprehensive plan to develop, train and employ human resources in the Municipality.
- Implementing the policy of Emiratisation through job development, training, scholarships, familiarisation programmes and the employment/work cycle as well as following up on performance and monitoring the turnover rate in human resources.
- Implementation of the Emiratisation plan through organisation of training courses, seminars, internal and external studies which will strengthen the skills of Municipality employees.
- Conducting studies to evaluate the effectiveness of training courses.
- Follow-up and co-ordination of summer work placement for school, university and college students within the Municipality's various administrative units.

Payroll and Services Section

The responsibilities of this Section include:

- Implementation of directives relating to employee salaries, allowances and benefits such as housing, transport and pensions and to ensure that rules, executive decisions and instructions issued are observed.
- Implementation of directives relating to promotions, transfers, salaries, allowances, benefits, renewal of employment contracts and disciplinary actions, pensions, end of service benefits and so on.
- Arranging for travel and air tickets, as appropriate, and handling matters relating to the residency visas and passports of employees, as well as related duties.
- Supervising working hours, checking attendance cards and attendance sheets, whether covering official working hours of hours worked as overtime.
- Following up of procedures for the annual appraisal of employees.
- Issuing of ID cards and work certificates.

Development of the Municipality workforce

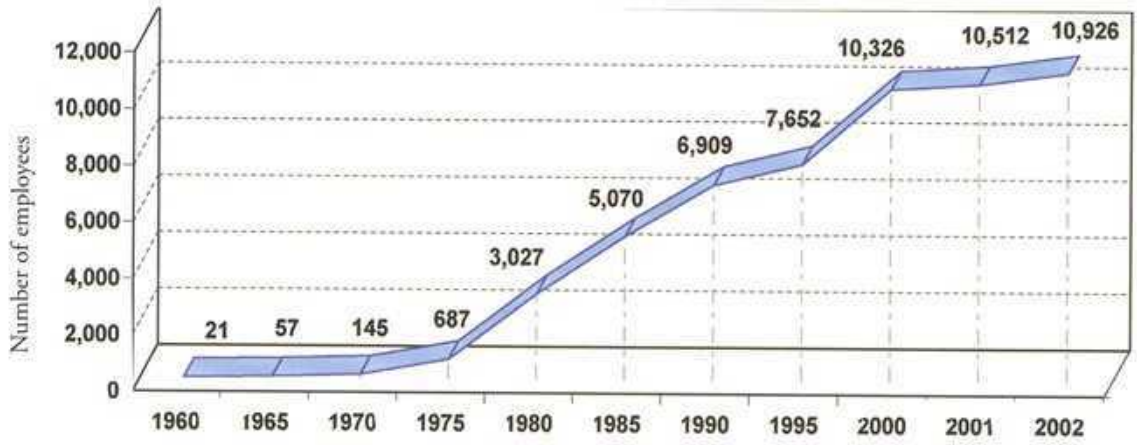
The table that follows shows the number of employees in the Municipality in the years from 1960-2001 and also shows the percentage of Emiratis. Excluding manual labourers, it is clear that in 1960 until 1985, there was a clear increase in the number of Emirati employees, (although the total workforce grew faster). From 1985 onwards, the percentage of Emiratis compared to the total number of employees rose from 8 per cent to 36 per cent in 2002.

Growth in employee numbers, 1960 – 2002

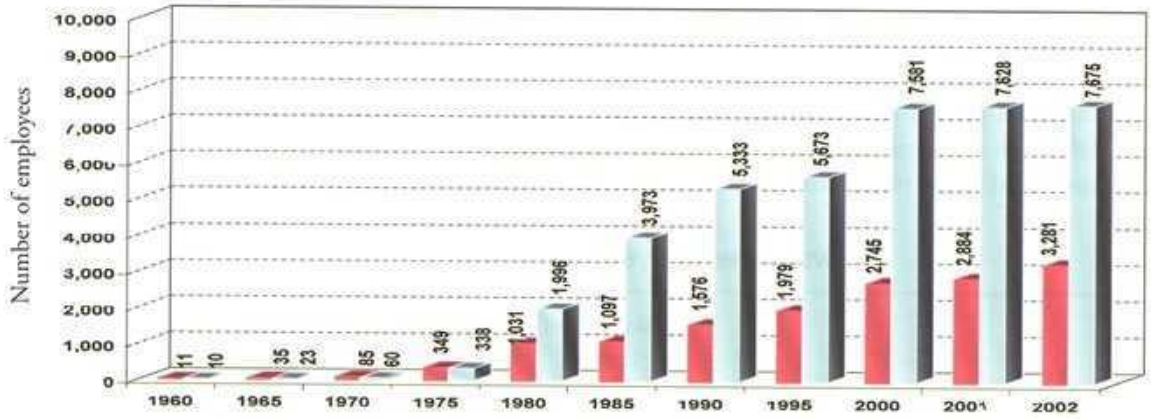
Year	Other Employees	Total	Civil Servants	Number of Emirati Civil Servants	Total Civil Servants in Grades 1- 10	Percentage of Emiratis compared with total number of Civil Servants in Grades 1-10
1960	10	21	11	6	12	50%
1965	23	57	35	16	35	46%
1970	60	145	85	34	92	37%
1975	338	687	349	75	500	15%
1980	1,996	3,027	1,031	98	1,633	6%
1985	3,973	5,070	1,097	158	1,975	8%
1990	5,333	6,909	1,576	471	2,944	16%
1995	5,673	7,652	1,979	848	3,327	25.4%
2000	7,581	10,326	2,745	1,504	4,610	32.6%
2001	7,628	10,512	2,884	1,634	4,805	34%
2002	7,675	10,926	3,251	1,836	5,104	36%

Civil Servants: includes administrative employees, supervisors, engineers, specialists and Monitors.
Other Employees: includes labourers, drivers, craftsmen and operators.

Growth in employee numbers, 1960 – 2002



Growth in number of civil servants and employees, 1960 – 2002

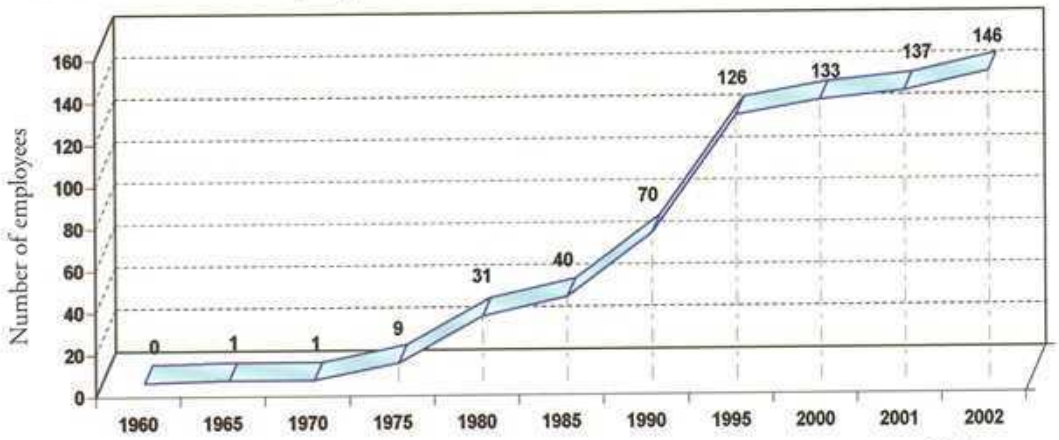


Workforce of the Personnel Department compared with the total number of employees in the Municipality, 1960 – 2002

Item	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002
Personnel Deptment	-	-	-	-	-	-	70	7	16	19	18
Planning & Employment of Human Resources Section	-	-	-	-	-	-	-	24	23	21	20
Payroll and services Section	-	-	-	-	-	-	-	58	75	77	88
Development of Human Resources Section	-	-	-	-	-	-	-	7	12	12	13
Policies & Studies Section	-	-	-	-	-	-	-		7	8	7
Development & Monitoring Section	-	-	-	-	-	-	-	30	-	-	-
Total number of employees in Personnel Depart.	-	1	1	9	31	40	70	136	133	137	146
Total employees in the Municipality	21	57	145	687	3,027	5,070	6,909	7,652	10,326	10,512	10,926

* Due to the amendment to the administrative structure of Personnel Section to Personnel Department in 1991, it is not possible to divide the workforce according to Section. It is, therefore, presented as totals.

Total number of employees in the Personnel Department, 1960 – 2002



Beginning in 1986, a database was compiled on computer for employees and labourers employed by the Municipality. This was expanded in the early 1990s to include the following:

- Employment system
- Employment Contracts System
- Follow up of Residencies and Passports System
- Employee Data System
- Follow-up of Training and Scholarship Procedures system
- Timekeeping System, printing certificates, annual evaluations and surveys on training requirements
- Job coding system
- Leave entitlement and travel system
- Employee Housing system
- Workforce Utilisation System

Other systems are being prepared, including the following:

- Standard Performance Averages System
- Salary survey System
- Job Development System
- Work injuries and treatment system
- Job advertising by Internet System
- Training Budget System...etc.

Plans and Programmes

The use of computers in handling Personnel affairs has continued to develop. In particular, there has been progress in this field in terms of Human Resources Planning, where the following has been achieved.

1- Preparation of a three-year plan for workforce requirements.

2- The preparation of a medium term plan for Emiratisation, covering a three-year period.

3- Preparation of plans and development programmes and specifying the process for arranging employment.

4- Preparation of the annual employment budget and a plan for its implementation.

5- Preparation of job structures, job descriptions and their evaluations.

With regard to plans and programmes for Emiratisation, a key objective, the Personnel Department prepared in 1986 a special plan to increase the overall quality and percentage of Emiratisation.

Emiratisation policy was pursued through a systematic focus on implementation of plans drawn up for the three year period from 1988 ñ 2000 and for a five year period up to 2004. These plans included costs and an annual target for the achievement of Emiratisation, without compromising the need for productivity and efficiency. This was done through planning for systematic implementation, a

familiarisation process and arrangements for replacing staff, as well as by the creation annually of 30 developmental positions for Emiratis graduating from university and of around 20 posts for Emiratis lacking university education, this being incorporated in the Workforce Development and Training budget allocated for this purpose. These vacant positions were filled in 2001.

The Municipality has placed Emiratisation of jobs at the top of its strategic priorities. In order to achieve its targets in this field, the Municipality has taken the following steps:

- Reduction of the basic training period for university graduates through condensing of the training programme and introducing mechanisms for continuous follow-up.
- Approving the Emiratisation policy and job replacement and the 5 Year Emiratisation Plan (2000-2004), under which organisational units are required to present their Emiratisation plans and the mechanisms they will use to implement them.
- Sending representatives to attend careers fairs held in the UAE and to meet with university students studying in national and foreign academic institutions to promote the Municipality as a career option.

The Municipality has also agreed a number of educational projects related to the Emiratisation of jobs with the Higher Colleges of Technology. These involve the signing of contracts with secondary school graduates and providing them with financial support during their years of study and training. Among the courses involved in this scheme are the Public Health Diploma and the Civil Engineering Diploma.

By July 2001, the Emiratisation programme had reached 100 per cent for leadership position and 95 per cent for supervisory positions, up from 77 per cent the previous year. Between 1999 and 2000, the number of Emirati women rose from 27.5 per cent to 32.7 per cent of all UAE national employees. These hold positions in the fields of engineering, supervisory roles, information technology, architecture and others, evidence of the Municipality's pursuit of equality in employment opportunities.

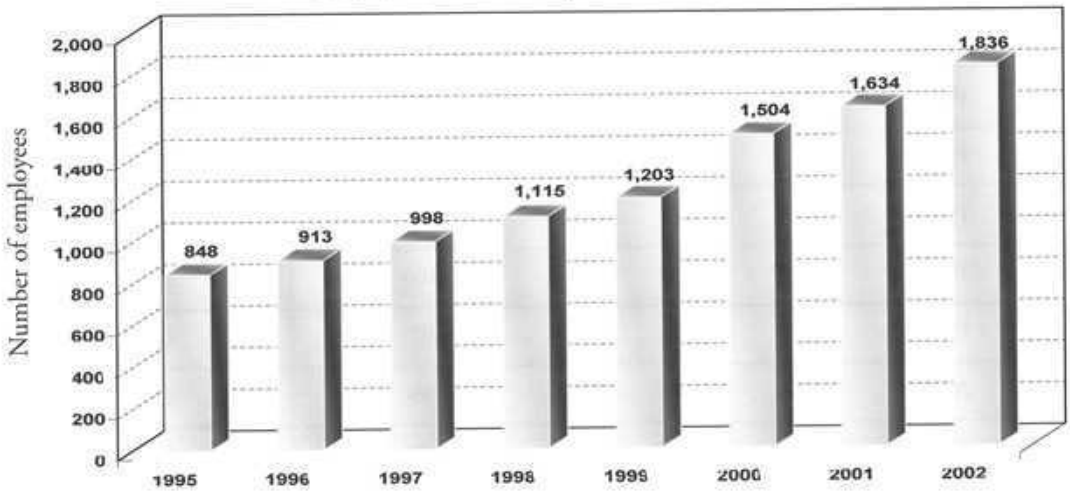
A programme of Municipality-supported scholarships for Emiratis to undertake further education has also been introduced.

Another initiative that has been undertaken in the provision of job opportunities for people with special needs, 27 of whom are now employed.

Emirati Workforce (Male/ Female), 1995 – 2002

Year	Distribution			Percentage of Female Nationals compared to the total Emirati workforce
	Male	Female	Total	
1995	669	179	848	21.1%
1996	698	215	913	23.5%
1997	754	244	998	24.4%
1998	845	270	1,115	24.2%
1999	872	331	1,203	27.5%
2000	1,065	439	1,504	29.1%
2001	1,107	527	1,634	32.2%
2002	1,236	600	1,836	32.7%

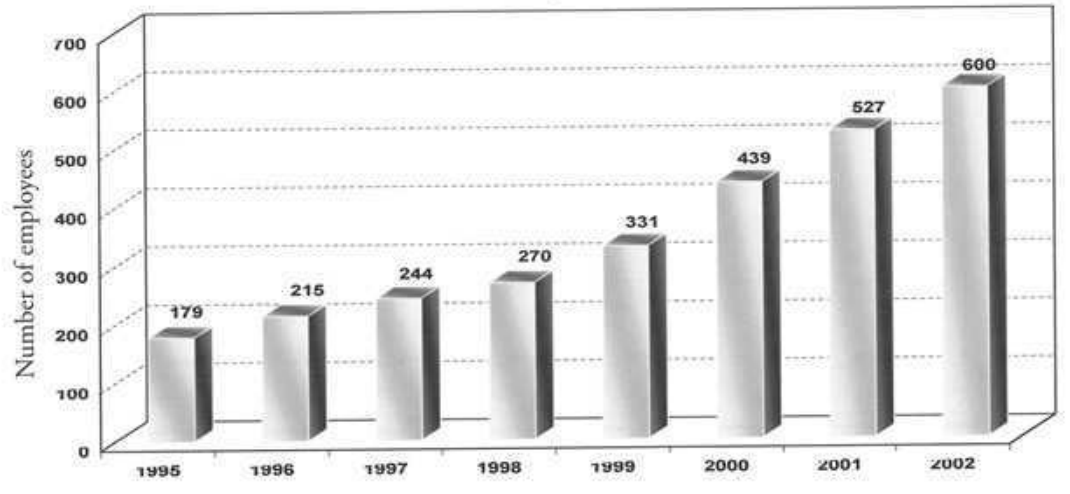
Emirati Workforce, 1995 – 2002



Comparison of Emiratisation percentages, 1995 – 2002

Year	Number of Emirati Employees	Total Number of Employees - Grades 1-10	Percentage of Emiratisation
1995	848	3,327	25.4%
1996	913	3,379	27%
1997	998	3,550	28.1%
1998	1,115	3,801	29.3%
1999	1,203	4,200	28.6%
2000	1,504	4,610	32.6%
2001	1,634	4,805	34%
2002	1,836	5,104	36%

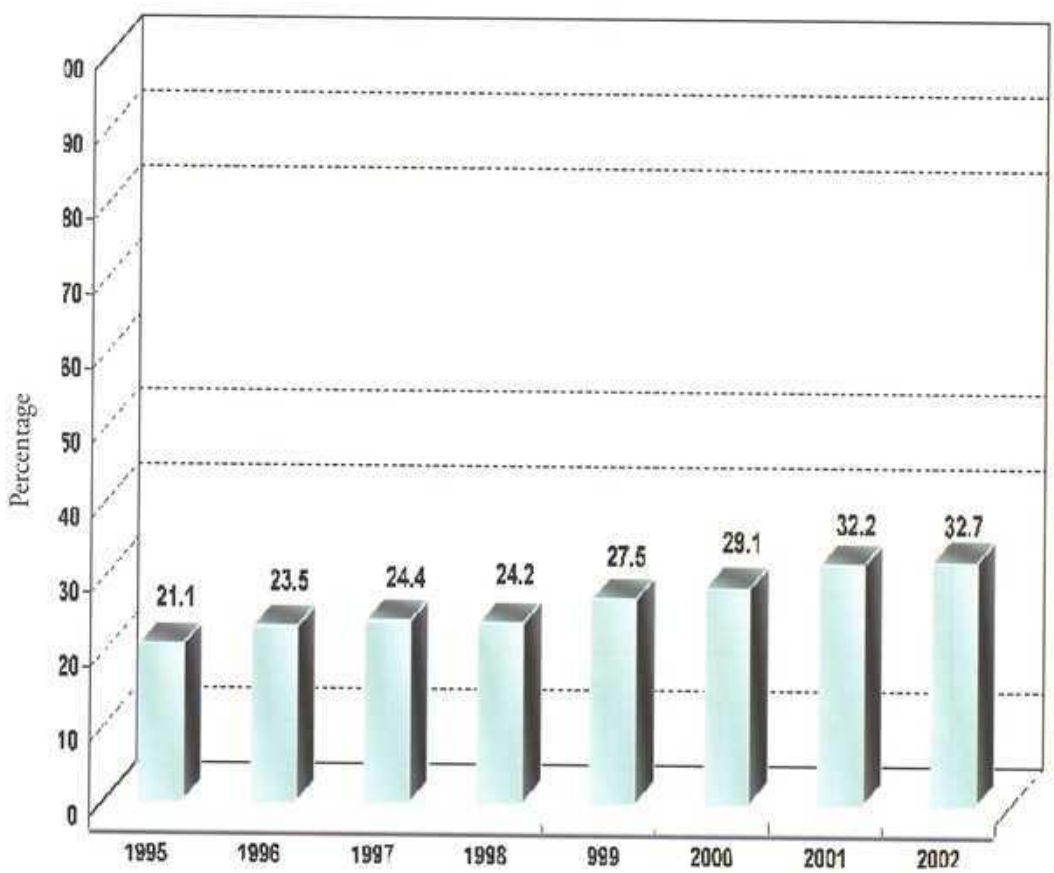
Female Emirati Employees, 1995 – 2002



Female employees of the Municipality, 1995 – 2002

Year	Female Emirati Employees	Female Expatriate Employees	Total
1995	179	105	284
1996	215	98	313
1997	244	108	352
1998	270	100	370
1999	331	97	428
2000	439	99	538
2001	527	105	632
2002	600	91	691

Percentage of female Emiratis compared to the Municipality's total work-force, 1995 – 2002



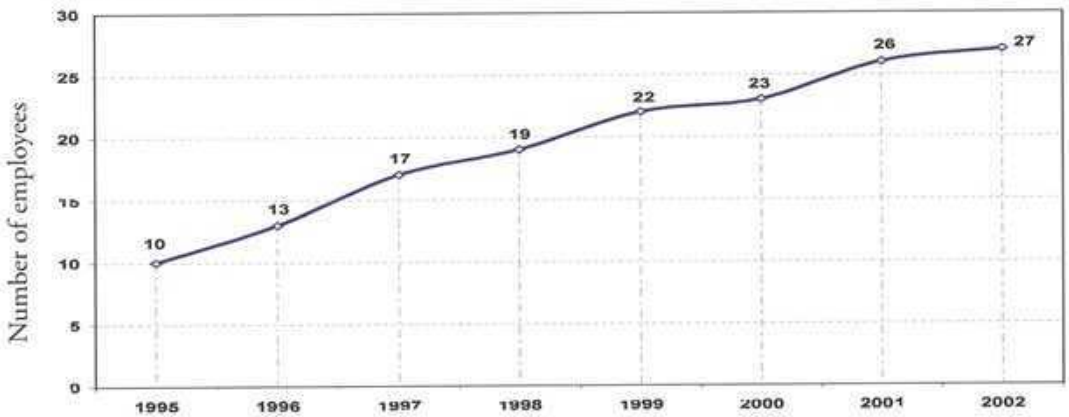
Special Needs Employees,1995 – 2001

Year	Total
1995	10
1996	13
1997	17
1998	19
1999	22
2000	23
2001	26

Special Needs Employees, 2002

No.	Department	Positions	No. of Employees
1	Planning & Surveying Depart.	2 System Technicians – 1 Assistant Technician – 1 Administrator	4
2	Public Parks & Horticulture Depart.	4 Gardeners – 3 Agricultural Labourers	7
3	Drainage and Irrigation Depart.	1 Telephone Operator – 1 Foreman – 3 Cleaners – (1 Assistant Technician – 1 Driver	7
4	Dubai Central Laboratory Depart.	1 Assistant Clerk – 1 Operator – 1 Technical Labourer	3
5	Personnel Department	2 Typists	2
6	Contracts & Purchasing Depart.	1 Administrative Officer	1
7	General Maintenance Depart.	1 Telephone Operator	1
8	Building and Housing Depart.	1 Typist	1
9	Public Transport Department	1 Telephone Operator	1
TOTAL 2002			27

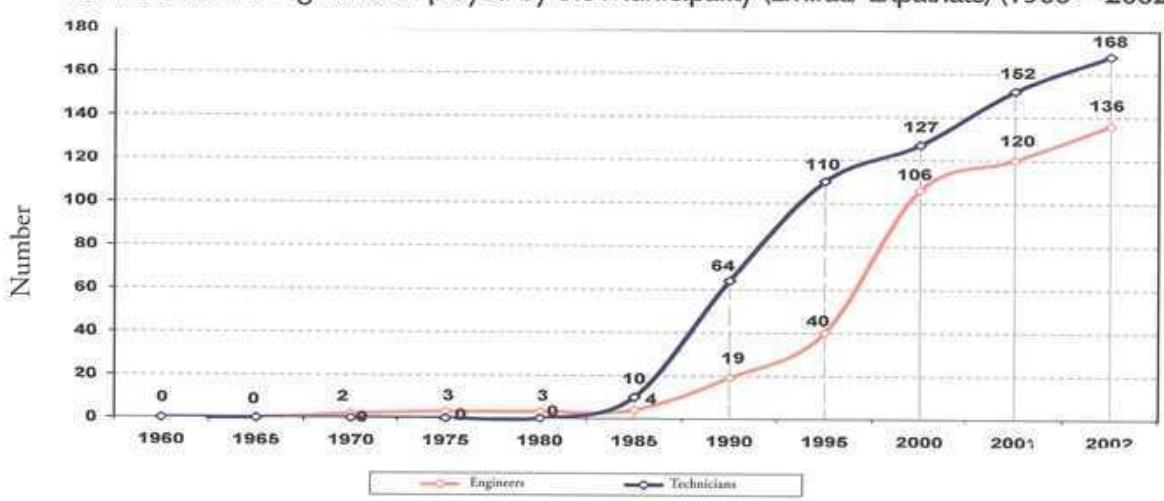
Development in the Number of Special Needs Employees,1995 – 2002



Technicians & Engineers employed by the Municipality (Emirati/ Expatriate) (1960 – 2002)

Year	Technicians						Engineers					
	Emirati				Expatriate	Total	Emirati				Expatriate	Total
	Male	Female	Total	Percentage of Females compared to total Emirati Technicians			Male	Female	Total	Percentage of Females compared to total Emirati Engineers		
1960	-	-	-	-	3	3	-	-	-	-	-	-
1965	-	-	-	-	5	5	-	-	-	-	-	-
1970	2	0	2	-	10	12	-	0	-	-	4	4
1975	3	0	3	-	47	50	-	0	-	-	16	16
1980	3	0	3	-	177	180	-	0	-	-	35	35
1985	3	1	4	25%	272	276	8	2	10	20%	55	65
1990	18	1	19	5%	367	386	58	6	64	9%	62	126
1995	25	15	40	37.5%	354	394	102	8	110	7%	68	178
2000	64	42	106	40%	1,081	1,187	118	9	127	7%	132	259
2001	68	52	120	43%	1,130	1,250	136	16	152	10%	148	300
2002	72	64	136	47%	1,149	1,285	148	20	168	11.9%	171	339

Technicians and Engineers employed by the Municipality (Emirati/ Expatriate) (1960 – 2002)



Training and Familiarisation Plans

Due to the increased importance of training and familiarisation programmes in meeting the department's plan to prepare employees, the following principles were established by the Department.

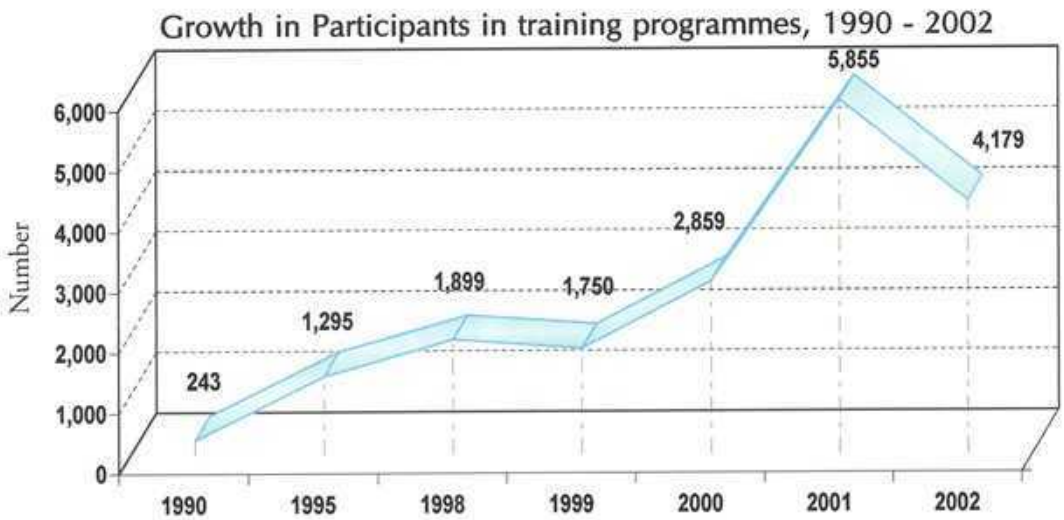
First, short and medium term plans are to be made on an annual basis relating to the training and familiarisation of employees.

Secondly, the training requirements should be specified in accordance with the relevant plans and criteria for job development, annual performance evaluation, production criteria and rate of achievement, the unit work plan, the requirements of the training list and the implementation of the Emiratisation and training programmes. This training should include practical in-house training, theoretical training within the Municipality, as well as externally:

- In the country or abroad
- External practical training
- Attendance at various seminars and workshops
- Carrying out of field trips to teaching facilities
- Where appropriate, the granting of scholarships for further study whether locally or abroad.

The following table provides a summary of training programmes and the number of participants during the period 1990 – 2002

Year	Number of Programmes carried out	Number of Participants
1990	82	243
1995	203	1,295
1998	210	1,899
1999	230	1,750
2000	343	2,859
2001	533	5,855
2002	385	4,179



The following table provides details of the plans approved and implemented, as well as the rate of achievement of training targets in 2000.

Item	Number of Programmes			Number of Participants		
	Approved	Implemented	Percentage achieved	Approved in the plan	Participants	Percentage achieved
Internal Training Programmes & Administrative, Behavioural & Financial Programmes	66	116	176	959	1,566	163
English Language Programmes	11	2	18	167	27	16
Comprehensive Quality Programmes	1	12	1,200	30	253	843
Services Programmes	8	8	100	200	200	100
Local Training Programmes	41	110	268	111	645	581
External Training Programmes	37	45	122	65	65	100
Scholarships	4	7	175	9	41	456
Basic Training (at work)	14	43	307	27	62	230
Total	182	343	188	1,568	2,859	182



Theoretical Training in the Municipality to familiarise employees and to increase their efficiency

Scholarships

Employees are eligible to be nominated for scholarships if they have served the Municipality for a minimum of three years. The objective is to for them to gain academic qualifications in fields related to the work of the Municipality. The scholarships granted up to the year 2002 covered 99 employees, in a total of 21 different specialised programmes of study, as follows:

Ref	Name of Programme	Number
1	General Health Diploma	29
2	Civil Engineering Diploma	28
3	Veterinary Medicine B.Sc.	1
4	BA Media and Public Relations	4
5	B.Sc. Quantity Surveying	3
6	B.Sc. Information Technology Systems	1
7	Higher Education (Urban Design)	8
8	MBA (Masters in Business Administration)	9
9	Masters in Engineering, Planning and Transport	1
10	Masters in Quality Administration	3
11	Masters in Architecture	1
12	Masters in Urban Design	1
13	Masters in Computer Science	1
14	Masters in Project Administration	1
15	Masters in Veterinary Epidemics	1
16	Masters in Naval Engineering	1
17	Masters in Geodesic Engineering	1
18	Masters in Food Microbiology	1
19	Masters in Human Resources Management	2
20	Phd in Quality Management	1
21	Phd in Development and Measurement of Government Performance	1
Total		99

29 employees had completed their studies by the end of 2002, in various local and overseas universities.

Scholarship Students sent by the Municipality to gain academic qualifications, 1995 – 2002

Type of Certificate	1995	1996	1997	1998	1999	2000	2001	2002
Environmental Health Diploma	-	5	2	19	-	6	16	6
Civil Engineering Diploma	-	-	-	14	-	8	11	11
Information Systems Management Diploma	-	-	-	-	1	-	-	-
Phd/ B.Sc.	-	-	-	-	1	-	5	4
Higher Education	-	-	-	-	-	-	-	8
Masters	-	3	2	3	6	3	7	7
Phd	-	-	-	-	-	2	-	1
Total	-	8	4	36	8	19	39	37

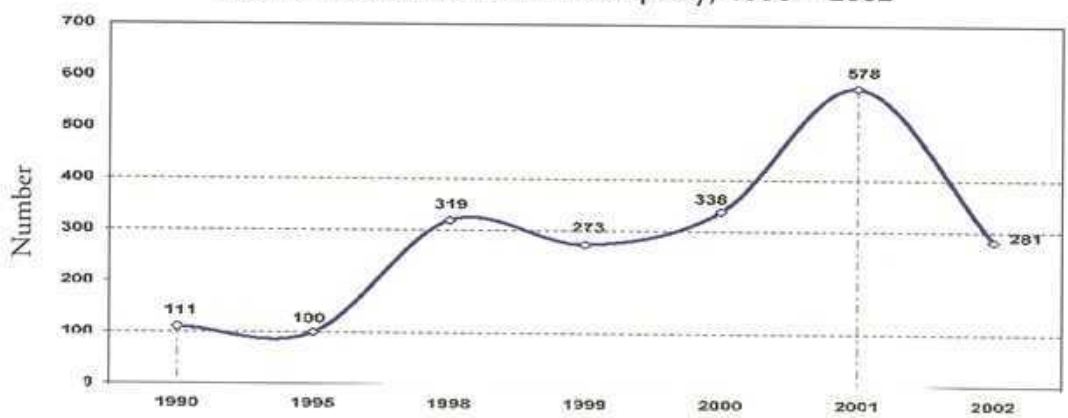
Total Number of Appointments in the Municipality, 1990 – 2002

Year	1990	1995	1998	1999	2000	2001	2003
Total Appointments	684	715	1,805	1,720	1,681	1,458	1,317

Internal Promotions in the Municipality, 1990 – 2002

Year	Total number of Promotions		Overall Total
	Emirati	Expatriate	
1990	28	83	111
1995	21	79	100
1998	43	276	319
1999	130	143	273
2000	156	182	338
2001	263	315	578
2002	127	154	281

Internal Promotions in the Municipality, 1990 – 2002



Personnel Department expenditure, 1990 – 2002, in UAE dirhams

Year	Payroll	Current Expenditure	Capital Expenditure	Total Expenditure
1990	5,453,480	656,971	954,362	7,064,813
1995	10,766,705	679,417	1,652,879	13,099,001
1998	10,968,893	1,626,867	288,256	12,884,016
1999	12,202,799	1,330,467	332,208	13,865,474
2000	14,540,494	1,369,543	381,884	16,291,921
2001	17,588,323	3,287,468	1,033,137	21,908,928
2002	21,512,338	1,385,593	428,878	23,316,809

Development Work

The Personnel Department also takes part in a variety of development projects that will yield future benefits. Among these have been:

- Participation in the Distinguished Government Performance Scheme: the Department presented a report on a technical project, which included its experience of creating advanced methods and techniques to complement the various systems, procedures and duties in the department, through the update and development of computer systems specific to the Personnel Department.
- Participation in the quality co-ordination work plan through the holding of workshops on a comprehensive understanding of the meaning of quality for the Municipality's employees, this being undertaken in association with the Administrative Development Department.
- Implementation of a project to replace all the Municipality's manual labourers, so as to unify pay scales and provide opportunities for young workers.

Dubai Municipality has succeeded in reducing costs, effort and time spent while, at the same time, increasing productivity and participation in meeting the specified targets for steady growth. This has required a modernisation of policies and systems, and in 2000, a programme of re-organisation got under way in the Personnel Department.

This involved a revision of administrative procedures and making use of modern technical facilities, so as to improve the efficiency of services offered by the Department in respect of the selection of personnel and responding to the requirements of the various organisational units with regard to developing new human resources skills and experiences.

As the Department grew, and because of its prompt carrying out of the need to develop new approaches with relation to Human Resources, an updating and revision of the human resources policies was devised. This included the introduction of a special system for promotions, performance evaluation, employee relationships, incentives, prizes for excellence, as well as other features that, together, help to make Dubai Municipality a first-choice employer.

Future plans include the application of a new job description and evaluation system, preparation of a medium-term and long-term plan for Emiratisation and job replacement, a survey of salaries and benefits and a job satisfaction survey.

The Department has paid particular attention to Emiratisation, and is proud that now over 90 per cent of all supervisory and administrative jobs are held by Emiratis.

The Municipality has also prepared a suitable atmosphere for all employees from the point of view of access to information and holds a number of seminars in various departments each year to support their activities and to strengthen their technical and administrative capabilities. This process is enhanced by the programme of providing scholarships



A mass wedding for DM staff

to appropriately-qualified employees so that they may go abroad to further their education.

In the field of employee welfare, the Municipality has established a special club, with facilities that include a football pitch, a swimming pool, a gymnasium with the latest sports equipment and a conference hall. The Public Relations Section also arranges a number of trips and other social activities.

Another initiative, the first of its kind in local government in the UAE, has been to provide help to employees with the expenses of marriage. Under the patronage of H.H. Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and Head of the Municipality, a group marriage ceremony is arranged annually.

Planning and Surveying Department

In accordance with the directives given by H.H. the late Sheikh Rashid bin Saeed Al-Maktoum, the Municipality has always sought to adopt a proper approach to planning, in accordance with international standards. As far back as 1961, a firm of international consultants was appointed by the Government of Dubai to draw up plans for the development of the Emirate, this being followed by the preparation of the first detailed master plan, in 1970.

During the eighties, the Dubai Municipality was able to create the infrastructure required for the fast-developing city, as well as to construct a variety of service and public utilities projects.

The year 1985 can be considered as the real beginning for the planning of today's city. In that year, international consultants were appointed to lay down the principles and basic objectives of a comprehensive planning programme. By the early 1990s, investments made previously in areas such as the construction of main utilities like road networks, the sewerage network, irrigation and other vital projects began to pay dividends.

It was, of course, necessary for the Municipality to keep abreast of international developments with relation to urban planning and to take into account projected growth, so as to ensure that residents of Dubai would continue to enjoy a prosperous life. A process of preparing long-term plans for future development therefore got under way, covering a twenty year period from 1993 – 2012. These plans including a futuristic vision for the development of construction, taking into account land use, the need for new buildings and an expansion of the roads and bridges network, utilities and public services.

This was followed by the adoption of a strategy to implement an organisation plan and to prepare annual executive programmes as part of a rolling five year plan, beginning with the period 2000 – 2004. During this period, it was planned that all necessary studies covering the whole range of development should be completed, covering housing, industry, public services, utilities, public transport, environment and other sectors. Planning was also intended to tackle issues such as standards and monitoring procedures to ensure that the best possible achievements could be made at the lowest possible cost.

In accordance with the five year plan and the detailed studies on expenditure and general revenues, a plan was then drawn up to specify the priorities for implementation of projects and their locations, this plan covering all aspects of the development programme. At the same time, proper attention was given to public projects to be carried out by the Municipality with relation to services and utilities, these providing important support to the planning for those aspects of development relating to finance, commerce and tourism, with the intention of providing an environment for investment and tourism.

The objective of this study was to put forward a programme for the development of the administrative structure for the Planning and Surveying Department and to review the role of the Municipality in laying down a comprehensive planning procedure for the Emirate of Dubai.

Development of the Planning and Surveying Department

When the Dubai Municipality was established, its Engineering Section was in charge of those aspects of planning dealing with the levelling of land for development, studying the

documentation of, inspecting and surveying land, preparation of maps and registering of land for which ownership deeds have been issued, this work being undertaken in association with the Land and Property Office. In 1960, the Engineering Section was also responsible for implementing city planning, carrying out aerial surveys and a land use survey.

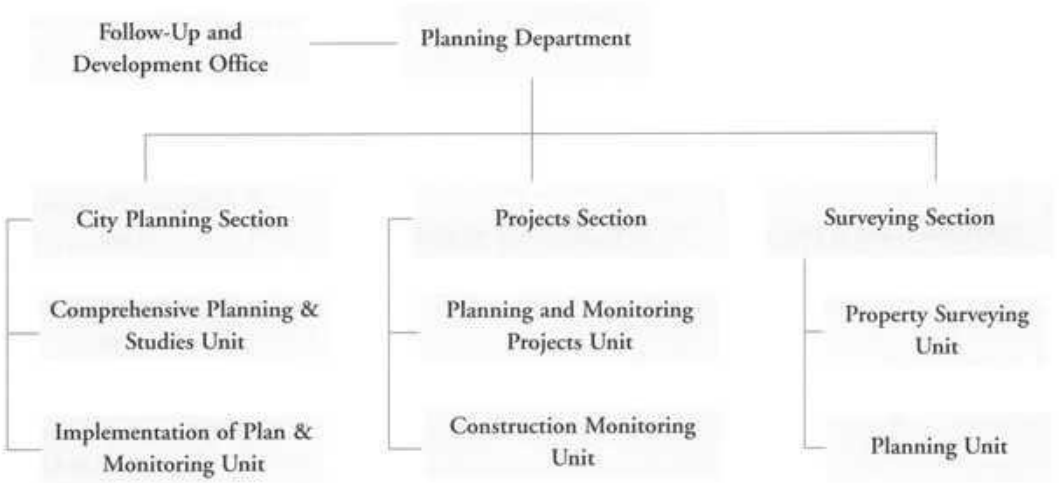
In 1970, the Engineering Section of the Municipality was enlarged to become the Planning Section, with expanded duties. These were carried out through the formation of a group of twelve people who were placed in charge of planning, surveying and supervising implementation of development projects within the city and of updating the master plan. This was undertaken with the objective of laying down the broad outlines for construction in the city and the key areas of growth and designating particular areas for specialised use, as well as identifying the needs of the city for services and public utilities. By 1976, the number of employees in the Planning Section had reached 15, this then increasing to 28 by 1985, as shown in Table No. 1.

Table No. 1. Planning Section employees, 1974 – 1985

Year	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Employees	12	15	20	20	21	23	25	28	25	28

In 1987, the development of job functions and the need for technical resources and experience to be available meant that a need for a revision to the Organisation Chart for the Planning Section was identified, along with a need for certain changes to the legislative framework. The next year, therefore, the Section was raised to the level of a Department, under the terms of Administrative Order No. 326 for 1988, to permit it to keep abreast of the rapid development process then under way. This is explained in Chart No. 1, as follows

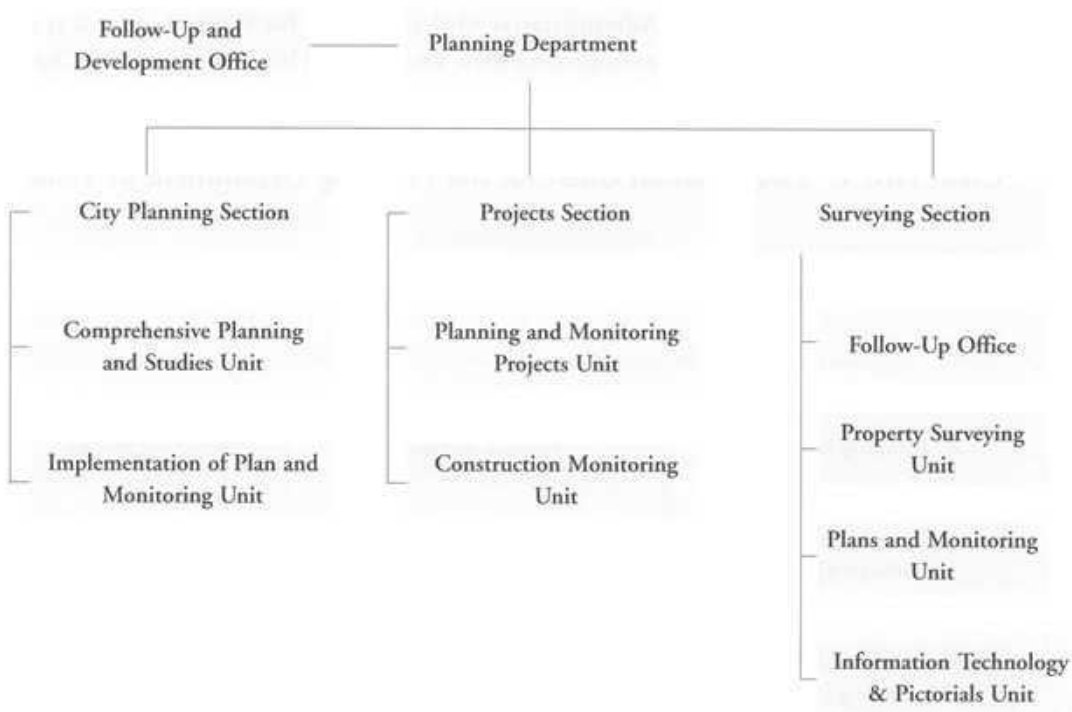
Chart No. 1. Organisation Chart for the Planning Department in 1988



Within the framework of this new Organisation Chart, a follow-up office was established in the Planning Department with the tasks of helping in the provision of services to applicants and of receiving all applications for permits and licences, these then being passed to the relevant sections. Three separate sections were also created. The City Planning Section was assigned the tasks of carrying out detailed studies and of updating development plans, two of the main tasks of the Planning Department. The Projects Section was given the responsibility for designing and carrying out the Municipality's own projects while the Surveying Section was given responsibility for carrying out land surveys, draughting maps, carrying out horizontal and vertical monitoring and surveying properties and public services installations.

In 1991, the Organisation Chart was amended to include within the tasks of the Surveying Section the functions of Surveying, Planning and Monitoring as well as the Information Technology and Pictorials Units. These changes are shown in Chart No. 2. The objective of these changes was to permit the Municipality to carry out the tasks assigned to it in terms of organising, supervising and administering development in Dubai. as illustrated in Chart No. 2, in order to enable the Municipality to implement the role with which it had been entrusted with regard to its organisational, supervisory and administrative functions for the Emirate of Dubai. This is done through effective co-ordination with other authorities and offices in order to carry out a range of activities. These included the plotting of maps, surveys of properties and services, draughting and updating maps, commissioning aerial photography, carrying out surveys of particular areas, preparing drawings for the purpose of planning and development, supplying maps to land-owners in respect of privately-owned and rented land, as well as land given by Government, and keeping a record of all maps, plans and related documents.

Chart No. 2. Organisation Chart for the Planning Department in 1991



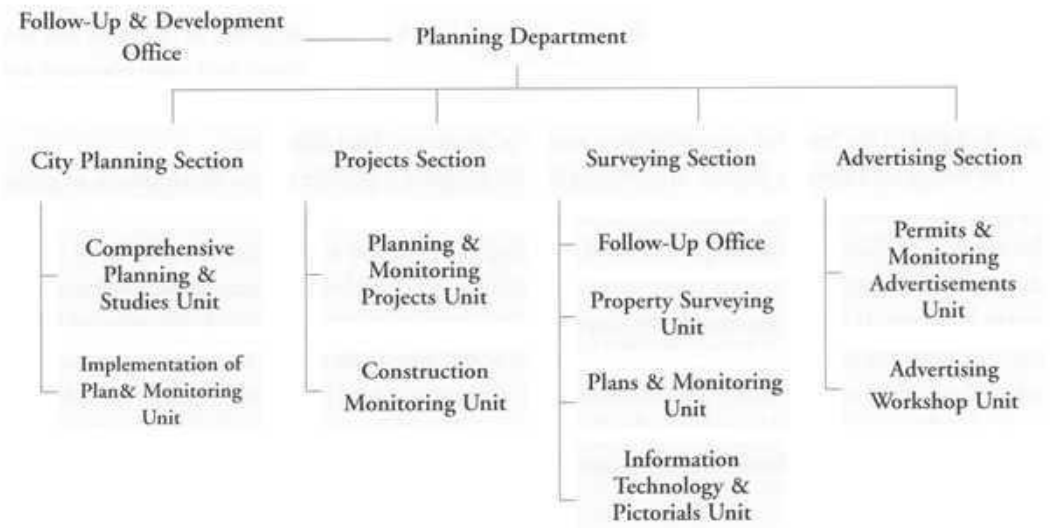
At the end of 1993, in accordance with Administrative Directive No. 574 for 1993, the Advertising Section was transferred from the Commercial Licencing Department to the Planning Department. The Organisation Chart for the Advertising Section was then amended to include the Permits and Monitoring Advertisements Unit and the Advertising Workshop Unit, as illustrated in Chart No. 3. The objective was to implement policies and regulations relating to the monitoring of advertising material, including the methods of display, including billboards and roadside posters, as well as the designs and text.

The Advertising Section, in co-ordination with the Planning and Building Sections, monitors the texts for suggested advertisement designs presented by the public to ensure they are correct in terms of language and are aesthetically pleasing and also carries out daily monitoring of all advertisements in public places, such as pathways, roads and roof-tops, to ensure that they have valid permits. The Section also co-ordinates with the Dubai Economic Department on the receipt and delivery of applications for advertisement permits and on the regular inspection of billboards to ensure that they are in accordance with the aesthetic, construction, cultural and environmental aspects of the city of Dubai. It is also responsible for the imposition of penalties and for removing advertisements without permits, if these are in violation of the Municipality's rules and regulations. The Advertising Section also participates in the preparation of designs for media campaigns and celebrations and is responsible for providing suitable designs for the Municipality's displays at local or international fairs, as well as providing guidance and assistance to the public in respect of the criteria and measurements suitable for advertisement billboards. It also monitors the activities of advertising companies and ensures that they have valid permits, in accordance with the required criteria.

Table No. 2. Planning Department employees, 1989 – 1993

Year	1989	1990	1991	1992	1993
Employees in the Planning Department	219	204	201	239	252
Employees in City Planning Section	7	7	9	10	15

Chart No. 3. Organisation Chart for the Planning Department, 1993





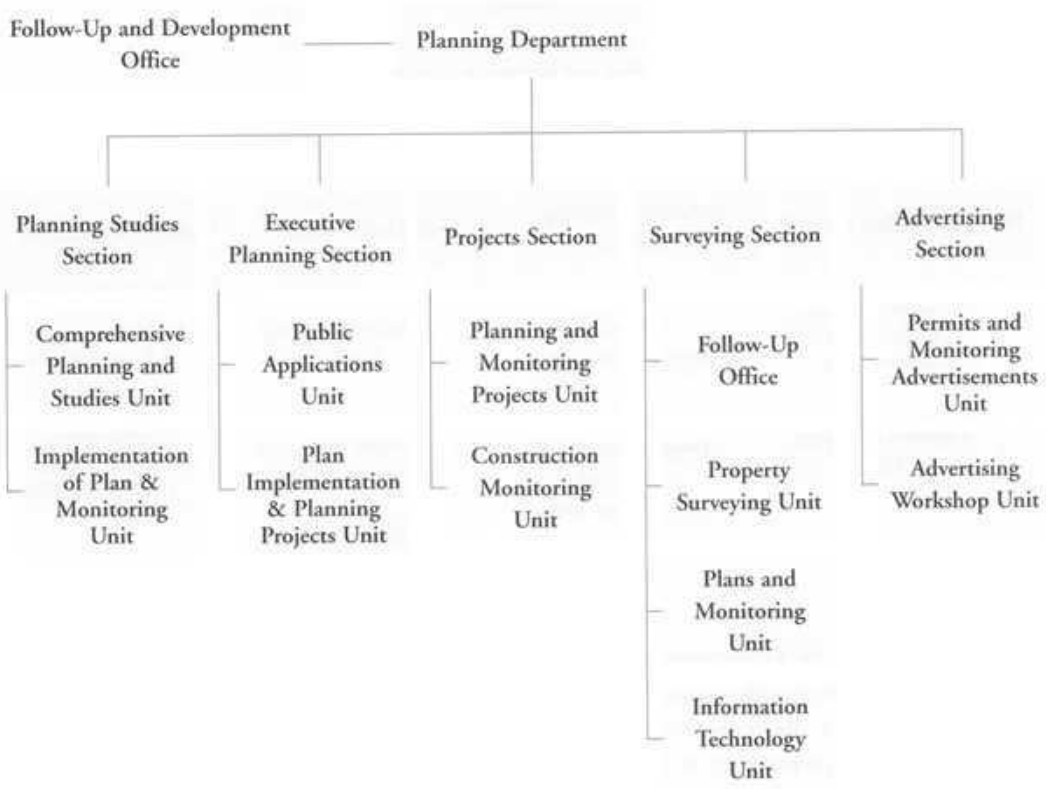
H.H. Sheikh Maktoum bin Rashid Al Maktoum examines the comprehensive structural plan for the Emirate of Dubai

At the beginning of March 1994, two sections, the Planning Studies Section and the Executive Planning Section, were created within the Organisation Chart and the City Planning Section was abolished, as shown in Chart No. 4.

The Planning Studies Section is responsible for implementing the Municipality's policies on comprehensive planning, including social, economic and urban planning. It is also charged with the carrying out of studies to specify the appropriate development policy and strategy on issues such as the Emirate's policies on housing, services provided to the community, policies relating to environmental issues, manufacturing, land use and cultural and social development and for the collation and updating of information. Other tasks include the preparation and updating of a comprehensive long term development plan that reflects the prevailing social, economic, cultural and environmental conditions and that identifies problems that require rapid solution, so as to indicate the areas which require studies to be given a high priority. The preparing of a comprehensive structural plan for the Emirate and its updating and the preparing of a medium to long-term plan for the development of construction, including planning for all types of land use, preparation of detailed plans and the design of new housing and industrial areas is also included in the Section's responsibilities, as well as studies on land allocation.

The Executive Planning Section implements the Municipality's policies on the development of planning legislation for building designs, land allocation, the preparation, development and updating of the list of area classifications, the preparation and updating of legislation and regulations relating to urban design and, in particular, aspects concerning architectural style and building facades and billboards in urban locations. It is also responsible for preparing and developing plans for the classification of housing and industrial areas, monitoring the development of buildings with respect to their compliance with urban design laws and legislation and monitoring the allocation of land for housing, industry and investment. Further, it is required to provide effective services to the public, in response to queries and requests, and to liaise with other relevant authorities on the studying of applications for commercial licences and building licences.

Chart No. 4. Organisation Chart for the Planning Department, 1994.



In 1995, as part of the preparation of the urban structural plan for Dubai, a forward-looking organisation chart was developed that took account of the need for a development of job descriptions and of the technical resources and experience required as well as the existing organisation chart for the Planning Department. This involved a re-organisation of the existing department, a revision of its duties and a changing of its name to the Planning and Surveying Department, as illustrated in Chart No. 5. The Projects Section was taken out of the framework of the Department, to become the new General Projects and Maintenance Department.

Table No. 3. Employees of the Planning and Surveying Department, 1994 – 1998

Year	1994	1995	1996	1997	1998
Number of employees in the Planning & Surveying Department	213	243	247	254	259
Number of employees in the Planning Studies Section	19	23	28	29	30
Number of employees in the Executive Planning Section	28	34	35	36	40
Number of employees in the Surveying Section	147	164	163	165	164
Number of employees in the Advertising Section	19	21	21	24	25

Chart No. 5. Organisation Chart for the Planning Department in 1995



In the year 2000, the Organisation Chart for the Planning and Surveying Department was one again amended with regards to the Planning Studies Section and the Executive Planning Section, so as to provide for the monitoring of the implementation of the urban structural plan for Dubai and for the preparation of the strategic plan as illustrated in Chart No. 6.

Chart No. 6. Organisation Chart for the Planning Department in 2000



The above chart shows that the Planning Support Services Unit had been added to the Planning Studies Section to take on the responsibility of responding to all daily urgent technical requests which are not within the scope of work of any of the other Units under the Planning Studies Section. The Comprehensive Planning and Studies Unit, part of the Planning Studies Section, was divided into two groups, one group being responsible for following up the strategic plan and budget in order to revise the projects and investment costs for the Municipality's annual and five year plans and for preparation of the annual urban development plan. The structural plan group was made responsible for the preparation of the planning database, conducting in-depth studies of the structural plan elements, specifying projects within the annual and five year plans and specifying the cost of investment and building development programmes. A Unit was also added to follow up the implementation of planning projects as part of the Executive Planning Section, this to be done in association with the Planning Studies Section with regard to the studying and the allocating of housing, investment, industrial and public services lands and to follow up on the implementation of projects and their effect on the land, as well as the compensation that would be required as part of the urban planning procedure. The following table illustrates the distribution of employees within the Planning and Surveying Department during the period 1999 – 2002.

Table No. 4 Employees in the Planning and Surveying Department, 1999 – 2002

Year	1999	2000	2001	2002
Number of employees in the Planning & Surveying Department	275	265	266	281
Number of employees in the Planning Studies Section	37	38	40	37
Number of employees in the Executive Planning Section	43	43	41	45
Number of employees in the Surveying Section	169	157	156	167
Number of employees in the Advertising Section	26	27	29	32

The main duties and responsibilities of the Planning and Surveying Department and affiliated sections are as described below:

In general terms, the Planning and Surveying Department is responsible for following up on the implementation of the structural plan through the preparation of a comprehensive study of all planning elements, so as to identify present and future planning issues and to lay down the general objectives for each element according to the Emirate's development programme. It is also expected to lay down the general policies required to achieve these objectives. These, in turn, are translated into a number of development projects, for which the investment costs are defined in co-ordination with the technical departments within the Municipality.

The Department is also responsible for updating the five year plan on an annual basis, to cover the next five year period, this to be done in such a way as to identify those areas where development will take place and the particular development projects required. The first year of the plan is used as the basis for preparing the annual investment budget for the Municipality.

It is also responsible for suggesting, and then implementing, once approved, the Municipality's policies, laws, directives and procedures relating to comprehensive development, including social, economic and urban planning, as well as the development of planning legislation relating to architectural designs and to the allotment and survey of land, to ensure that development is carried out in a systematic way.

Another task is that of a regular follow-up of and continual updating of plans related to the comprehensive urban development of Dubai through preparation of a planning database which can be continually and systematically updated in co-ordination with the relevant technical administrations within the Municipality, other Government departments and the private sector.

Within this framework, the Department prepares detailed studies and executive drawings relating to the planning and design of new residential and industrial areas, studies on land allotment, conducting development studies of the city and re-planning of the existing built-up areas, these tasks being undertaken within a framework of preserving existing architectural features that are of historical value.

Development work is to be evaluated, in terms of the solutions offered and the recommendations made, within the light of the Municipality's overall vision and of the Emirate's objectives for development, while the Department is charged with supervising any work, in co-ordination with other concerned parties, with relation to the development of the Emirate's architecture and the implementation of approved plans, this work being carried out in accordance with the approved budgets.

The Department also prepares and implements programmes for the development of its workforce, within the framework of what has been agreed with the relevant section of the Personnel Department.

Quarterly reports are prepared on the work of the Assistant Director-General for Planning and Building Affairs Department, these reports indicating the achievements made in terms of the development plan and the agreed programme of work, as well as identifying any obstacles faced and making recommendations on the procedures required to overcome them, in accordance with the relevant directives.

The Department also carries out a variety of land surveys. These include surveys of properties, preparing of location plans, specifying the borders of plots, matters related to land distribution, advice on specifying the Qiblah (the direction of the holy city of Mecca), making a register of the existing basic services, like roads, water supply, communications links and the sewerage network, this work then being followed by the preparation of the relevant mapping.

It participates actively in the process for approving applications for commercial and advertising permits, ensuring that the applications correspond to the approved plan and planning regulations.

In association with the Personnel Department, it works to implement planning operations and programmes of workforce development so as to ensure that the human resources of the Municipality are sufficient to meet the requirements placed upon the Municipality with regards to development.

Another task is that of ensuring active and effective linkage between the comprehensive

and detailed plans and the existing plans for infrastructure and services, including roads, transportation, sewerage, water, electricity and telecommunications. This involves the arranging of regular meetings with the bodies concerned to ensure that any problems can be satisfactorily resolved.

Finally, the Department is in charge of reviewing and monitoring outdoor advertising in the Emirate and of ensuring that this is done in accordance with the Municipality's policies on the issue and in accordance with the rules and regulations and approved procedures.

Planning Studies Section

The Planning Studies Section is responsible for conducting comprehensive studies in those matters that relate to the specifying of the appropriate development and strategy for the Emirate, including strategies such as those for housing services offered to the community and policies specific to environmental, social, economic, architectural, industrial and cultural issues. This is done through the preparation of comprehensive planning studies for the Emirate of Dubai as a whole, including both the urban and the rural sectors. It also prepares detailed plans and studies to develop various areas of the Emirate, prepares a planning information database, which is continually updated, prepares executive drawings for planning and design of new housing and industrial areas and studies the allocation of land and the specification of particular functions to be carried out in particular land areas.

Executive Planning Section

The Executive Planning Section is responsible for the development of planning legislation relating to building design and land allotment and for monitoring building development in the city to ensure it corresponds to the city plan. This work is carried out through the preparation of planning laws for all types of land use in Dubai, of executive plans, the distribution of lands earmarked for various types of use, the revision of all applications for suggested uses in various areas, the conducting of inspections and the monitoring all types of land use and activities.

It also offers advice to the public with regard to implementation of and queries related to land allotment, monitors and evaluates development projects and encourages private investment so as to ensure that the required facilities are provided, in line with the Emirate's general policy. In this sphere of activities, it also specifies the mechanisms for carrying out approved investment and planning projects and follows up their implementation, in close co-ordination, where appropriate, with other establishments and agencies.

Surveying Section

The Surveying Section is responsible for surveying locations, preparing the drawings necessary for planning, development and operations and other related activities such as compensation, road borders, changes to properties, mapping building plots, preparing other maps, preparation of network grids, land reclamation, making changes form an engineering viewpoint of certain structures and working out the Qiblah (direction of the holy city of Mecca). It is also responsible for the maintaining of a database containing details of properties, land plot numbers and details of landowners.

Advertising Section

The Advertising Section is responsible for monitoring advertising texts, billboards and advertising boards and other displays relating to fairs and exhibitions as well as roadside posters within the Emirate of Dubai. It also examines suggested designs for advertisements to check for the proper use of language, undertaking regular inspections and monitoring the activities of advertising companies and professional signboard writers. This latter is undertaken to ensure that they have the qualifications, artistic abilities, necessary equipment and required permits to practice this profession. The Section also prepares, designs and produces advertising billboards and leaflets relating to the Municipality's advertising campaigns and provide guidance on the approved specifications and measurements for advertising billboards.

Computerisation of the Planning and Surveying Department

Considerable effort has been made on introducing the use of computer technology into the Planning and Surveying Department, to facilitate the planning process.

The process began in 1990 with the introduction of five computers and a computer server to address the task of making digital copies of plans and maps. At the beginning of 1993, this was followed by the introduction of a further three computers for use in the preparation of social and economic surveys of sample groups and to make surveys of land use and industrial areas, in response to needs identified as part of the 1993 – 2012 Dubai urban structural plan project.

In April 1994, trials began on a Geographic Information System GIS, with the preparation of a sample survey of industrial areas. This work was carried out in association with Intergraph, who designed the required software.

In 1994, a further fifteen computers were obtained, these being assigned to map-numbering, while in 1997 fifteen more were introduced, being used to tackle the task of digitising plans for 30 specified urban planning areas, covering a total of 60,000 plots of land.

Building on that success, the number of computers then rose to 250, with increased capacities, permitting coverage to be extended to 115 planning areas, covering 110,000 plots of land.

The data is updated on a daily basis and includes a planning system that permits surveyors undertaking fieldwork to obtain details of the relevant locations on an immediate basis.

Data has also been entered into the system for land use, whether for housing, for commercial use or for other purposes, and relating to the legislation affecting each plot, such as permitted uses, heights of buildings and the distance that must be maintained between the boundary of a plot and any building on it. Computer printouts of maps showing ownership can be produced.

Since 1995, the Emirate of Dubai has been linked to the international ITRF co-ordination network, in association with the University of Hanover.

Also of importance has been the increased use of the GPS (Global Positioning System) facility, which reduces the cost of producing points of control and also speeds up the process of map production, as well as reducing human error. Thus the production of co-ordinates for a single plot of land can now be done in one minute, rather than fifteen minutes, each surveyor can create survey control points at a rate of 14 points a day, rather than the previous 7, plots

can be quickly located and approvals for maps and plans can be obtained within sixty seconds.

Now approval of new plans and maps can be achieved at the rate of one a day, instead of the previous rate of one every week, and the approval of amendments can be obtained within an hour, instead of the whole day that was previously required. The system also makes it possible to obtain information about any particular plot in one minute, rather than in fifteen minutes.

The Development of Construction Planning in the Emirate of Dubai

First Stage: The Stage of Urban Development, 1900 – 1955

During this period, urban development in the city of Dubai was relatively slow, reflecting the rate of economic growth and of population. The majority of the population lived in the Al-Ra's and Shindagha areas of Bur Dubai, at the mouth of Khor Dubai, as shown in the following photographs.

The Khor (Creek), as well as the Arabian Gulf into which it opened, provided an important source of income for the population of the city, through fishing, the pearling industry and some other, limited, commercial activities.

In 1955, the total urban area amounted to only 3.2 sq. kilometres, although this was significantly larger than the 0.2 sq. km of built-up areas in 1900. Over the same period, the population grew from an estimated 3,250 in 1900 to 56,000 in 1955.



Urban Development in 1955



An old picture of the Clock Tower

Second Stage: The Stage of Planned Urban Development (1955 – 1970)

As part of the forward-looking vision of H.H. the late Sheikh Rashid bin Saeed Al Maktoum, Ruler of Dubai, which included recognition of the necessity of planning ahead for the Dubai of the 1960s, the Municipality began the process of planning for the buildings of roads as well as the provision of health services. As part of this, an aerial survey of the city was undertaken and the consultants John Harris and Partners were commissioned in 1960 to draw up a development plan.

In general, the strategy for the development of land use was based on a relatively limited expansion outside the original area of the city, to provide land for additional housing and for industrial use, this being away from residential areas.

The key objective of the planning strategy was to promote the expansion of commercial activity within the central area. The plan suggested, for the first time, the need for a network of roads to be established within the city to meet the rising need for transport, and also suggested that a balance should be struck between the various demands for land, such as residential housing, commercial use properties, industrial areas and utilities and public services. A growth in building development indicators followed, and then the drawing up of the first master plan for the city, laying down the basis of the main axes of development. At this time, in 1960, the urban area covered a total of 5.3 sq. km, with a population of 60,000 and a population density of 11,321 per sq. km.

In the same year, the Engineering Section was put in charge of carrying out city planning and for surveying land use.

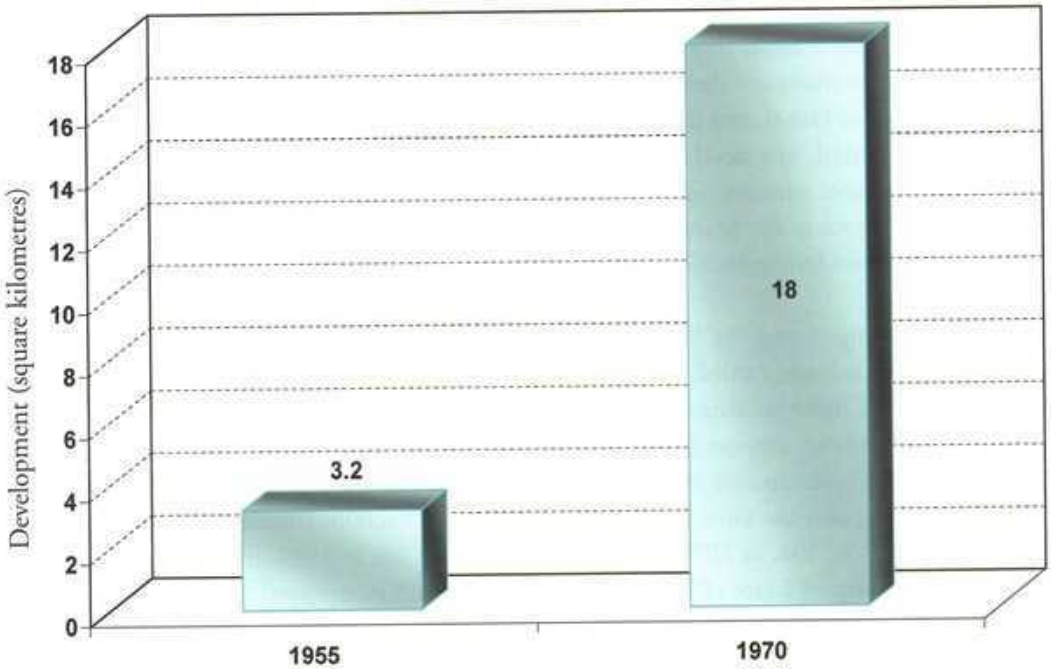
By 1963, major accomplishments included the completion of new roads, the allotment of land for industry in Deira and Bur Dubai, the allocation of land for schools, public parks and government buildings, the construction of Al-Maktoum Bridge, the allocation of residential plots

of land beyond the built-up areas and the supply of water, electricity and telephone services. The Surveying Section was in charge of aerial surveys and of surveys of land use, so as to help in planning for the locating of new roads and other projects.

Urban Development in 1970



Increase in Urban Development, 1955 – 1970 in square kilometres



The organisation and regulation of the construction industry also began, with the issuing of laws and building regulations. This helped to stimulate construction of high-rise and medium-sized buildings in the central commercial areas, leading to a more efficient use of the available land. Much of this activity took place along the waterfront of the Creek. Other development included the expansion of the road network and the construction of Dubai International Airport.

By 1970, the built-up area had increased to around 18 sq. km, representing an annual rate of increase of 12.2 per cent since 1955.

The master plan was sufficiently flexible to take account of changes in land use, such as those affecting the road network as a result of the construction on major projects like Dubai International Airport, on which work began in 1971, and Mina (Port) Rashid, on which work began in 1972. The plan also paid attention to the need to preserve historical buildings, part of the heritage of the city.

Following the beginning of oil exploration, leading to the discovery of oil offshore in 1966 it was recognised that there was a need to pay more attention to the industrial sector, because of the formation of oil service companies. In 1965, land was allocated for the establishment of the Al Khubaissi Industrial Area, covering 1.2 sq. km., followed by the Al Ramoul Industrial Area in 1969, covering 3.91 sq. km.

Stage Three: The Transitional Stage, 1971 – 1980

During this period, a number of developments took place which had an impact on the planning process and the administration of construction projects.

Insofar as the planning process was concerned, the main changes included the creation of numerous architectural practices and construction companies as well as the carrying out of a number of construction projects being implemented as part of the 1970 Master Plan. One of these was the Al Shindagha under-pass. The rapidly-increasing rate of urban development and other changes made it easier to provide for an absorbing of new ideas in the field of construction and of modern architectural design. This latter aspect was integrated with the traditional architectural heritage of Dubai, and facilitated the preservation of a large number of such buildings.

During this period, new developments in terms of infrastructure as well as the creation of the social and economic structure for the fast-developing city were carried out in accordance with the vision laid down in the Master Plan.

A number of modern industrial units were also set up which helped to transform living standards.

The key challenge facing the Municipality was that of ensuring that the required expansion of the utilities network was carried out, in accordance with expectations.

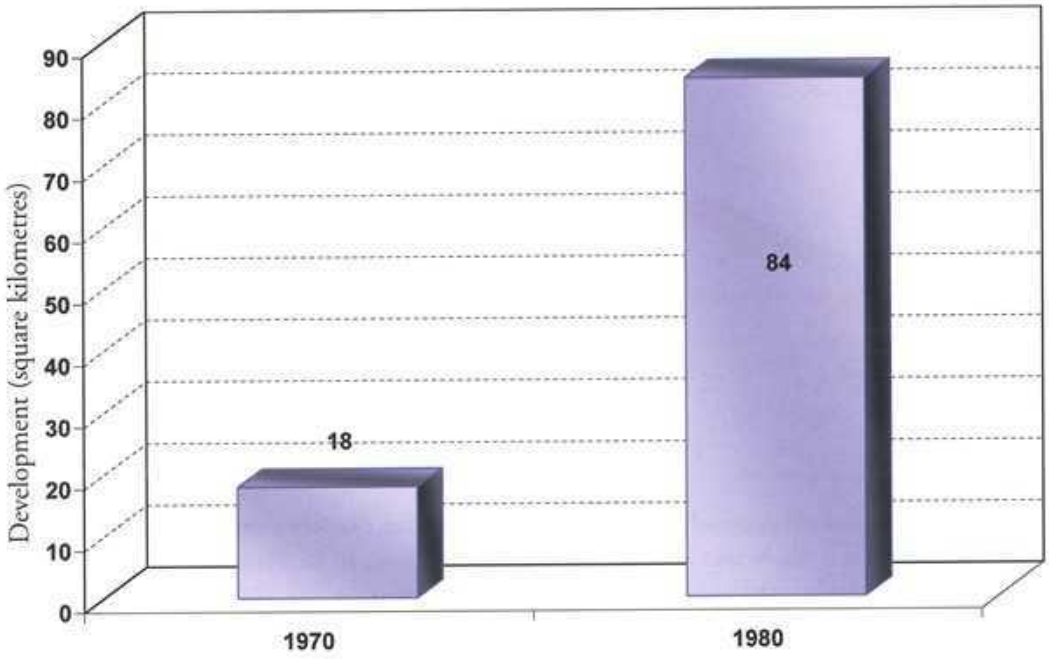
A review of the statistical data shows the speed of growth within Dubai, which could not have been achieved without support from the Municipality.

Thus the total built-up area increased from 18 sq. km, in 1970 to 84 sq. km, in 1980, the population rising over the same period from 100,000 to 276,000. Population density fell from 5,556 people per sq. km, in 1970 to 3,289 people per sq. km in 1980, thanks to an expansion of the built-up area at a rate of 16.7 per cent a year, which outstripped the rate of population growth, at 10.7 per cent a year over the decade from 1970 – 1980.

Urban Development in 1980



Increase in Urban Development during 1971 – 1980, in square kilometres



Fourth Stage: Start of the Urban Planning Stage, 1981 – 1993

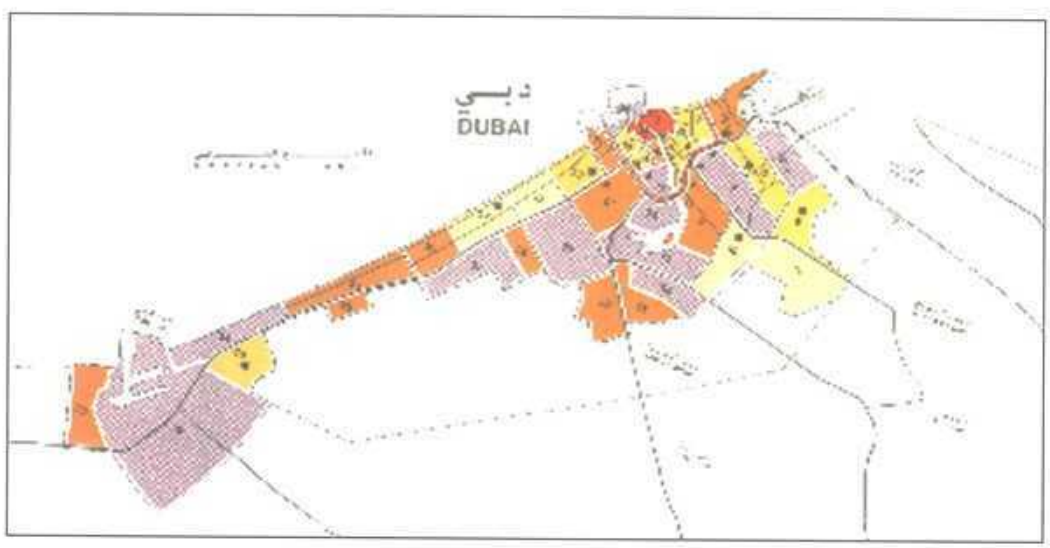
During the 1970s, there was a marked and massive increase in the economy of Dubai, leading to major investment in public utilities and to a significant increase in average incomes. This led, in turn, to an increase in the population and to rising demand for land in the suburbs of Dubai City, where housing policy had previously ensured that a relatively low population density had been maintained.

Other features of the changes included an expansion of the areas used by industry far beyond the residential areas and at a considerable distance from the central commercial area, leading to a reduction in the negative features that arose from the industrial activity that previously took place in these areas. This re-location of industry was fuelled by the provision of public land at low cost.

In 1985, the Municipality commissioned an international firm of consultants to prepare a comprehensive development plan for the Emirate of Dubai up to the year 2005, this work being undertaken under the supervision of the Planning Section. The study commenced with a review of the procedures and plans then in place, followed by a specification of all aspects relating to planning, including its objectives and aims, and the opportunities provided for future development, as well as more general policies for development.

The consultants were also commissioned to draw up a general strategy for the development of the Emirate, to include a re-shaping of the built environment so as to achieve a balance in the distribution of general services and construction throughout the city, as well as to ensure that maximum benefits were obtained from services and public utilities. This part of the study also reviewed ways of reducing the cost of future development.

Urban sectors in the Emirate of Dubai, 1985



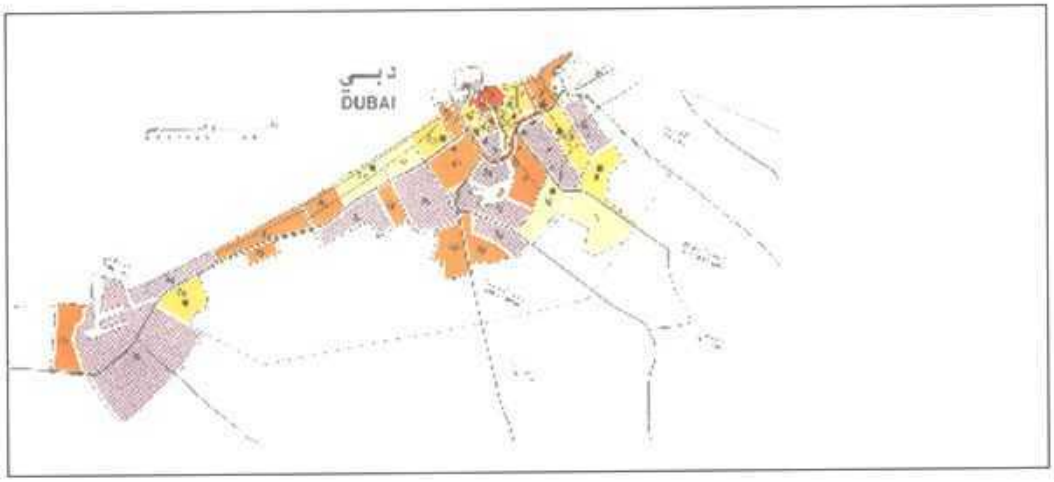
The planning framework upon which the study was based had two key components. The first divided the Emirate as a whole into a total of 37 individual sectors, to facilitate study of the individual needs of each sector. The second component specified those sectors which were to be considered as urban, to help in the planning of the distribution of public services, as shown in the

map which follows.

It was intended that the plan should take into account projections for the future development of economic activity and should also make recommendations related to development policy and to projects put forward for consideration. The map which follows presents an overview of the 1985 comprehensive development plan.

In terms of land administration, a number of key laws and regulations were already in effect.

Comprehensive Development Plan, 1985 – 2005



These included 12 Municipal Orders issued in 1970, covering the construction of buildings and specification of particular areas for land use, the Height of Buildings Law of 1973 and a number of executive regulations.

In 1985, a number of new regulations were prepared and issued, these being seen as important tools to facilitate the carrying out of the development plan. Among them were by-laws classifying areas by type of use, criteria related to land Unit, regulation of advertising and by-laws covering Environmental Protection.

The Comprehensive Development Plan was the first of its kind dealing with forward planning for building development in Dubai which linked social and economic factors with development plans and future needs for planning in the urban area.

Fifth Stage: The Structural Plan for Dubai's urban areas, 1993 – 2015

The completion of the comprehensive development plan was not, of course, the end of the process. It required annual amendment because of the impact of both local changes and developments within the region which had an impact both on the environment as a whole and on planning. Such changes included aspects such as the continued expansion of urban areas and changes to the roads network and to patterns of land use, as well as changes in terms of social and economic factors and population growth and distribution. These all meant that there was a continual need to monitor the process of implementation of the plan so that aspects arising from unforeseen changes which were in conflict with the plan could be addressed and so that the overall development strategy could be preserved.

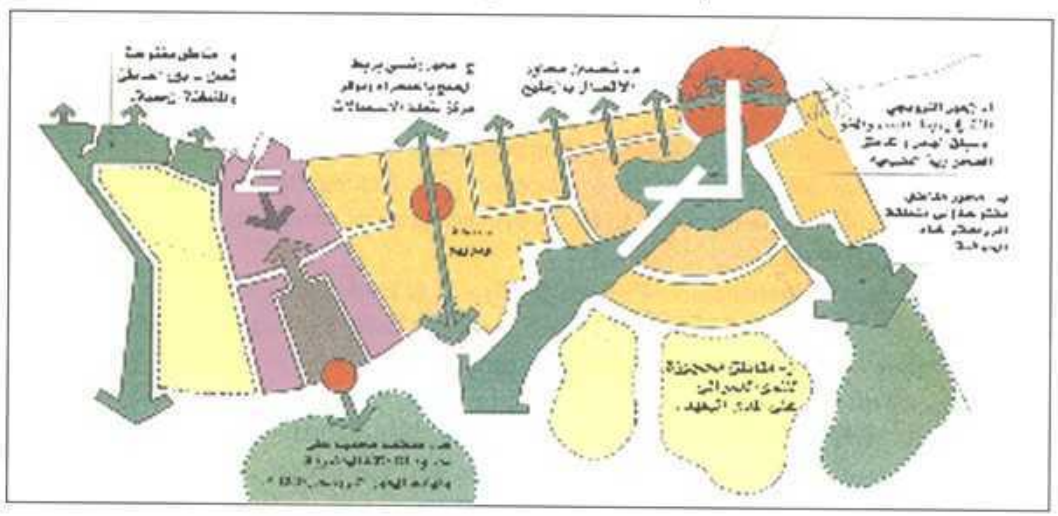
In 1993, therefore, the Planning and Surveying Department prepared a new structural plan for the urban areas of the Emirate of Dubai. One key objective was to ensure that investments in sectors such as public services and utilities were of maximum benefit while another was to create the conditions to encourage private investment.

In accordance with guidance provided by higher authorities, the Department commenced by carrying out detailed studies of each aspect of the planning process and by identifying priority areas, with a view to preparing a long term strategy for comprehensive development. All relevant issues and potential obstacles were identified for all sectors of development while policies and strategies that required immediate or future implementation on a city-wide level were also identified. The structural plan which subsequently emerged was then adopted as an official document to be used as a long term reference for the strategy for future development. This plan was drawn up in such a way that, while remaining comprehensive in scope, it was also sufficiently flexible to permit the rapid changes at a local, regional and international level to be taken into account.

Four functional axes were identified on the basis of which planning for balanced growth both at an urban and at a city-wide level could be undertaken. These were as follows:

- Industrial Axis (Jebel Ali Port – Jebel Ali Free Zone – future International Airport)
- Mina Siyahi Axis
- Ra's al-Khor Axis (Recreational/ Cultural/ Environmental)
- Rural Axis (Al-Khawaneej and Al-Aweer)

Urban components in planning for the development of the Emirate

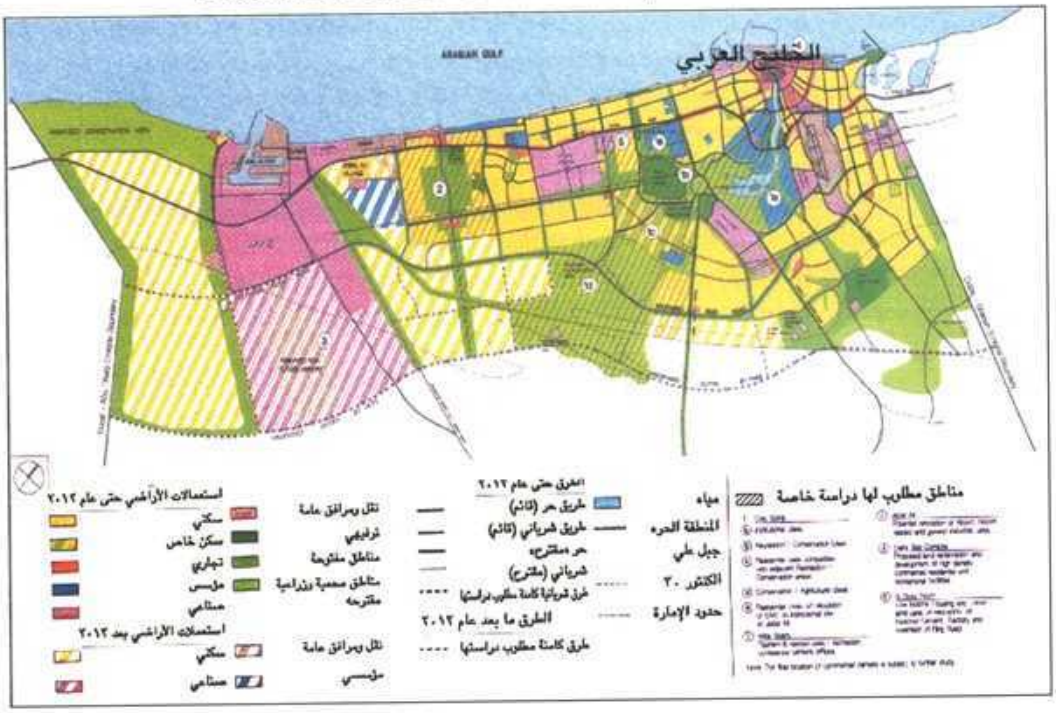


In order to achieve the objectives of the structural plan, a working group was formed consisting of specialists in the field of economics, housing, industry, environment, public utilities, public services, roads, transportation and land use. Each of these aspects included key issues, objectives and policies, and the role of the planning for comprehensive development consisted, therefore, of co-ordinating between and harmonising each sector in the drawing up of policies for the future.

The structural plan for Dubai's urban areas for the period 1993 – 2012 was then

approved, laying down a comprehensive and strategic plan for growth. The following map provides details of the structural plan.

Structural Plan for Urban Dubai, 1993 – 2012



This lengthy period is expected to see a large increase in the total developed area and in population. In 1993, the developed area covered 149.3 sq. km and population was 611,000. By 2012, the developed area is expected to increase to 604.8 sq. km and population is expected to rise to a total of 2.1 million, representing an annual rate of increase of 6.4 per cent. The total workforce is expected to rise to 1.5 million.

If these projections are achieved, then an additional 504 sq. km of land will be required for development of various types by 2012, and one task of the Planning and Surveying Department, in association with other relevant authorities, is to investigate to see whether actual development coincides with the projections.

By 2002, the developed area had already increased from 149.3 sq. km., the 1993 figure, to 220 sq. km, while population had risen from 611,000 in 1993 to 863,000 in 2000. This represents an annual rate of increase in developed areas of 3.9 per cent from 1993 to 2002 and an annual population increase of 4.5 per cent from 1993 to 2000. The largest percentage of developed land is that used for housing.

The rapid rate of development has meant that the basic asset of land must be used wisely, to be of benefit for the Emirate's economy and to sustain economic growth. To support this, the Planning and Surveying Department prepared by-laws on classification and defining land use within Dubai. These provide an importance reference document for decision-makers, and include not only maps of all residential and commercial plots of land but also

provide all of the information relevant to each plot.

The by-laws classified the land to be used for light, medium and heavy industry and also commercial land use by neighbourhood, central areas and the suburbs, as well short term land use types related to temporary housing areas such as workshops and consultants' site offices. The by-laws divided the housing areas in Dubai into nine groups, according to the height of the residential buildings and the location of private villas as well as other residential uses. They also included other Units related to residential and commercial areas, agricultural areas, nature reserves and archaeological sites, in addition to laws relating to car parks.

Also included were legislative and executive aspects and all procedures relating to planning use applications, their revision and approval according to the laws in place, the follow-up process and the mechanism for ensuring their implementation in accordance with the approved plan, as well as an article relating to appeals against decisions made by the Engineering Committee.

Sixth Stage: Implementation of the Structural Plan for Dubai's Urban Areas, 1993 – 2015

Like other fast-developing cities, Dubai has seen major changes since the original approval of the structural plan for the urban areas in 1995. These have included a massive expansion of construction and changes in land use, as well as the expansion of road and utilities networks. This has required the allocation of more land for construction, to meet present and future anticipated demand. In order to keep abreast of these changes and to ensure the implementation of the structural plan in accordance with the suggested objectives and policies, a review of the mechanism for implementing the structural plan was required.

The Dubai Municipality, through the Planning and Surveying Department, therefore prepared a 'strategy and programme for implementing the structural plan for Dubai's urban areas' to permit it to specify the steps required to carry out the plan. Implementation of this required two steps: coordination between the objectives and policies for the structural plan, and the programmes and policies of local and federal offices to ensure that future plans for local and federal offices correspond with the structural plan and, secondly, the creation of a comprehensive planning database based on a large number of planning surveys (social and economic surveys by samples, land use surveys, an industrial areas survey, private sector establishments surveys, a rural areas survey, a comprehensive statistical survey, aerial photography, geometric photography, a survey of urban and rural locations and a general services survey) in addition to a complete geographical survey of the land in the form of maps, aerial photographs and satellite pictures.

Dubai Municipality has also undertaken the following work to facilitate development of the planning process:

- Entering of data on land use, whether residential, commercial or for other purposes, and data on the legislation relating to each plot of land in terms of the permitted uses and buildings

The following table illustrates the expected social, economic and building indicators for the urban areas in Dubai during 2005(*)

Item	2005	2010	2015	Target Year
Population capacity of urban areas in Dubai, including the Jebel Ali Free Zone	1,317,166	1,748,432	2,287,478	2,749,595
Total population number (expected)	1,192,866	1,567,890	2,065,788	-
Labourer concentrations in urban areas	269,836	351,946	462,789	468,366
Labourer concentrations in the Jebel Ali Free Zone	50,072	74,487	117,077	153,429
Total number of families	233,251	306,011	391,249	444,465
Number of school students	188,021	248,131	322,543	378,150
Total number of workforce	685,332	939,786	1,266,069	1,478,659
Rate of economic growth	6%	6%	5.6%	-
GDP per capita, in Dirhams, at fixed 1995 prices	59,299	72,286	79,808	-
Total areas developed, in square kilometres	244.3	309.1	386.7	604.8
Additional areas required for development (in square kilometres)	110	164	147	-
Population density (Person/ Square kilometere	5,187	5,416	5,681	4,030
Additional industrial land in square kilometres	0	10	10	-

* For the target year, that being defined as the year in which the city's maximum capacity in population is achieved, according to construction laws and present population density within the city.

heights stated on the ownership maps, this data then being printed out on A4 paper, using a new key feature, PID.

- Linking the Emirate of Dubai with the new international ITRF coordination system in conjunction with the University of Hanover.
- The following maps illustrate the long term strategies up to 2015 as well as the five year strategic plan up to 2005.

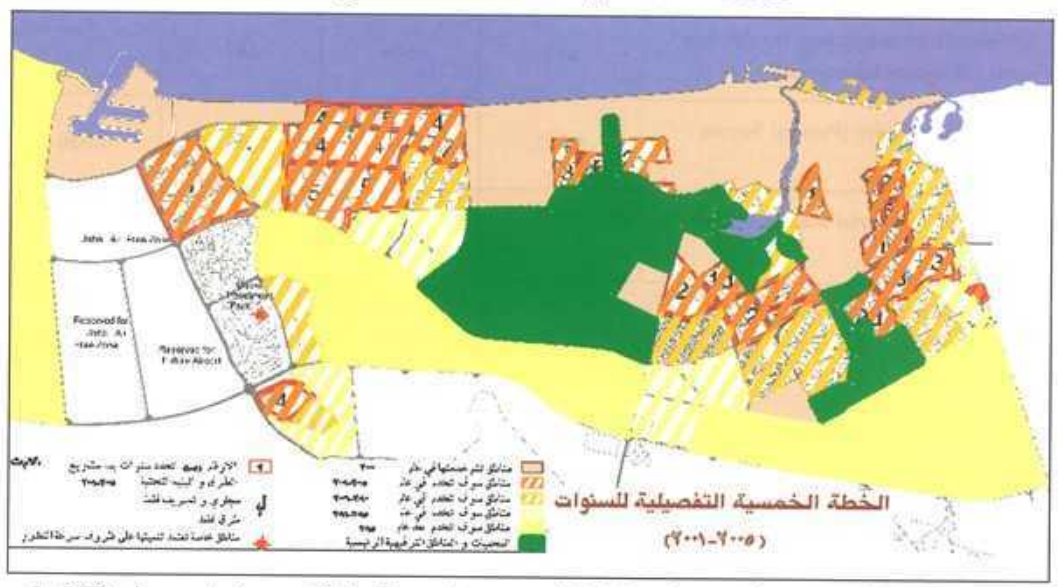
Future Strategic Plan, 2000 – 2015



The areas which will be developed up to 2015 are as follows:

2001 – 2005: 110 sq. km.
2006 – 2010: 164 sq. km.
2011 – 2015: 147 sq. km.

Strategic Five Year Plan, 2001 – 2005



In 2000, the area being provided with services covered 203.9 sq. km., with an area of 244.3 sq. km. to be provided with services by 2005.

The following tables provide the main development indicators during the years 1993 – 2005

Comparison between building development indicators, 1993 – 2005

Indicator	Indicator value in 1993	Indicator value in 1997	Indicator value in 2000	Indicator value in 2005
Area developed (in square kilometres)	149.3	187.8	203.9	244.3
Annual rate of building development	3.9%	4.7%	5.2%	3.8%
Population (in thousands)	611	764	863	1,193
Average annual population growth	6.4%	5.8%	5.1%	5.0%
Number of workforce (in thousands)	218	403	483	685
Average annual growth in the number of labourers	8.9%	7%	6.8%	5.9%
Average annual growth in residential land use	5.5%	8.7%	9.2%	3.8%
Average annual growth in residential/ commercial land use	4.2%	11%	14.1%	7.7%
Average annual growth in commercial land use	5.3%	5.3%	5.6%	3.4%
Average annual growth in industrial land use	5.5%	6%	7%	5.0%
Average annual growth in transportation land use	1.7%	6.1%	7.3%	5.4%
Average annual growth in sports & government services land use	2.8%	0.7%	1.3%	2.4%
Percentage of green areas within the developed areas	1.5%	2.8%	3%	8%
Population density (person/ square kilometre)	4,092	4,308	4,229	5,187
Development of green areas (in square kilometres)	2.2	3.4	4.6	6.8
Green area per person (in square metres)	3.6	4.5	5.3	5.6
Road expenditure portion per person (in Dirhams)	946	786	859	220
Sewerage expenditure per person (in Dirhams)	839	233	270	212
Family average per thousand population	2.6	2.5	2.6	2.8
Average population per doctor	452	435	430	410
Average population per Health Centre	24,400	28,800	30,000	40,000
Average water consumption per person (Gallon/ Day)	98	102	105	110
Average electricity consumption per person (in thousand kilowatt hour/ year)	837	200	290	300

Source: Strategy Programme for implementation of structural plan for urban areas in Dubai 1999, Dubai Municipality

Planning Elements:

Industrial Development

The Dubai Municipality is responsible for the implementation of the economic development strategy for the industrial sector prepared by the Department of Economic Development insofar as the requirements for industrial land are required. The Planning and Surveying Department of the Municipality is directly involved in this process. Land for industry and warehousing is allocated in accordance with the general land use plan, the Planning and Surveying Department having set aside 34.4 sq. km, for this purpose, or 68.5 per cent of the total land area of 50.2 sq. km that is required. 31.6 sq. km. of the land allocated by the Department had been developed for industry by 2002. A total of 36 sq. km. is expected to have been allocated by 2005.

General Services

The Planning and Surveying Department is responsible for evaluating community needs for requirements such as general services and for making proposals for meeting them, in accordance with the specified planning criteria for the Emirate of Dubai. It is also responsible, in collaboration with other concerned bodies, for suggesting suitable locations in which general services facilities can be built. By 2002, 20.5 sq. km. had been allocated for this purpose.

Housing

The Planning and Surveying Department plays an important role in planning new residential areas and in following up on their construction. It is also responsible for preparing strategies and policies related to the future development of the housing sector and for suggesting amendments, if required, to the planning criteria used by other authorities. By 2002, it had allocated 76.3 sq. km. of land for residential and for mixed residential/commercial use, with a total of 82 sq. km. expected to have been allocated by 2005.



An aerial view of Dubai City

The following was the position at the end of 2001 for new residential areas set aside for the provision of housing for Emiratis, as well as for other residential areas in which all plots had been distributed.

No.	Residential Area	Number of plots	Comments
1	Al-Towar	858	Completely distributed (100%)
2	Al-Qusais	480	Completely distributed (100%)
3	Al-Mehaisna (3)	695	Completely distributed (100%)
4	Al-Mizher (1)	1,618	Completely distributed (100%)
5	Al-Mizher (2)	1,336	Completely distributed (100%)
6	Jumeirah (1,2,3) Al Safa, Al Manara, Umm Suqeim	1,575	Completely distributed (100%)
7	Umm Suqeim	3,568	Completely distributed (100%)
8	Al Barsha (1)	169	Completely distributed (100%)
9	Al-Barsha (2)	3,867	Completely distributed (100%)
10	Nad Al Hamar	1,729	Completely distributed (100%)
11	Al Mizher	2,065	High percentage distributed (100%)
12	Al Mehaisna (1)	922	Partially distributed
13	Al Quoz	1,436	Partially distributed. A small section of one block is frozen due to old infra-structure
14	Al Mimzer	603	Partially distributed
15	Zabeel	478	Private area
16	Nad El Sheba	204	Partially private area
17	Al Warqa (1.2.3.4)	5,679	Partially distributed & distribution is commencing under a housing finance programme
18	Oud Al Mateina	2,250	Engineering work is under way
19	Al Barsha South	6,000	Engineering work is under way
20	Nad El Sheba/ Umm Al Hassa	4,132	Engineering work will be implemented later
21	Al Khawaneej	2,650	At the planning stage
22	Al Jumeirah Camp	1,529	At the planning stage
23	Al Wasel	530	At the planning stage

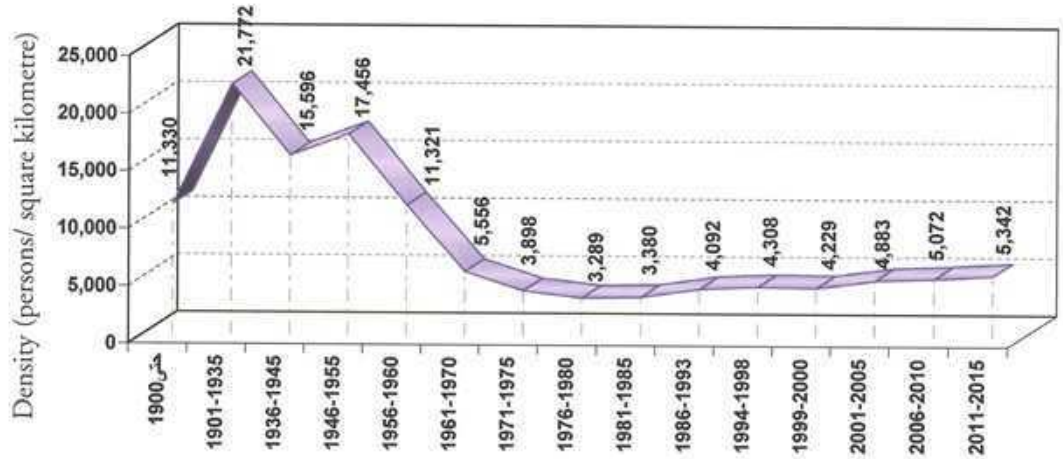
Total number of planned plots in the planning stage	44,373
Total number of plots distributed up to the end of 2001	21,853
Total number of undistributed plots	22,520

A review of the history of the building of Dubai indicates that in 1900, the total built-up area was only around 0.2 sq. km. By 2000, it had risen to over 204 sq. km. and by 2015 is expected to reach 387 sq. km., as shown in Table 5.

Table No. 5. growth of built-up areas and population in the Emirate of Dubai, 1900 – 2015

Period	Area developed in square kilometres	Population	Density: person/square kilometre
Up to 1900	0.2	2,266	11,330
1901-1935	0.8	17,418	21,772
1936-1945	2	31,192	15,596
1946-1955	3.2	55,858	17,456
1956-1960	5.3	60,000	11,321
1961-1970	18	100,000	5,556
1971-1975	47	183,187	3,898
1976-1980	84	276,300	3,289
1981-1985	109.7	370,788	3,380
1986-1993	149.3	610,926	4,092
1994-1998	187.8	809,061	4,308
1999-2000	203.9	862,387	4,229
2001-2005	244.3	1,192,866	4,883
2006-2010	309.1	1,567,890	5,072
2011-2015	386.7	2,065,788	5,342

Development of population density in built-up areas of the Emirate of Dubai, 1900 – 2015 (persons/sq. km.)



As shown in the previous table, by 1960, the built-up area amounted to 5.3 sq. km. By 1980, this had risen to 84 sq. km., an annual rate of increase of 14.8 per cent. By 2002, it had reached 220 sq. km., an annual rate of increase of 4.5 per cent compared to 1980.

During the years 1998 – 2002, the rate of urban growth was 3.2 per cent a year, with average annual population growth over the same period amounting to 6.3 per cent.

The growth in construction and the large increase in the amount of built-up land are among the key results of the process of urbanisation which has transformed Dubai from a coastal town dependent on fishing to a centre of business for the entire Middle East, within a space of no more than twenty years.

From 1986 until 2002, a number of major projects were completed and numerous detailed plans and studies were carried out, to contribute to this process of growth. Among these were:

- The Comprehensive Development Plan for the Emirate of Dubai 1986.
- The Structural Plan for Urban Dubai (1993 – 2015) - 'Future aspirations for Dubai'
- Studying the needs of industrial areas.
- The Dubai Investment City.
- Implementation, in stages, of the Housing Plan.
- Proposed plan for the expansion of the Ra's al-Khor Industrial Area.
- Plan for the Vegetable and Fruit Market.
- Storage of cars for the Ports and Customs Department
- Establishment of the Second-hand Car Market
- The Al-Jadaf Project.
- The project for the development of Al-Deira Corniche.
- The Development Plan for Hatta.
- The Five Year Plan for the Municipality's suggested services up to 2005.
- The suggested road network for 2000, 2005 and 2015.
- Stages of implementing the five year plan for general utilities.
- Recreation and wild life reserves.
- Specification of refuse backfill locations in Dubai.
- Nature Reserves in the Emirate of Dubai.

- Treatment of hazardous waste
- Specification of new locations for quarries and re-planning of areas after cessation of quarrying.
- The University City.
- Al Warqa residential project.
- Planning of Oud Al-Mateina area.
- Planning of al-Khawaneej area.
- Planning of the First Warsan area.
- Planning project for the Nad El Sheba and Umm Al Hassa residential areas.
- Planning for the Al Aweer rural area.
- Re-planning of general services in Shabiyat Al Qusais area
- A comprehensive system for planning land use within Dubai in order to achieve sustainable development.
- Study of the effects of strategic planning on land development policies in Dubai City.
- Structural Plan capacity for Dubai's urban areas.
- Construction development strategy for the Emirate of Dubai.
- Analysis of the present situation and evaluating the future requirements of the Civil Defence.
- Studies of the private and Government schools in the Emirate of Dubai.
- Studies of costs and revenues relating to roads.
- Studies on the effects of traffic
- A comprehensive study of transport in the Emirate of Dubai.
- A study for the expansion of Jebel Ali Free Zone.
- Provision of housing for Emiratis.
- The Environmental Report for the Emirate of Dubai.
- A study and evaluation of general services in Al-Mizher, Areas 1 & 2.
- A study of the general services requirements for Mirdif.
- Evaluation of primary health care services within Dubai's urban areas.
- Proposals for the development of therapeutic tourism in Dubai.

- Re-planning parts of the Al Mamzar and Al Nahda areas.
- Plan for equestrian schools in Al Khawaneej.
- A housing area for low income families in Oud Al Mateina.
- An initial study of the Jebel Ali coastline.
- A study of the Al Abraj area on Sheikh Zayed Road.
- Re-planning Al Khawaneej area and preparation of detailed plans.
- Re-planning of Al Nazwa residential area.
- Re-planning of Al Habab residential area.
- Planning of labourers' residential areas in Ra's al-Khor industrial area 3.
- Planning new industrial area in Hatta.
- Development of Al-Jumeira beaches.
- Engineering work in various parts of Dubai City.
- Engineering work in Al Barsha area south.
- Planning for Al Barsha area south.



Development of Deira Corniche, a part of plans for the future

Transactions completed by the Planning and Surveying Department, 1996 – 2002

Item	Unit of measurement	Total
Public Utilities	Number	34,909
Compensation	Number	4,569
Land amendment work	Number	1,190
Allocation of land for public utilities	Number	2,059
Allocation of industrial land	Number	6,248
Audit of survey maps	Number	41,679
Other industrial transactions	Number	2,384
Legislation forms	Number	9,397
Planning Statement Reports	Number	8,192
Review and audit of building applications by the Building Licencing Committee	Number	49,312
Number of follow up/continuation licences completed by the planning representative from the Economic Develop. Office	Number	180,851
Number of posters	Number	23,770
Number of designs	Number	1,595
Number of three-dimensional displays	Number	101
Number of jobs implemented in the advertisements workshop	Number	8,962
Number of jobs implemented outside the advertisements workshop.	Number	3,811
Number of points read in detailed topographical surveys	Number	469,286
Length of Travosat	Km.	11,978
Number of control points achieved in Travosat	Number	4,714
Length of lines within the balance network of control points (control point levels)	Km.	1,342
Satellite readings	Number	19,334
Number of height points	Number	20,235
Information request for survey control points	Number	7,256
Number of points for specifying road boundaries	Number	3,342
Number of survey control points created	Number	9,357
Maintenance of survey points	Number	37,296
Locating Landmarks	Number	21,254
Specifying the Qiblah (Direction of Mecca)	Number	302
Other Survey Work	Hour	12,540
Specifying Building Plots	Number	11,100
Building Plot Certificates	Number	16,429
Certificates of building plot review.	Number	6,602
Certificates of Completion	Number	10,131
Survey of farms	Number	1,242
Survey for issue of location maps	Number	3,261
Location visits	Number	795
Public Utilities	Km.	884
Planning Amendments	Km.	945
Number of location maps for residential and commercial use	Number	57,162

Source: Annual reports of the Planning and Surveying Department, 1996 – 2002

Contracts and Purchasing Department

The Contracts and Purchasing Department is one of the key departments of the Municipality, particularly in view of the rapid development of construction within the city and the Emirate as a whole. The success of any institution or organisation in carrying out its projects depends to a very considerable extent on the provision of successful administrative support and on its contracts procedures. This requires a proper development of strategies related to contracts, both those of a standard form and others.

The Contracts and Purchasing Department of the Dubai Municipality is the focal point in organising the relationship between external clients, represented by companies and individuals, and the internal clients represented by the various administrative units of the Municipality. As such, it is responsible for inviting tenders, signing contracts, choosing the best contractors and consultants and for avoiding disputes and disagreements on the interpretation of contracts.

It is also responsible for the whole process of preparing and evaluating tenders, for ensuring that the process of selecting winners is transparent and for the efficient administration of the negotiation process. The Dubai Municipality has earned a reputation for high efficiency in terms of inviting tenders and awarding contracts, a reputation of considerable importance, given the fact that many of the contracts are worth billions of dirhams. It is worthy of note that there have been no disputes between the Municipality and its contractors and suppliers, who have clearly developed full trust in the Municipality. Throughout its existence, and, most significantly, during the phase of rapid development from 1985 onwards, not a single complaint or allegation of unfair practice has been received.

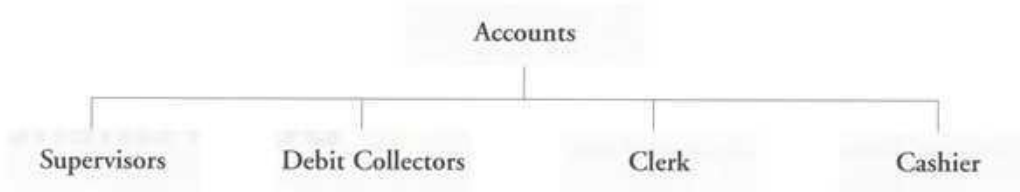
The Department is also responsible for issuing of and storage of all goods and items required by the Municipality's various units, including equipment and machinery.

Looking ahead, the importance of the Municipality is likely to increase because of the introduction of new laws relating to privatisation and, consequently, the creation of joint ventures with the private sector for carrying out new projects. This will require the development of new systems and procedures related to contracts that are in accordance with international best practice and the development of e-commerce.

Development of the Contracts and Purchasing Department

In the early years of the Municipality's existence, the purchasing process was very limited and simple. The task of handling purchases was allocated from time to time to individuals who lacked any specialist knowledge, with a clerk from the Accounts Office being placed in charge of the process, as shown in Chart No. 1.

Chart No. 1. Organisation Chart for the Accounts Office when established in 1957



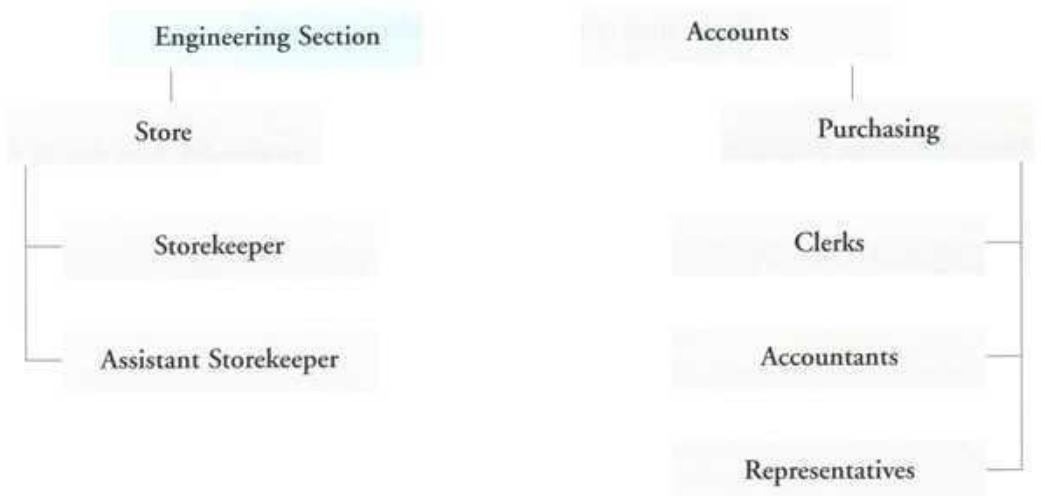
The subsequent development of the Municipality and the expansion of its activities had a significant effect, naturally, on the amount and the diversity of the purchasing that was undertaken, requiring the creation of a dedicated office for the purpose. In 1964, therefore, a Purchasing Office, affiliated to the Accounts Office, was established, with a head and two clerks, as shown in Chart No. 2. At this time, purchasing was only undertaken to cover immediate needs.

Chart No. 2. Organisation Chart for Accounts, 1964



Although the quantity of purchases increased, the expanding activities of the Municipality meant that shortages in some items began to appear. This was addressed by arranging for purchases of more items than were needed immediately, and a store became necessary. This was set up in 1969 and was affiliated to the Engineering Section. This formed the nucleus of today's Stores Section, and had, at the time, a storekeeper and an assistant storekeeper, as shown in Chart No. 3.

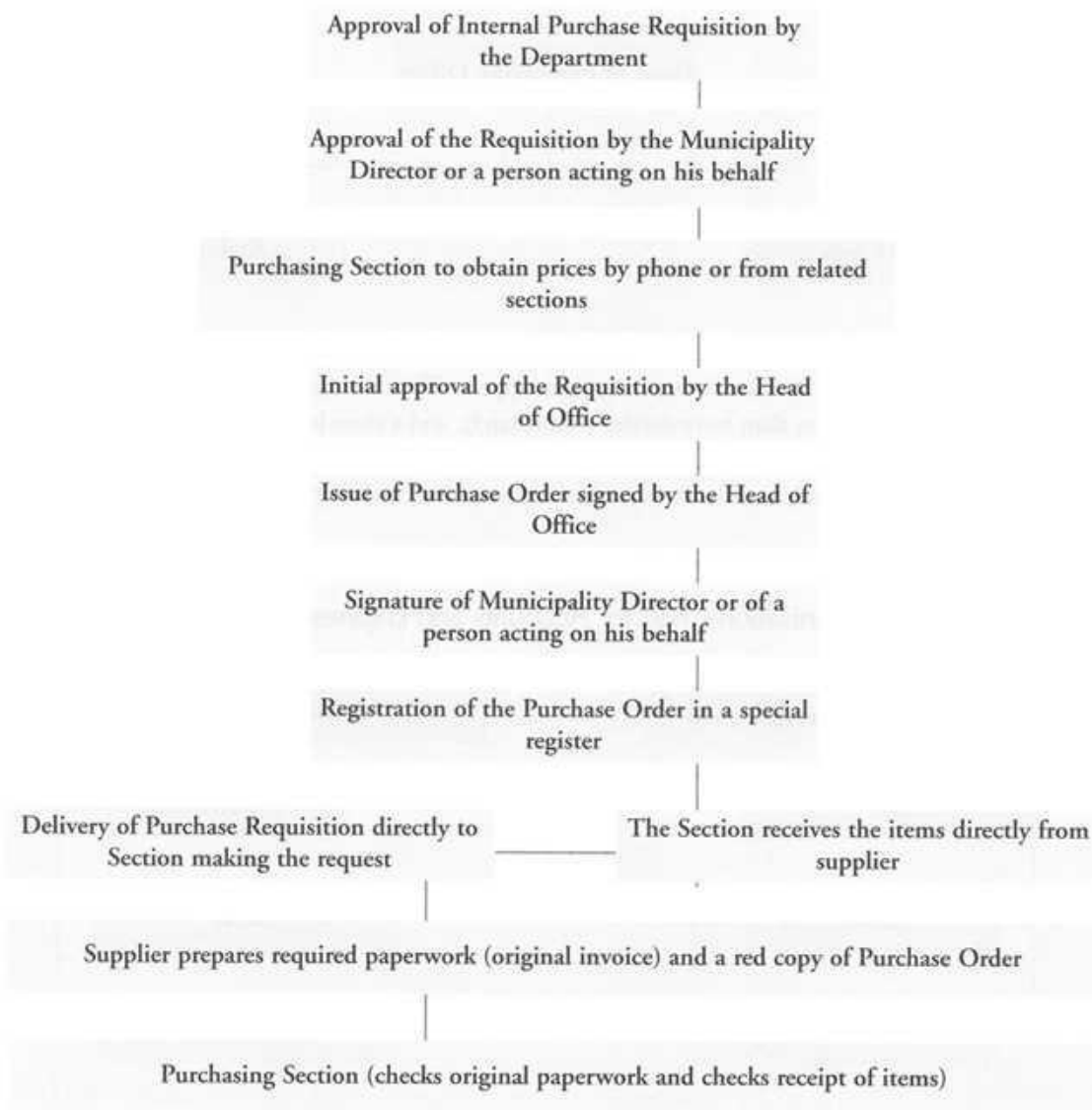
Chart No. 3. Organisation Chart for Accounts and Engineering Sections in 1971



In 1971, the status of the Purchasing Office was changed, it being raised to that of a Section, which remained affiliated to the Accounts Department. It was staffed by a Head of Section, clerks, sales representatives and accountants.

The process of purchasing also developed, with the introduction of more formal procedures. Special Purchasing Forms were designed and approved, while Internal Purchase Requisitions and Municipal Purchase Orders were also created for items needed, making a clear distinction between the party requesting items, the party responsible for purchasing and the party responsible for receiving them from the supplier.

The procedure then in place can be explained as follows:



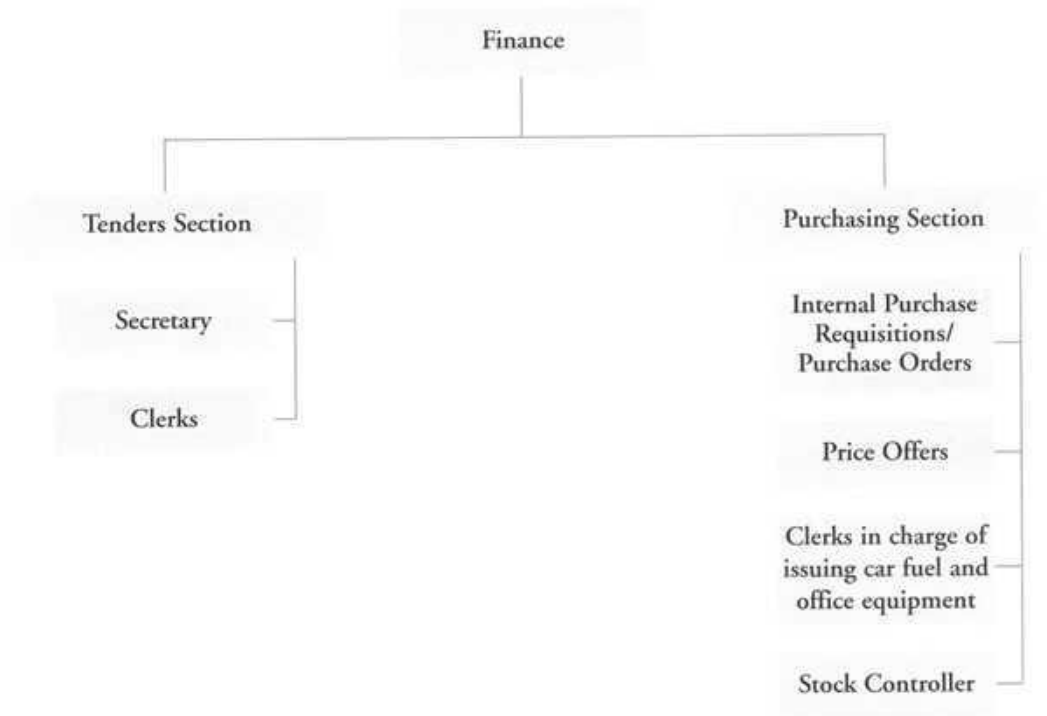
The following Administrative Orders defined the procedures to be followed:

- In 1974, Administrative Order No 65/1974 was issued in respect of controlling and organising the purchasing process, appointing one employee in each department to be responsible for the receipt of purchased items.
- In 1976, the Stores Section was moved to the Accounts Department by an Administrative Order which defined the authority relating to the approval of Purchase Orders as follows:

Maximum authority limits for approving Purchase Order amounts		
Head of Purchasing Office	Assistant Director General of Financial Affairs	Municipality Director and his Deputy
10,000 Dirhams	30,000 Dirhams	Above 30,000 Dirhams

In 1978, a major re-structuring of the Finance Department got under way. An office for Quantity Surveyors was established which was linked to the Engineering Section, and a Tenders and Contracts Section was also established, linked to the Finance Department. This was given the responsibility for inviting tenders and for organising contractual relationships with contractors and suppliers. This is illustrated in Chart No. 4.

Chart No. 4. Organisation Chart for Finance in 1978



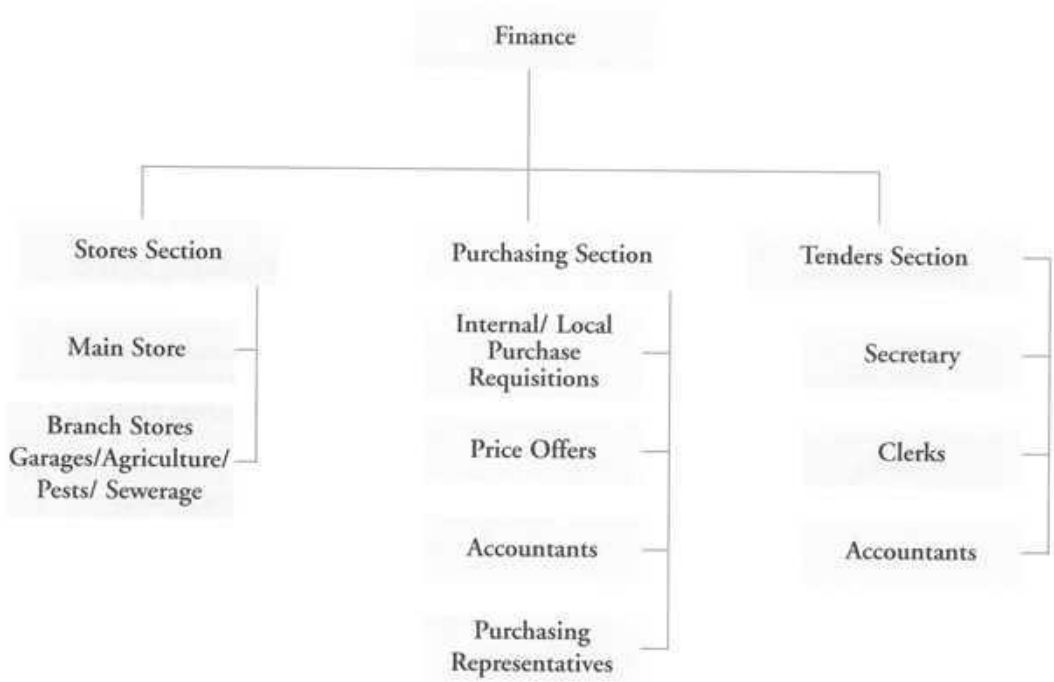
In 1979, another Administrative Order was issued to regulate the preliminary phase of purchase operations, laying down that no less than three quotations must be obtained, each of which must arrive in envelopes sealed with red wax.

On 13th September 1980, Administrative Order 103/1980 stipulated that compliance with the tenders and contracts law was mandatory. The Assistant Director of Financial Affairs was also given some of the authority to approve purchases that had previously been limited to the Director of the Municipality, notably a limit of Dh 50,000 for tenders and Dh 10,000 for direct purchases.

A Purchasing Committee was also established headed by the Assistant Director of Financial Affairs with the Head of the Accounts Section, the Head of the Purchasing Section, the Head of the Tenders Section and the Head of the Section concerned as members. This committee was given the task of making a weekly report on purchase requisitions to the Municipality Director for his approval, following which they were sent to the Financial Committee of the Municipality at the end of each month.

In 1985, the Stores Section, including the branch stores and the Quantity Surveying Section were transferred to the Finance Department. Numbers of employees in each section also increased, these changes being shown in Chart No. 5.

Chart No. 5. Organisation Chart for Finance in 1985



Establishment and Development of the Stores Section

The Stores Section was established in 1969. At the time, it was called the Engineering Store, and was part of the Engineering Section. The store itself was adjacent to the present Clinic and Medical Services Section near Al-Ittihad Square and consisted of a four-room building, in which used furniture, basic building materials and equipment for maintaining buildings and street lighting were stored.

Since there was no single body responsible for all stores, each section of the Municipality also began to establish its own stores, such as the Pest Control Store, part of the Pest Control Section, the Agriculture Store, the Roads Store, the Veterinary Store, the Health Store, the Stationery Store and the Confiscated Goods Store. All of these were subsequently integrated under the Stores Section.

Main Store

The nucleus of today's Al-Rashidiya Main Store was a cement store set up in 1971

In 1976, a Stores Controller, a Storekeeper and a number of labourers were appointed, while in 1980 additional storekeepers and assistants were added, making a total of six employers, besides the manual labourers.

Agriculture Store

This store was established in 1974 at an agricultural nursery in Hor Al-Anz , as part of the Agriculture Section.

Pest Control Store

Established in 1977 as part of the Pest Control Section, it had 3 rooms for the storage of insecticides, disinfectants and spare parts. It was located in the Engineering Equipment Stores, located in the present Municipality employees' car park. Storekeeping was rudimentary, extending only to a simple ledger.

Contracts and Purchasing, 1985 – 1995

The growing amount of Municipality work, along with the increase in the number of its various unit and employees, made it clear that there was a need for re-structuring of the contracts and purchasing procedure. This need was made more apparent because of the fact that there was an evident conflict between some of the Administrative Orders dealing with this work.

With the assistance of the United Nations Development Programme, therefore, studies were carried out that resulted in a number of suggestions for changes in working procedures as well as for the creation of a Contracts and Purchasing Department.

An initial step, on the administrative side, was the recruitment of Dr. Wael Bunni, an expert in financial disputes from the International Arbitration Committee. He was given the task of developing the Municipality's contracts and purchasing system and of preparing an internal 'white paper' on legal contracts. A committee was also formed to study costs and the nature of the existing co-ordination between the relevant organisational units, such as Tenders, Contracts, Purchasing, Stores and Quantity Surveying.

Among key results to emerge from this study was a decision to introduce the use of computers into the Purchasing and Stores Department in 1987. Among items produced on computers were all

Purchase Orders, price lists produced for the Purchasing Committee and statements relating to payments due to suppliers.

In the Stores Section, all items were entered on to a computerised database, being classified and coded according to international norms.

Receipts and Payments Vouchers were issued and recorded automatically, a major step forward in the organisation of Purchasing and Stores accounts. This new system also made it possible to produce reports with ease, something which had not previously been possible, this in turn serving as a first step towards both an expansion of the scope of work and a reduction of cost, as important parts of Department policy.

It also became possible to adopt unified procedures and computer systems in all stores and simplified the procedure of creating new stores in other departments. Thus the Stores Controller became responsible for the Al Rashidiya Store, the Spare Parts Store (Garage), the Pest Control Store, the Agriculture Store, at Hor al-Anz, and the Drainage Store, at Garhood.

The Stationery Store, the Confiscated Items Store and the Scrap Compound were placed under the supervision of Administrative Affairs, while the Property Store, for office and domestic furniture, was supervised by the Personnel Department.

On 6th February 1989, Administrative Order No. 50 was issued, providing for the establishment of a Department for Supplies and Contracts, to include the Purchasing, Stores, Tenders and Contracts and Cost Monitoring Sections, as shown in Chart No. 6. Later in the year, the name of the department was changed to the Contracts and Purchasing Department, under the terms of Administrative Directive No. 333 as illustrated in Chart No. 7.

Chart No. 6. Organisation Chart for Supplies and Contracts Department in 1989

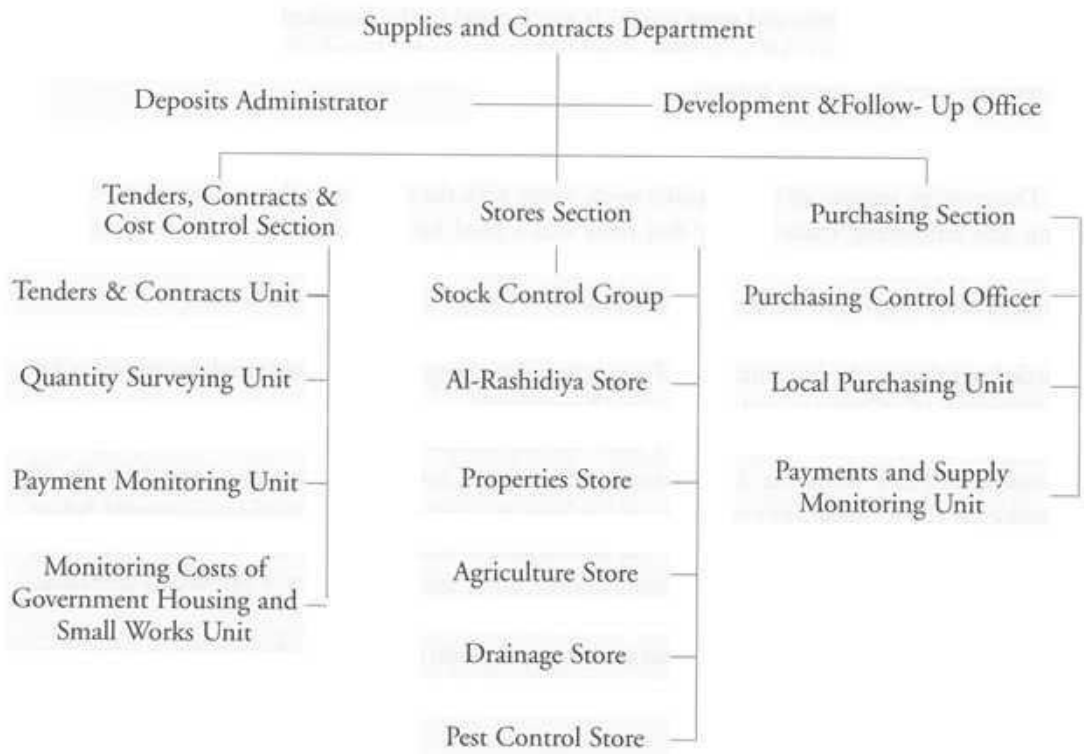
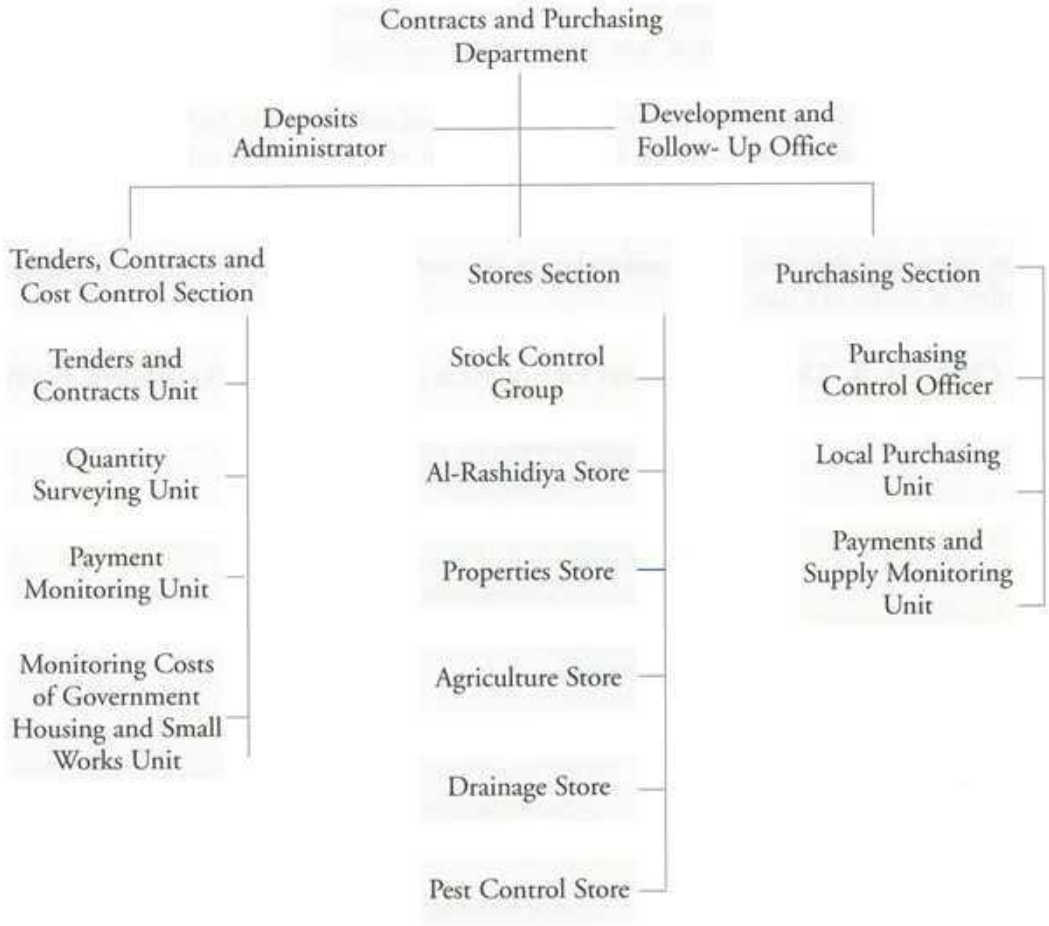


Chart No. 7. Organisation Chart for Contracts and Purchasing Department in1989



In 1990, the Provisions Section was added to the Department by Administrative Order No. 5 for 1990.

The changes in structure led to the introduction of a number of new practices. These included full documentation of work methods, proper co-ordination among the various units so as to address the issues of overlapping responsibilities and authorities and to clarify lines of communication, simplify procedures and unify the system of monitoring work performance. Other steps were taken on the allocation of work and associated costs while the first steps were also taken to introduce a real degree of Emiratisation, by allocating jobs and associated responsibilities to UAE citizens.

Third Transformation 1995 – 2000

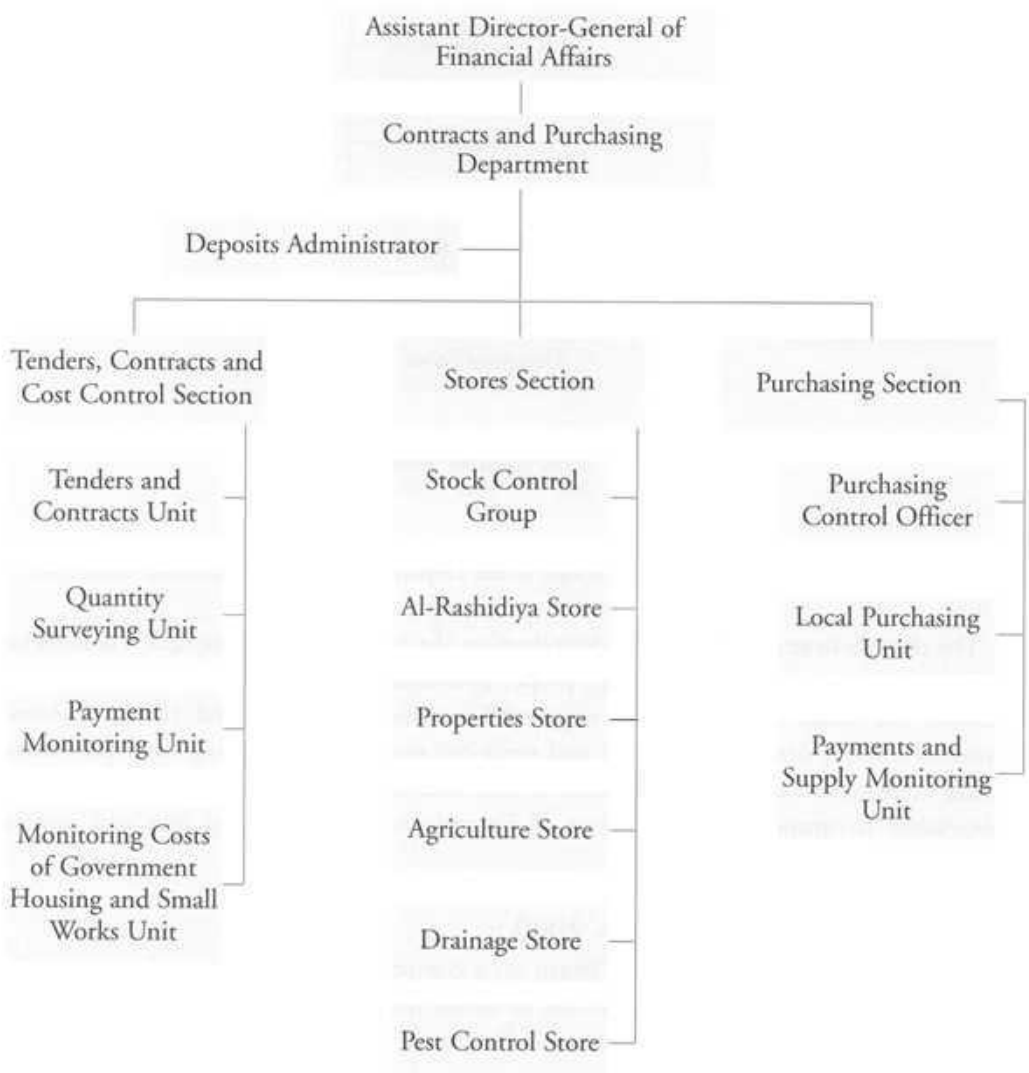
At the beginning of 1995, work began on a comprehensive study to update many of the services provided by the Department and to define the various levels of authority within the organisational units of the Contracts and Purchasing Department. The increased size and

number of projects being carried out by the Municipality, as well as the general increase in Municipality duties made it essential to improve the quality of the services offered to meet the expectations of customers both within and outside the organisation.

To achieve this, a number of new computer systems were introduced. These included the Engineering Projects System, the Purchasing System, the Stores System, the Fixed Assets System, the Financial Payments System, the Tenders System and the Electronic Archiving System.

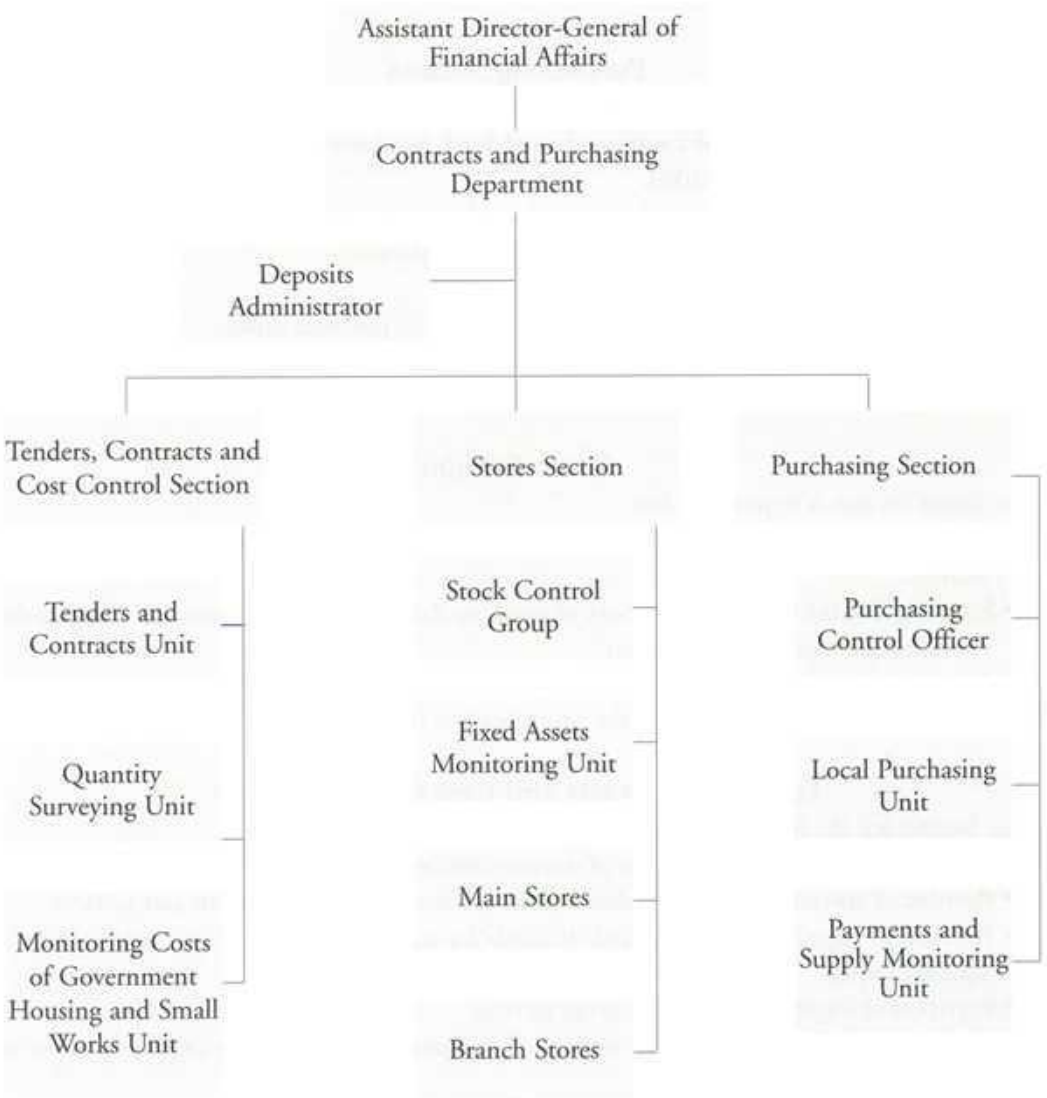
These were developed using the Department's own resources and in collaboration with the Information Technology Department. One key development was the establishment of a master database as a portal of entry, an important step forward in offering all services in such a way as to ensure that they were being undertaken in line with the requirements of the e-Government plan, as shown in Chart No. 8.

Chart No. 8. Organisation Chart for Contracts and Purchasing Department in 1995



In 1997, Law No. 6 was issued to organise the purchasing and contracts process for Government offices in the Emirate of Dubai. This was followed by the issuing of a number of Municipality Administrative Directives to lay down the framework for implementation of the Law. These required minor amendments to the Department's structure, which were made in 2000 in accordance with the terms of Administrative Directive No. 109, as shown in Chart No. 9.

Chart No. 9. Organisation Chart for the Contracts and Purchasing Department in 2000



A work procedures manual was also approved within the Contracts and Purchasing Department in 2001.

The Main duties and responsibilities of the Contracts and Purchasing Department and its affiliated sections

The Contracts and Purchasing Department is responsible for purchasing services, inviting tenders and entering into contracts in order to provide goods and materials for the Municipality according to the specifications required and in a cost-effective manner. It also undertakes quantity surveying, prepares documentation for Municipality tenders for small projects and organises special insurance services for all Municipality requirements.

Other responsibilities include the storage of materials in a proper manner and for monitoring the Municipality's fixed assets, as well as briefing of consultants and contractors working on Municipality projects.

Purchasing Section

The responsibilities of this Section include:

- Preparation and issuing of memoranda and local purchasing orders to obtain goods and materials from the local market.
- Issue of purchasing orders to obtain goods and materials from the external market, when such are approved on the basis of prevailing circumstances..
- Receiving price quotations and studying them.
- Auditing and correcting payments arising as a result of purchase orders.
- Carrying out wholesale purchases after collecting and consolidating requests from within the Municipality that permit such procedures.

Stores Section

The Stores Section is responsible for:

- Ensuring that the Municipality Stores and their contents are maintained in a correct and safe manner.
- Ensuring that the receipt and delivery of goods to the stores are carried out according to the relevant regulations and procedures.
- Arranging the sale of redundant and unused items by auction.
- Monitoring and following up on the Municipality's fixed assets.

Tenders, Contracts and Cost Control Section

This Section has the following responsibilities:

- Revision, announcement and issue of documentation for tenders.
- Revision of special contracts for Municipality projects related to materials and services.
- Revision of payment certificates and demands for payment and ensuring compliance with contract terms.
- Provision of internal quantity surveying services.
- Provision of effective services in respect of disputes arising from the implementation of projects.
- Revision of tenders presented for the Municipality's construction projects and compiling analysis reports.
- Briefing of contractors and consultants and re-evaluating them on a regular basis.

Development of computer systems in the Contracts and Purchasing Department

Stores System

The new stores system, with many new administrative and technical features, was implemented in August 1999 to replace the previous system, which had only a limited capacity and to take over its functions.

It was designed to complement the Municipality's policy of centralising the system, yet facilitating a decentralisation process that permitted the establishment of separate stores throughout the Municipality, whether main stores, parts stores or local, branch stores, as well as creating 'virtual warehouses', for stock control and monitoring of usage in all departments, sections and Units.

Simple procedures, like the WorkFlow process, coupled with an effective authorisation system and data security, allow the Stores Section to control the system fully in terms of setting up and granting permission for procedures such as establishment of a new store, adding a new user and designing new authorities.

The system has two levels of accounting, at the level of both the stores and the administrative units, allowing flexibility, while it is also designed to make it easy to expand the services offered to departments and sections and their affiliated units.

The stores system includes an item classification system and an enquiries process which is specific to the Stock Control Unit. This simplifies the process of monitoring stocks and making the necessary decisions with regard to the purchasing process.

Another feature is a Bin Location System which establishes and defines the stock available in each store and which is linked to the geographic information system, GIS.

A duplicate balance system incorporates an instant balance system, which has both an approval feature and a feature to cancel approvals, providing for flexibility in the case of mistakes, and also a system of balances carried forward.

Able to produce high quality reports, especially with regards to administrative information, the system is easily linked to other computer systems in place, such as the Purchasing System and the Vehicle Maintenance System, and has technical features that permit the establishment of effective inter-facing with other technologies such as those used in the archiving system and the bar code system.

Purchasing System

Implementation of the Purchasing System began in 1999. It has been of very considerable help in introducing the system of e-purchasing which was launched in 2001, permitting employees to request and receive authorisation electronically for purchase requirements and requisition orders.

The System is electronically linked to various Municipality sections, including the Stores Section, permitting purchasing requisitions to be prepared electronically and at a distance, a feature of particular importance, since the Municipality has a total of around 150 work locations, spread throughout the Emirate of Dubai.

People requesting an item fill in a form on their computer screens and transmit it

through the computer network to an employee authorised to give approval, following which it is forwarded to the Technical Department, if any technical items are required, and then on to the Stores Section. There the item is checked against the stock available. If it is not available, following the receipt of approval from the Stores System, the Purchasing Section reviews the request. Automated approval is then given by an authorised employee from the Contracts and Purchasing Department and the requisition is sent to specialised companies on the Municipality's list of registered suppliers, for quotations to be obtained. After these are received and opened, the requisition is then transferred by computer to the Budget Department, for a financial commitment to be made, following which a Purchase Order is issued, this, once again, being approved electronically.

Benefits of using the system

The system produced a number of major benefits for the work of the Department.

It was possible, for example, to reduce very substantially the amount of time required to audit purchase requisitions, since enquiries relating to the requisitions, prices, the purchase order, the statement number or document number could be made electronically.

The enhanced accuracy arising from the electronic method of creating, storing and checking information meant that there was a marked reduction in mistakes made due to human error while the use of paper was dramatically reduced, helping to implement the department's policy on this aspect of its work.

All data related to purchasing is now produced by a unified method and system, while the electronic form of storage not only increases efficiency but also reduces the amount of space required for paper files.

The simplicity of data retrieval by computer has also facilitated the production of reports, both in terms of speed and of accuracy, while less manual work is required in auditing and revision of documents.

The links established with the stores system made it easy to check the availability of items in stock while there were also cost savings since employees no longer needed to travel between their places of work and the department's offices such as the Stores Section and the Purchasing Section.

More generally, the system made it easy to collect information on purchases at Unit level within each department and helped the departments themselves to follow up on their purchases and to monitor their expenditure in relation to their budgets. The overall saving of the time and cost related to purchase requisitions proved to be beneficial throughout the Municipality, while the new system also made it easy, at every stage of a purchasing process, for requisitions to be returned to their initiators to provide information on whether they had been rejected, amended or approved.

Finally, the system was designed in such a way to make it easy to link it to the Internet.

Manpower and the Emiratisation of jobs

Between 1975 and 2002, the number of employees in the Contracts and Purchasing Department increased considerably, in line with the general growth of the Municipality's work and workforce. The graph below shows this expansion in manpower.

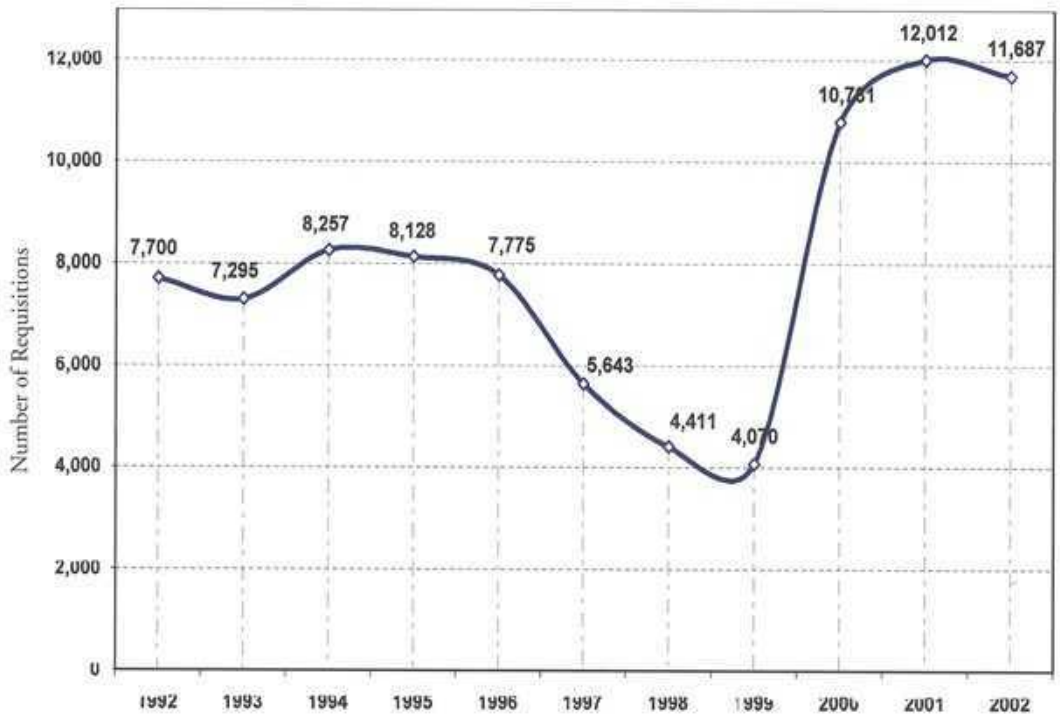
By 1999, the percentage of Emiratis in the Department had risen to 39 per cent, higher than the target. This has been achieved as a result of a special programme designed to train Emiratis in a number of fields where, in 1995, an Emiratisation programme had been difficult to implement because of the lack of trained personnel and because of the fact that there were no courses of higher education dealing with these particular fields. One such type of work was quantity surveying, and, to tackle this deficiency, the Municipality started a programme of training Emirati graduates in local quantity surveyors' offices. Successful discussions were also held with the Higher Colleges of Technology on the introduction of special courses while agreements were made to send Emirati students to study quantity surveying in several Australian universities.

The Contracts and Purchasing Department workforce in 1999, showing the percentage of Emiratisation

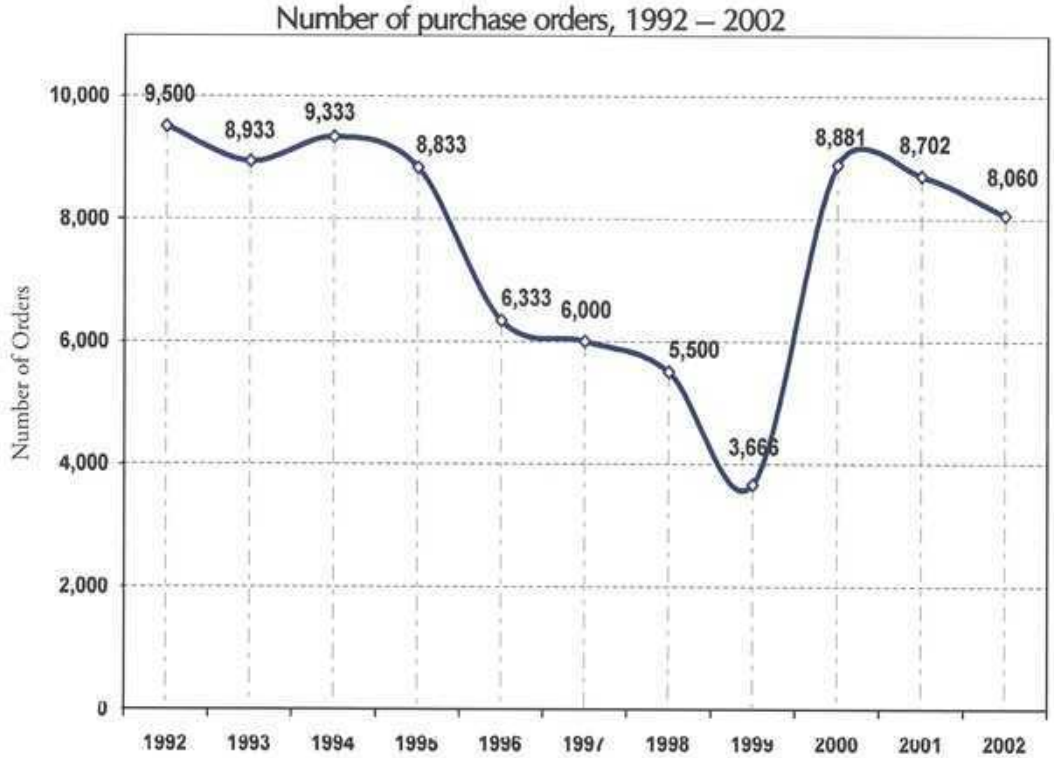
The Contracts and Purchasing Department workforce in 1999, showing the percentage of Emiratisation

Section	Emiratis	Expatriate	Total	Percentage of Emiratis
Contracts and Purchasing – Administration	8	4	12	67%
Purchasing Section	14	12	26	54%
Stores Section	18	50	68	26%
Tenders, Contracts and Cost Control Section	13	17	30	43%
Total	53	83	136	39%

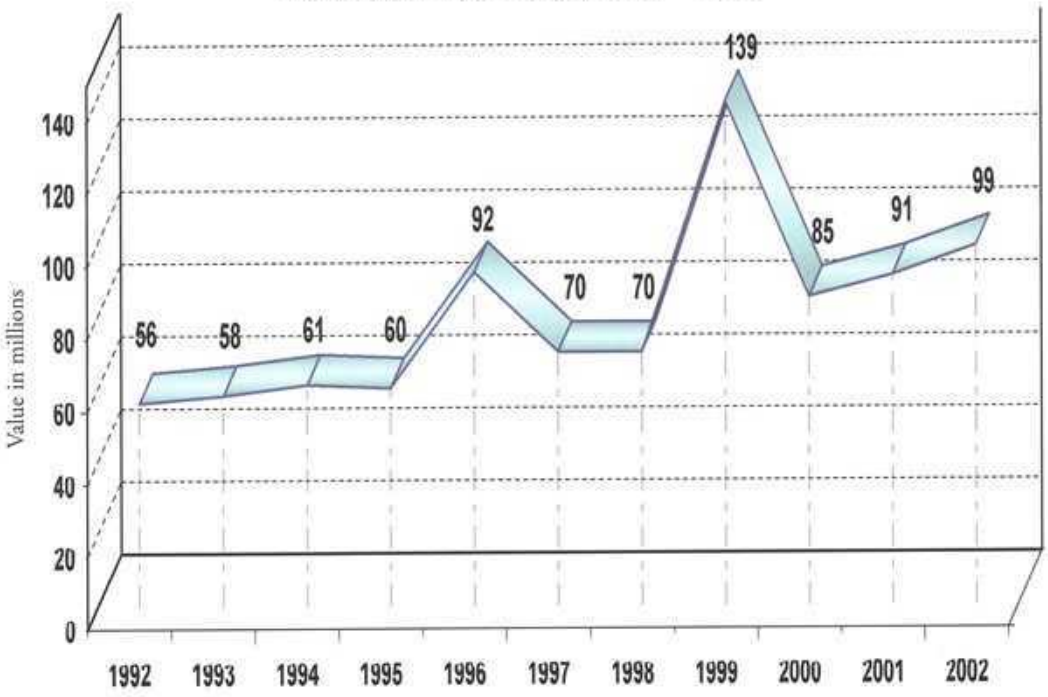
Number of purchase requisitions, 1992 – 2002



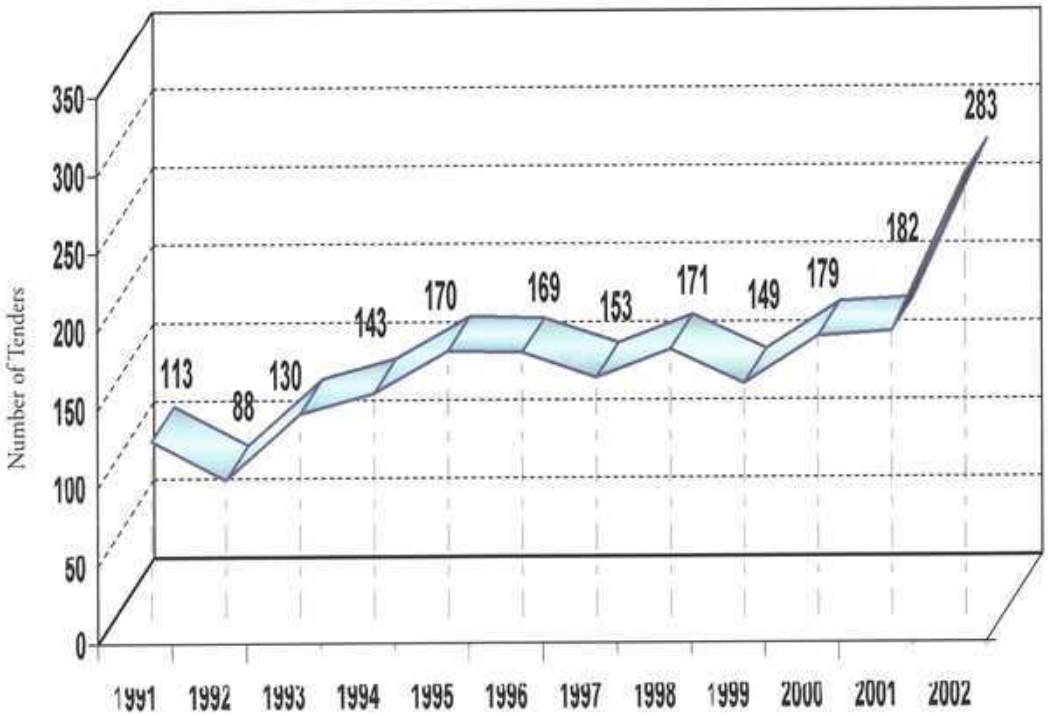
Number of purchase orders, 1992 – 2002



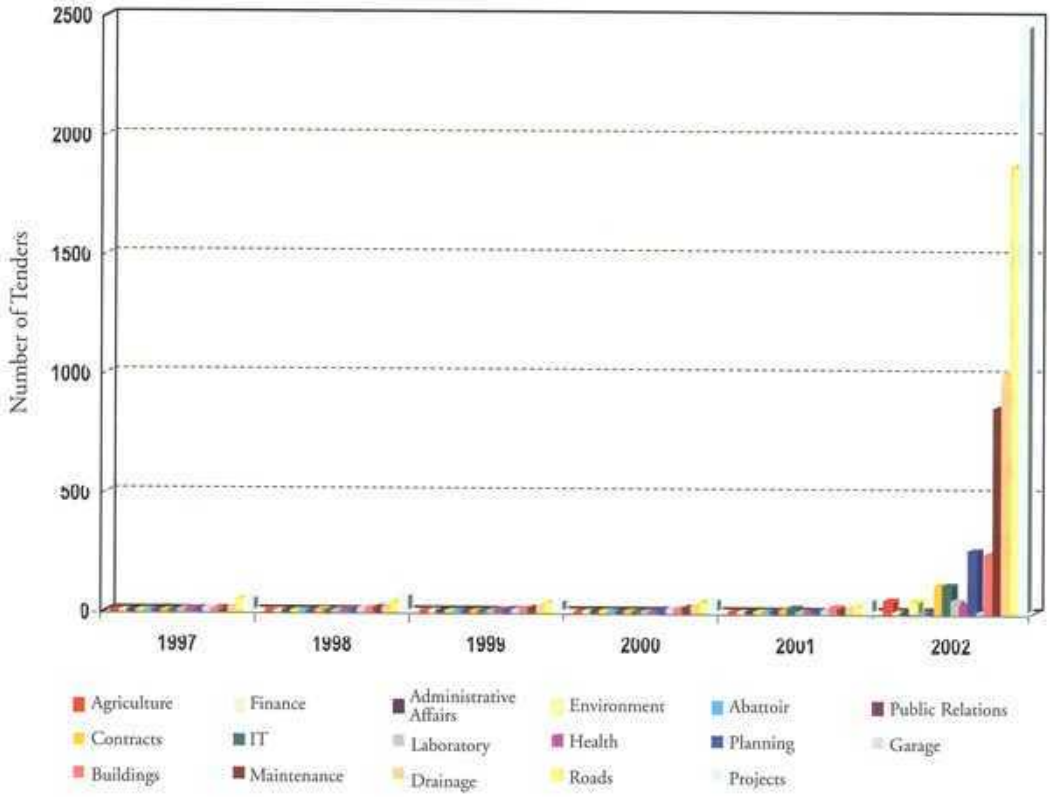
Value of purchase orders, 1992 – 2002



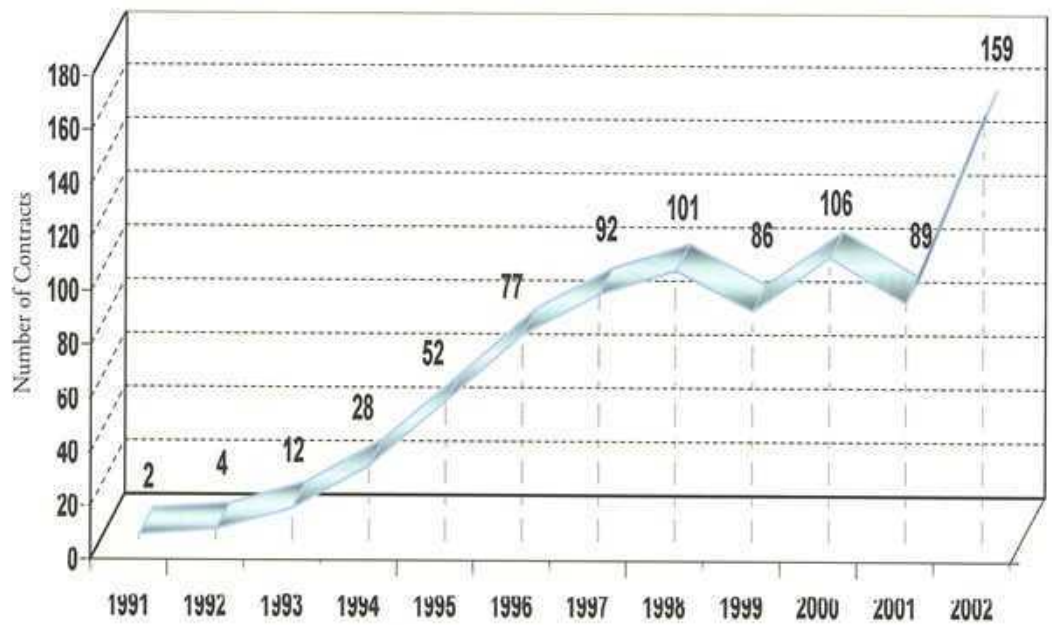
Number of tenders, 1991 – 2002



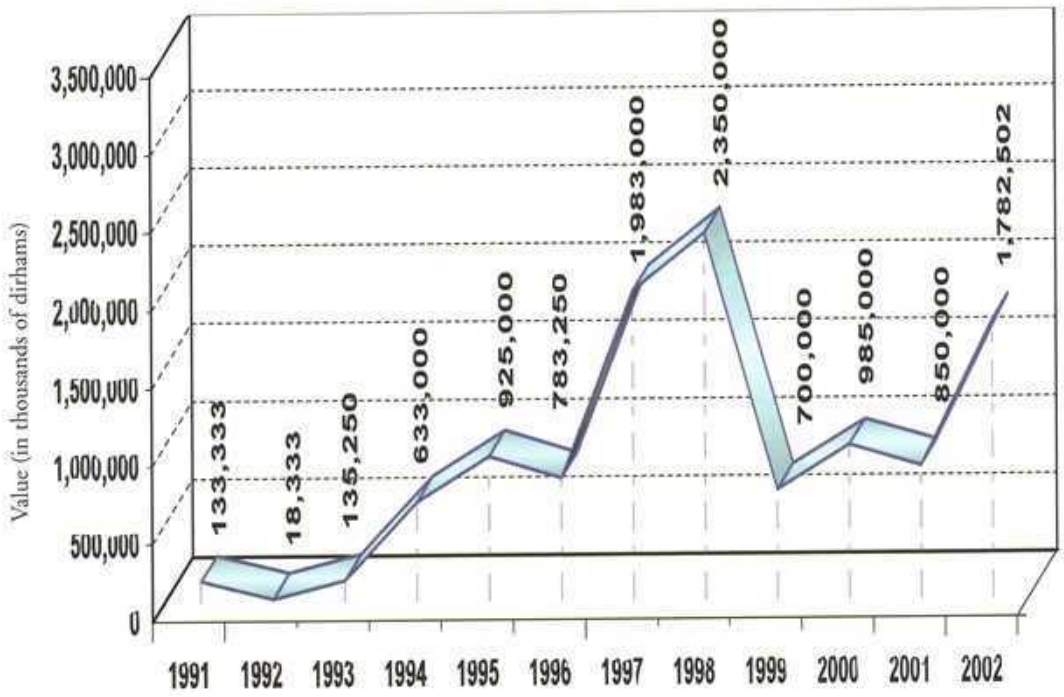
Number of tenders handled by the Department, 1987 – 2002



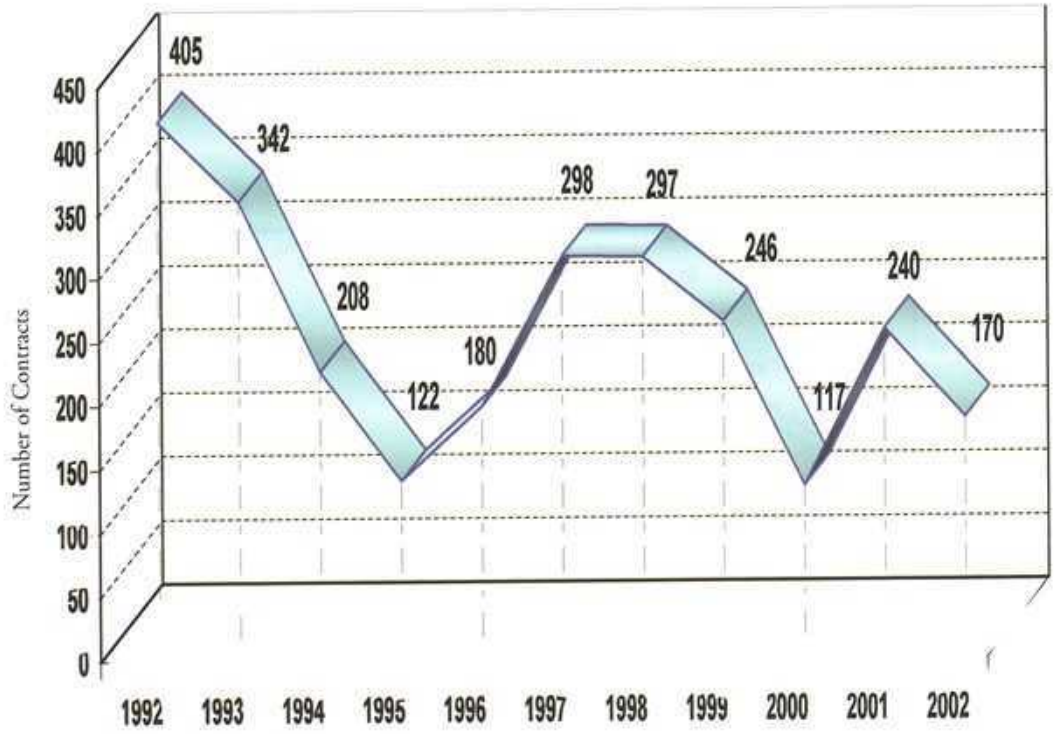
Number of contracts for construction projects, 1991 – 2002



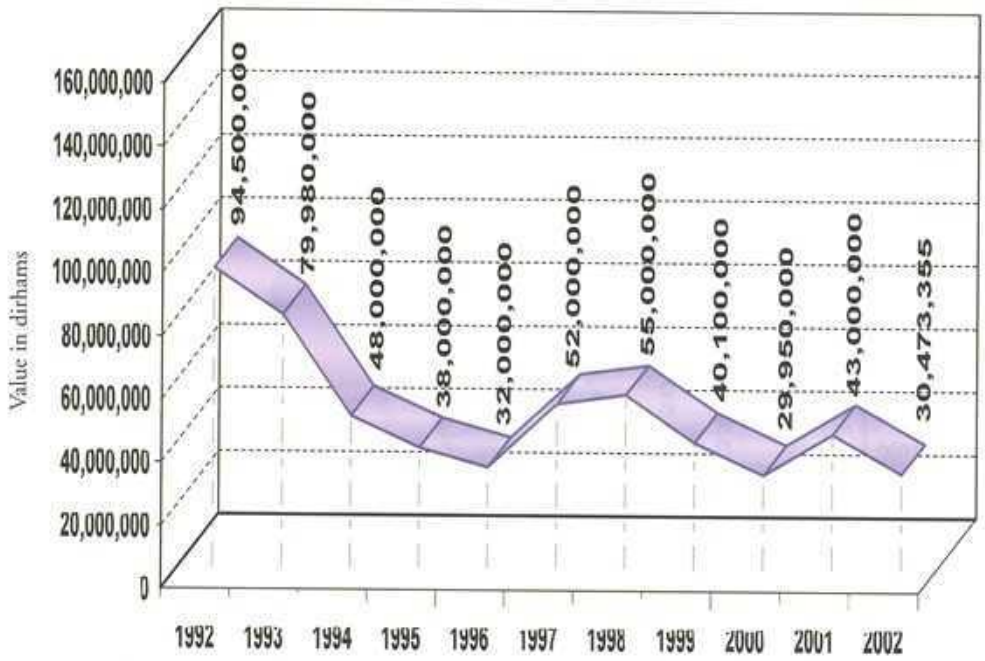
Value of construction projects, 1991 – 2002



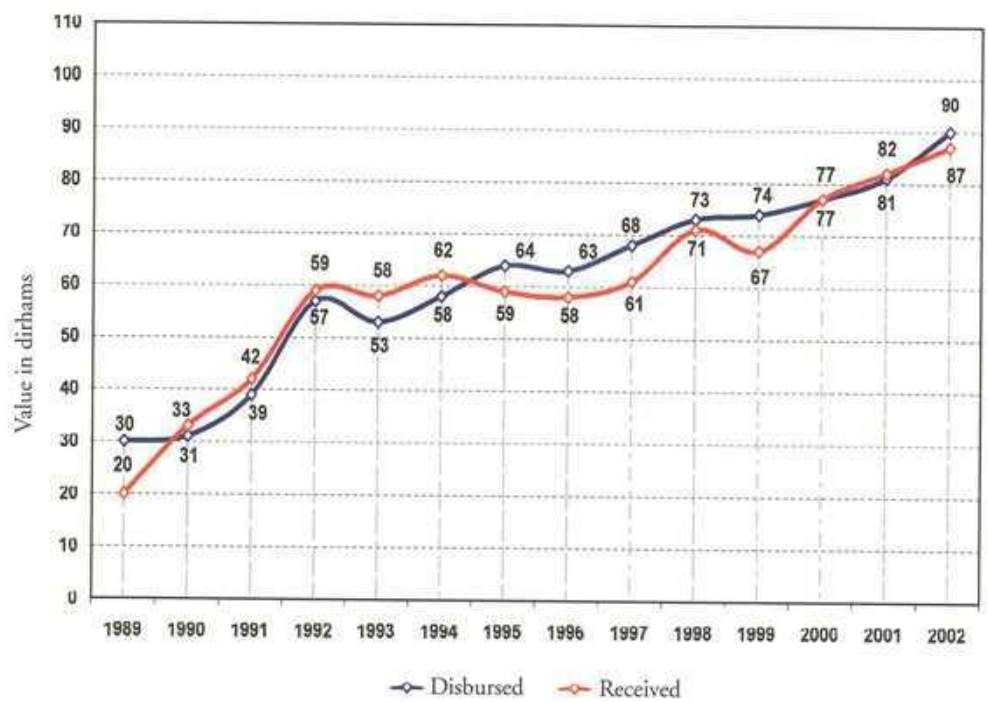
Number of Government housing contracts, 1992 – 2002



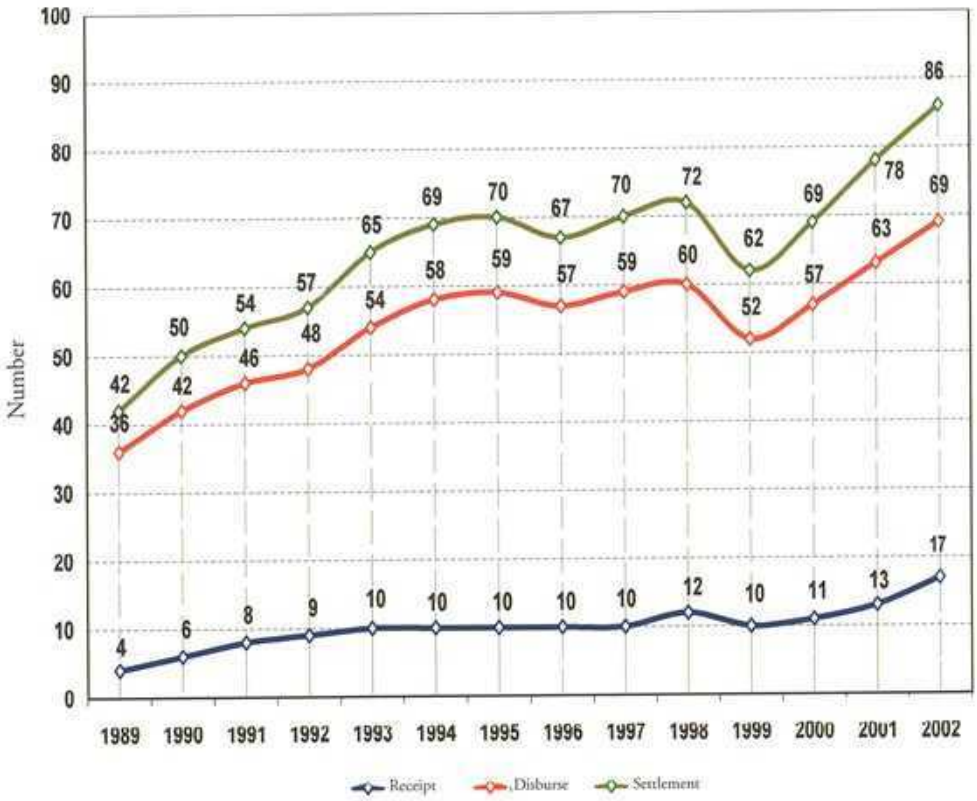
Value of Government housing contracts, 1992 – 2002



Value of received and disbursed items, 1989 – 2002



Stores movement, 1989 – 2002



Roads Department

Through its Roads Department, the Municipality is responsible for managing road projects in the Emirate of Dubai, in association with internationally-qualified consultants who directly oversee any work being undertaken by contractors.

Dubai's expanding road network provides the essential infrastructure upon which the Emirate's commercial and economic prosperity is based. Among the key features of this network are the three crossings of Dubai Creek, the Al-Maktoum and Garhoud bridges and the Shindagha underpass, which link Dubai and Deira, as well as the main arterial roads running through and around the city.

The first tarmac road to be constructed was Al-Saif road, adjoining the Creek on the Dubai side, which was built in 1960. This was followed by a number of other projects, including, importantly, the 450 metre-long Al-Maktoum bridge, built in 1964. In 1967, a number of tarmac roads were laid in the Al-Ra's and Burj an-Nahar areas, while street lighting was also introduced for the first time.

In 1975 the 560 metre long Shindagha two-way underpass was constructed under the Creek, while in 1976, the third crossing, the 600 metre long Garhoud Bridge was built.

Key components of the road network on both sides of the Creek include Al-Maktoum Street and Khalid ibn al-Walid street, linked to both Al Maktoum Bridge and the Shindagha underpass, thus providing for easy circulation of traffic, not only in the built-up areas but also connecting to areas where major construction is still in progress, such as Al-Shangha, Al-Ra's, Al-Fahidi, Al-Sabkha, Al-Karama and Al-Riqqa. This, in turn, helped to stimulate development in other areas, such as Port (Bur) Saeed, Hor Al-Anz and Al-Mateina in Deira and Al-Hamriyyah, Al-Jafiliah and Jumeirah in Bur Dubai.

In 1984, thanks to help from the United Nations Human Settlements Programme, the services of Dr. Farouk Khalifa as a Roads Consultant were obtained. He was first appointed as Head of the Roads Section, later becoming Consultant for the Roads Department between 1986 and 1988.

By the end of 2002, Dubai's road network extended to over 7,358 kilometres.

The origins of the Roads Department can be traced back to the establishment of the Engineering Section of the Municipality in 1960. The Roads Section was then created as one of its affiliates, coming under the Municipality's Chief Engineer.

As shown in Chart No. 1, this remained the case until 1987. Chart No. 2 shows the formal creation of the separate Roads Department, which took place in accordance with Administrative Directive No. 315, in 1990.

Between 1994 and 2002, there were several further amendments to the Organisation Chart, as shown in Charts Nos. 3, 4, 5 and 6.

Chart No. 1
Organisation Chart for the Roads Section in 1987

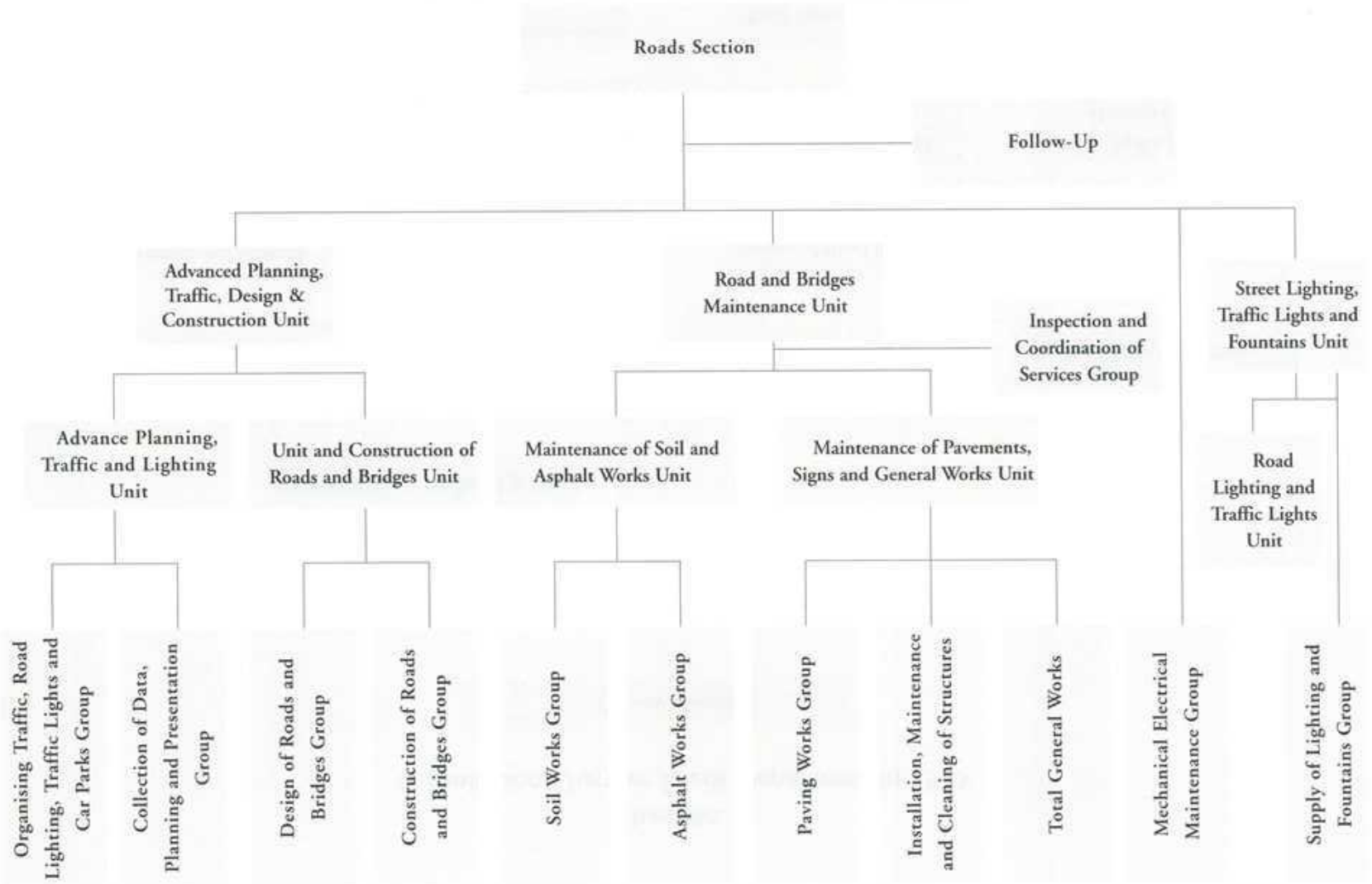


Chart No. 2
Organisation Chart for Roads Department in 1990

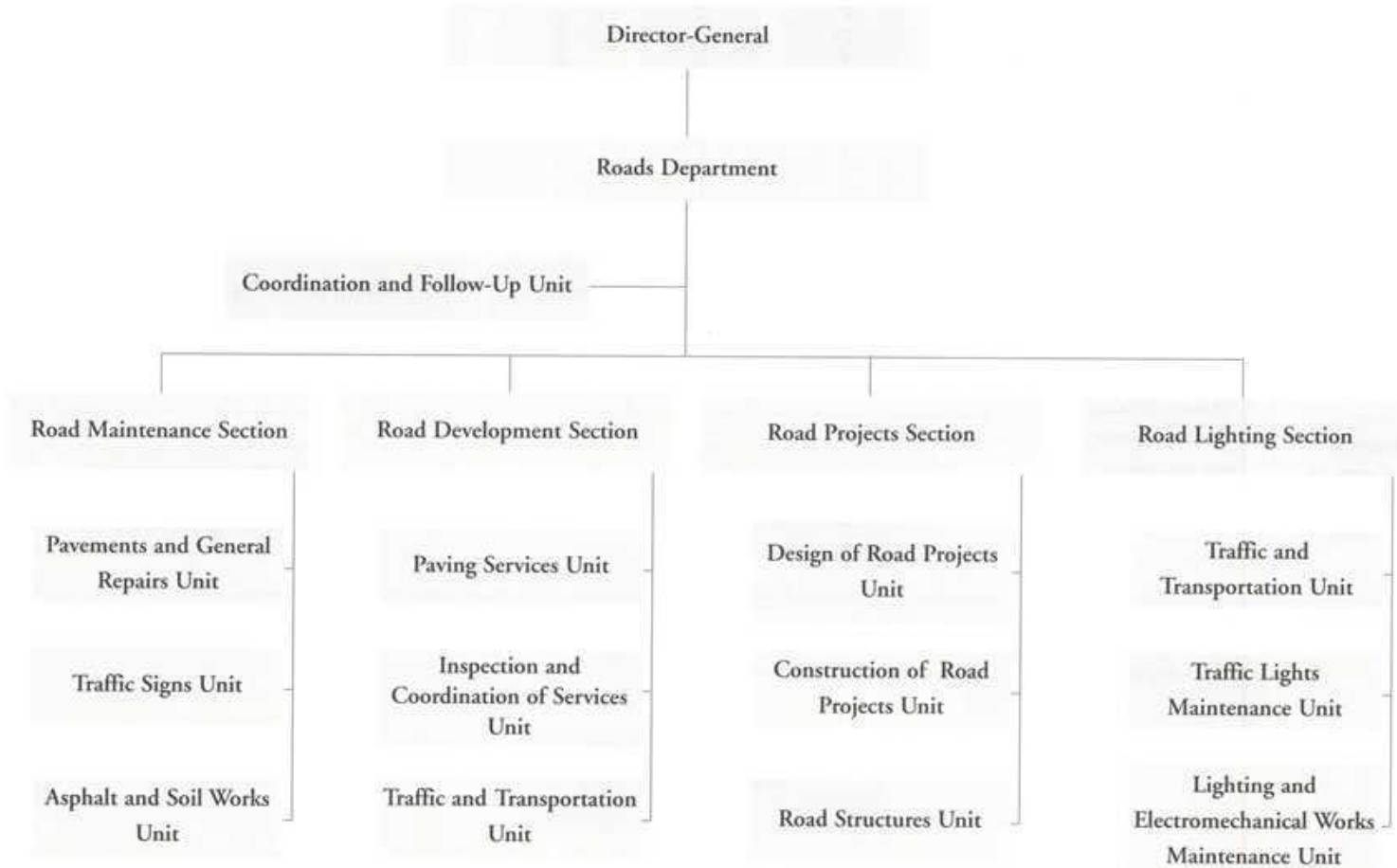


Chart No. 3
Organisation Chart for the Roads Department in 1994

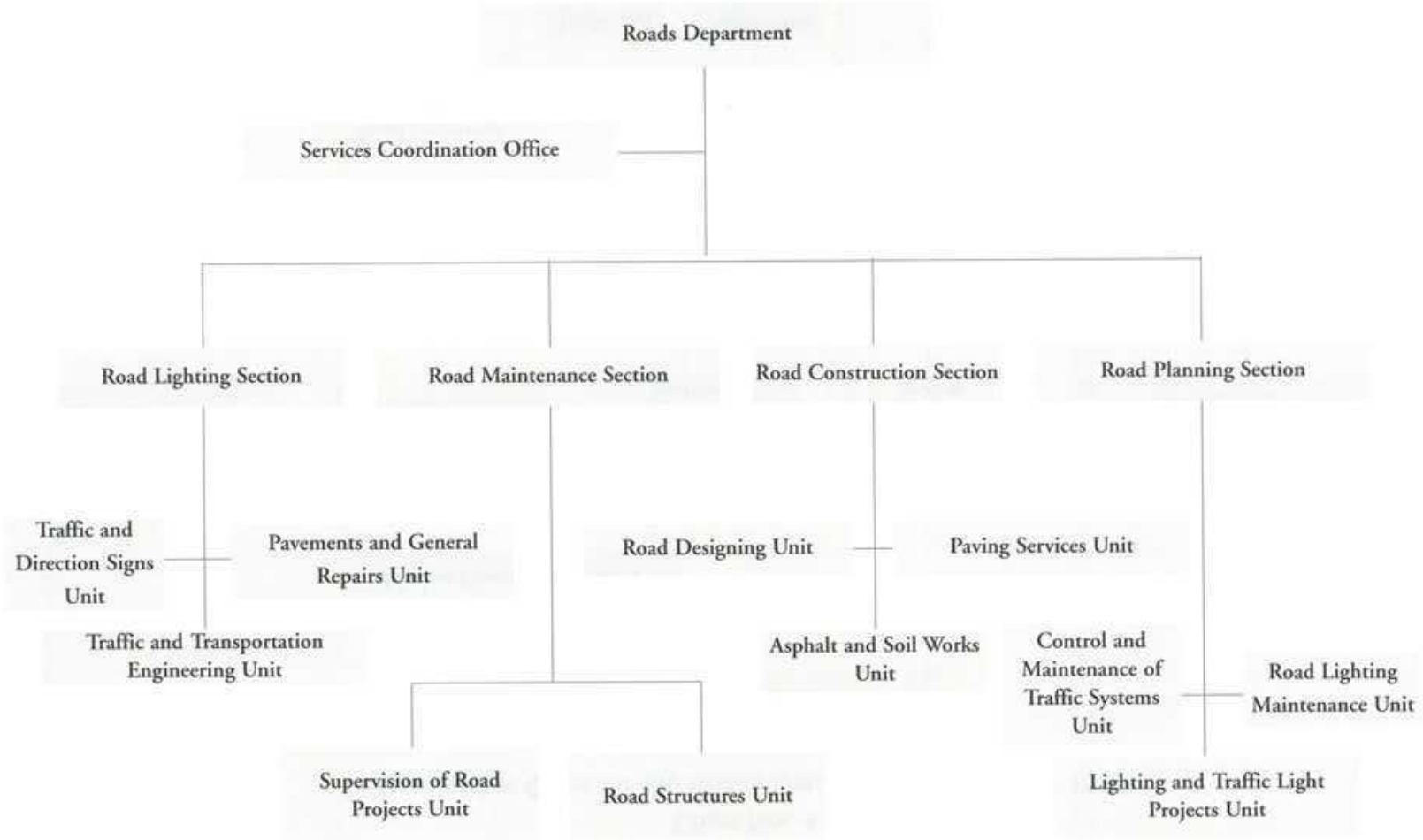


Chart No. 4

Organisation Chart for the Roads Department, December 1997

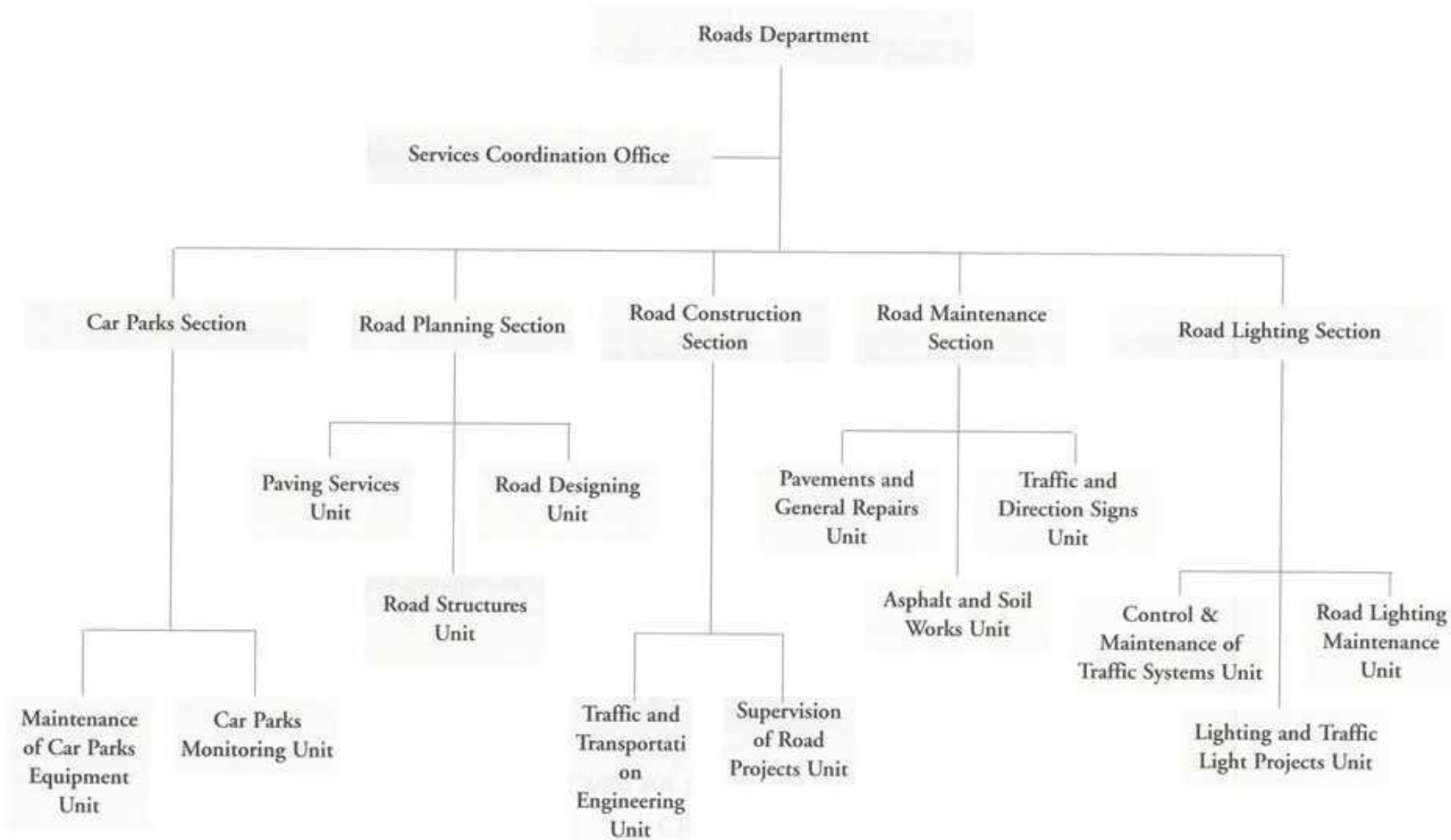


Chart No. 5

Organisation Chart for Roads Department, January 1999

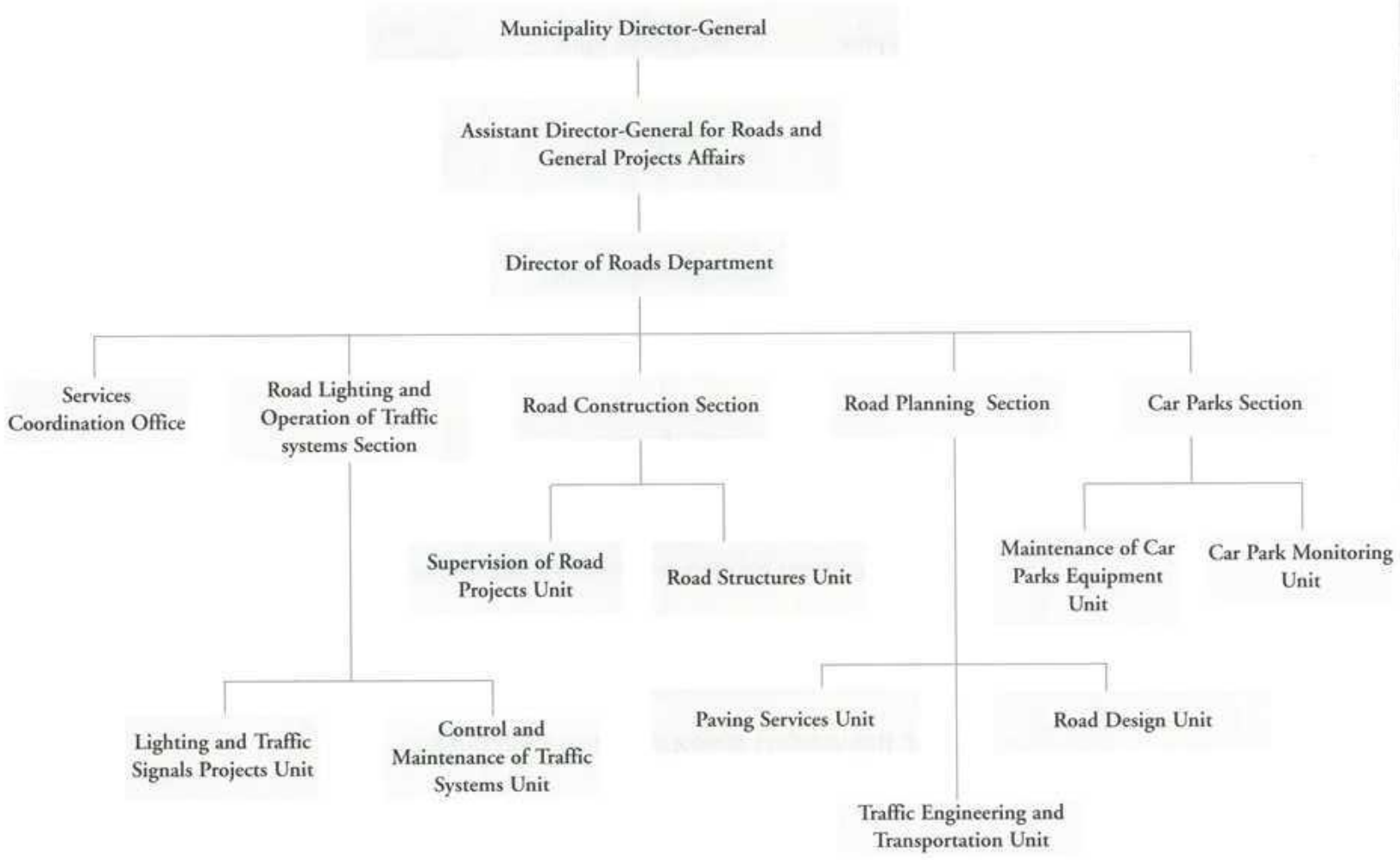
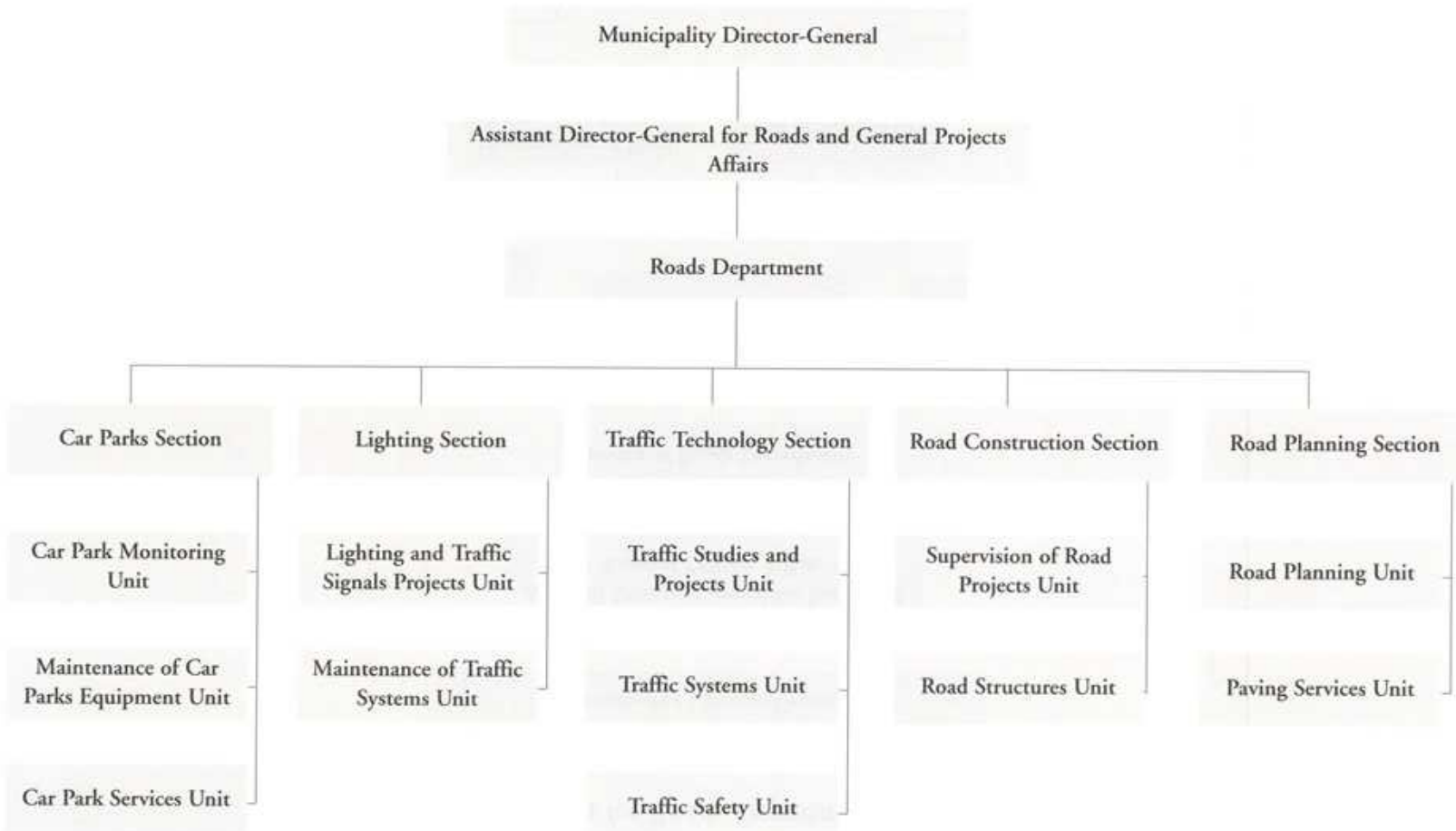


Chart No. 6
Organisation Chart for Roads Department 2002



Main Duties and Responsibilities of the Road Department & its Sections

In general terms, the main duties and responsibilities of the Department cover the proposing of the policy, systems and plans specific to public roads, entrances, both paved and unpaved, bridges, tunnels, public roadside parking, car parks, road lighting, traffic signals and any other subjects relating to the Department's work.

The work is carried out according to instructions issued from time to time in accordance with the Municipality's policy and legislation and in coordination with other concerned departments and sections within the Municipality as well as with the relevant external agencies and establishments concerned, whether local or federal.

Road Planning Section

1) This section implements the Municipality's policy, plans and budget in respect of all related studies and researches, roads design and planning works within an approved work schedule and timescale for all highways, bridges, tunnels, road exits, public car parks and pedestrian crossings.

2) It also organises and carries out the collection of statistical data on all types of vehicles and on pedestrian traffic, carries out analyses of traffic and any related planning, and



Infrastructure services on roadsides

also designs roads and traffic signals where these are related to the work of the section.

3) Another of its tasks is the obtaining of information on traffic accidents from the Public Traffic Department of Dubai Police to permit the data to be analysed so that the appropriate recommendations can be made with a view to reducing road accidents.

Road Construction Section

This section is in charge of carrying out the Municipality's duties with relation to roads, tunnels and bridges projects, as well as car parks. The work is undertaken in co-ordination with the Road Planning Section. It is also responsible for the operation and maintenance programme for the road network.

Traffic Technology Section

This section administers and operates the traffic control systems throughout the road network, by means of its Control Centre and the various traffic signs and signals.

It is also responsible for the safety of the public on the road network as well as for carrying out research designed to help in preparing a comprehensive strategic plan for traffic movement.



An example of Dubai's traffic control systems

Lighting Section

1) The Lighting section is responsible for implementing all aspects of Municipality work relating to lighting and traffic signals by the roadsides, in co-ordination with other sections in the department and elsewhere in the Municipality, in particular with the General Maintenance Department.

2) It prepares and implements daily and monthly preventative maintenance programmes.

Car Parks Section

1) This section is in charge of matters relating to the control of parking, whether on the roadside and in squares or in other designated locations.

2) This work includes regular inspections of areas with metered parking and maintaining the meters as well as preparing.

3) Carrying out of daily and weekly programmes of repairs and maintenance and a monthly preventative maintenance programme.

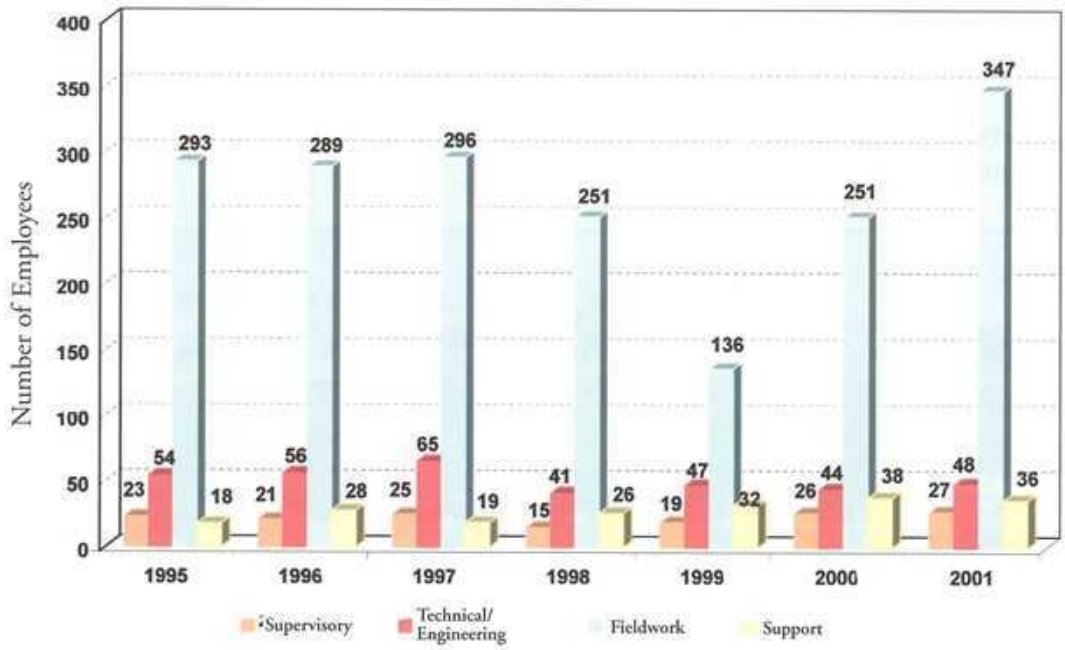


Car Parks in controlled areas in Deira

Posts in the Roads Department, 1995 – 2001

Job Type	1995	1996	1997	1998	1999	2000	2001
Supervisory	23	21	25	15	19	26	27
Technical/ Engineering	54	56	65	41	47	44	48
Fieldwork	293	289	296	251	136	251	347
Support	18	28	19	26	32	38	36

Graph No. 1. Posts in the Roads Department, 1995 – 2001



Number of employees in the Roads Department at the end of 2001

Nationality	Technician/ Engineer	Other Posts	Total
Emiratis	35	222	257
Expatriate	31	170	201
Total	66	392	458
Percentage of Emiratis	53.0 %	56.6 %	-
Percentage of Expatriates	47.0 %	43.4 %	-

Strategic Planning for the Road Network in Dubai

The road requirements for the Emirate of Dubai are determined as part of a comprehensive development strategy, this being drawn up following the carrying out of detailed studies of growth in land use and population and of the distribution and type of projected future traffic movement.

In 1991 and 1997, two detailed studies were carried out which helped in the laying down of plans for improving the transport and traffic system throughout the Emirate.

These studies first examined engineering solutions, such as the expansion of and improvement of present roads and the construction of new roads, and then looked at other elements within the scope of the Traffic Administration, proceeding to carry out a number of technical innovations which alleviated the problem of congestion and improved the efficiency of the existing road network. These included the introduction of the latest systems for the control of traffic signals.

Over the last quarter-century, there has been a huge increase in the volume of traffic in Dubai. In 1976, for example, around 4,500 vehicles an hour were using the three Creek crossings, while by 2002 this had risen to over 29,000 vehicles an hour, making use of nine lanes with a maximum capacity of 30,000 vehicles an hour. Unless capacity was increased, there would have been adverse impacts on the local economy.

To resolve this, a number of steps need to be taken. One key one will be a widening of the Garhoud Bridge to six lanes in each direction and its linking through interchanges to subsidiary roads at either end. It will also need linking, by other bridges and tunnels, to Al Maktoum Bridge on Sheikh Zayed Road, since this is the most used route. Initial plans for the expansion of Garhoud Bridge have been completed, while a number of associated improvements have been made.

As part of the programme to alleviate traffic congestion, the Emirates Road was built around the outskirts of the city, to provide links between various areas of Dubai, to provide an alternative route for traffic moving to and from Abu Dhabi and the northern emirates, and to lessen pressure on Sheikh Zayed Road and Al Ittihad Road.

The Roads in the Emirate of Dubai have been classified as follows:

Semi-circular Roads

As the name indicates, these roads are laid almost as parallel rings. They serve the major areas of Dubai. Examples are :

- Khalid ibn Al Waleed Street, Abu Bakr Al-Siddiq Street.
- Sheikh Rashid Street, this latter being an extension of Al Ittihad Road.

Radial Roads

These radial roads provide the links between the semi-circular roads, radiating out from central points such as the main commercial areas in Deira and Bur Dubai, They include:

- Al Maktoum Street, an extension of Airport Road and Al-Khawaneej Road
- Naif Street, an extension of Al-Rashid Street
- Al Mina Street, an extension of Al Wasl Street.

Functional Classification of Roads

The road network in Dubai is also classified according to size and type.

Freeways

These includes the roads with free and fast-moving traffic, without direct junctions, exit and entry being through interchanges which divide the traffic. Examples include the Dubai – Al-Ain Road, the Dubai – Sharjah Road, and the link between Sheikh Zayed Road and Emirates Road. They account for 16 per cent of the total road network.

Highways

These roads have central reservations and two or more lanes in each direction. Entry and exit is fully or partially controlled through interchanges, which may have associated service roads. Examples of this type include the Dubai – Hatta road and the Dubai – Al-Khawaneej road. They account for 18 per cent of the whole network.

Arterial Roads

On these roads, there may be central reservations, although not in every case, while their engineering design is to a lower standard that that of the freeways and highways. Multi-level junctions are unusual, and traffic movement is controlled primarily by traffic lights. Among this type are the therefore the traffic movement is controlled through traffic lights. Examples of these roads include Al-Maktoum, Salahaddeen and Khaleej (Gulf) Roads. They account for 18.7 per cent of the entire network.

Junction Roads

These roads serve the purpose of permitting vehicles to move between the local roads network and the main roads, and are generally short. Traffic is controlled at the junctions through traffic lights, roundabouts and traffic signs. They have junctions or intersections with other Junction Roads, Main Roads or Local Roads. Examples are Hor Al-Anz Street, Al-Sabkha Street and Al-Musala Street. They account for 18.5 per cent of the entire network.

Local Roads

These roads serve traffic to and from shops, companies, buildings and so on which adjoin them. Traffic is controlled by means of traffic lights and roundabouts. Such roads are, of course, to be found throughout Dubai, and they account for around 28.5 per cent of the total roads network.



Garhoud area intersections

Expenditure on Roads Projects

Graph No. 2 illustrates the expenditure on Roads Projects between 1980 and 2002, during which period a total of around Dh 8.4 billion was spent. The top year was 2002, when Dh 890 million was spent, this being accounted for by major projects such as the Emirates Road as well as roads and parking around Dubai International Airport.

Chart No. 1. Geographical distribution of the road network in the Emirate of Dubai.

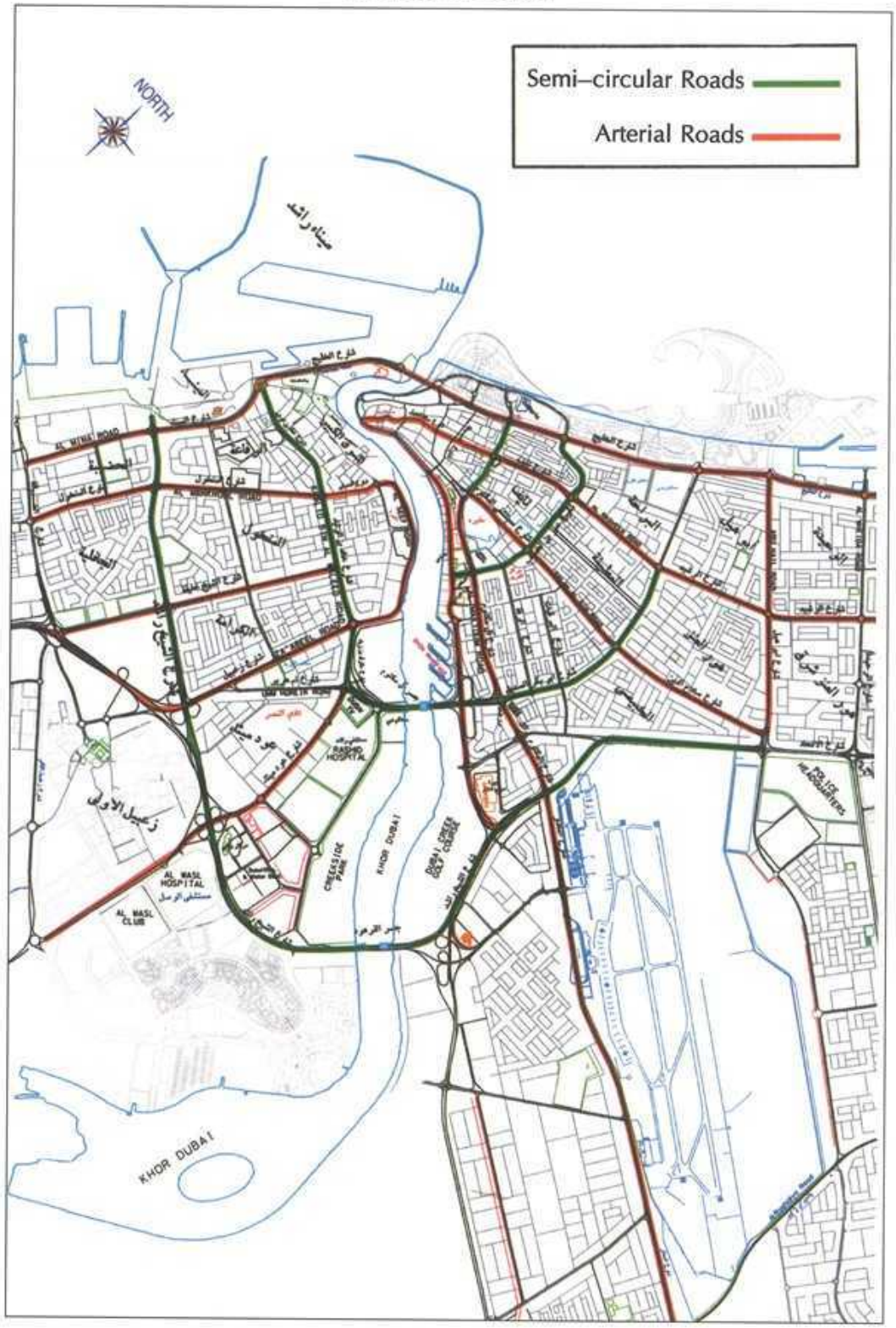


Chart No. 3 illustrates the growth in the road network between 1980 and 2002, by which time the Dubai roads network covered a distance of 7,358 lane/kilometres. The greatest growth in a single year was in 2000, when 949 lane/kilometres were built, as shown in Table No. 1 and Graph No. 4.

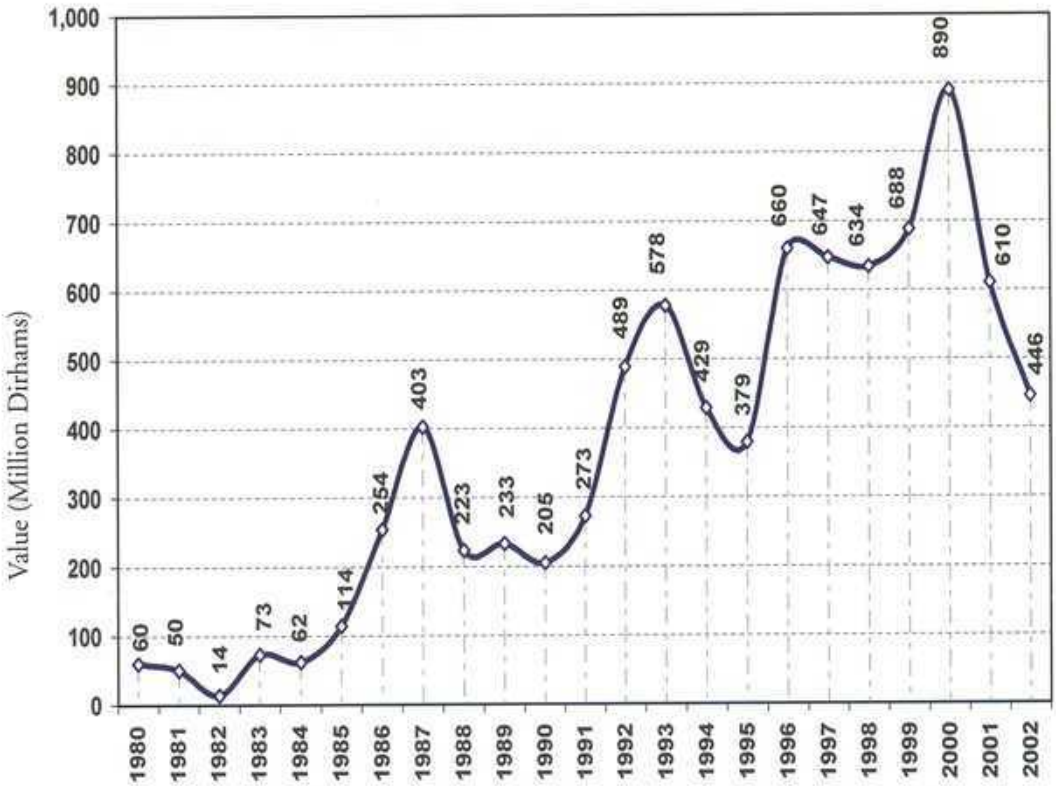
Expenditure on Road Projects, 1980 – 2002

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Value (Million Dirhams)	50	50	14	73	62	114	254	403	223	233	205	273

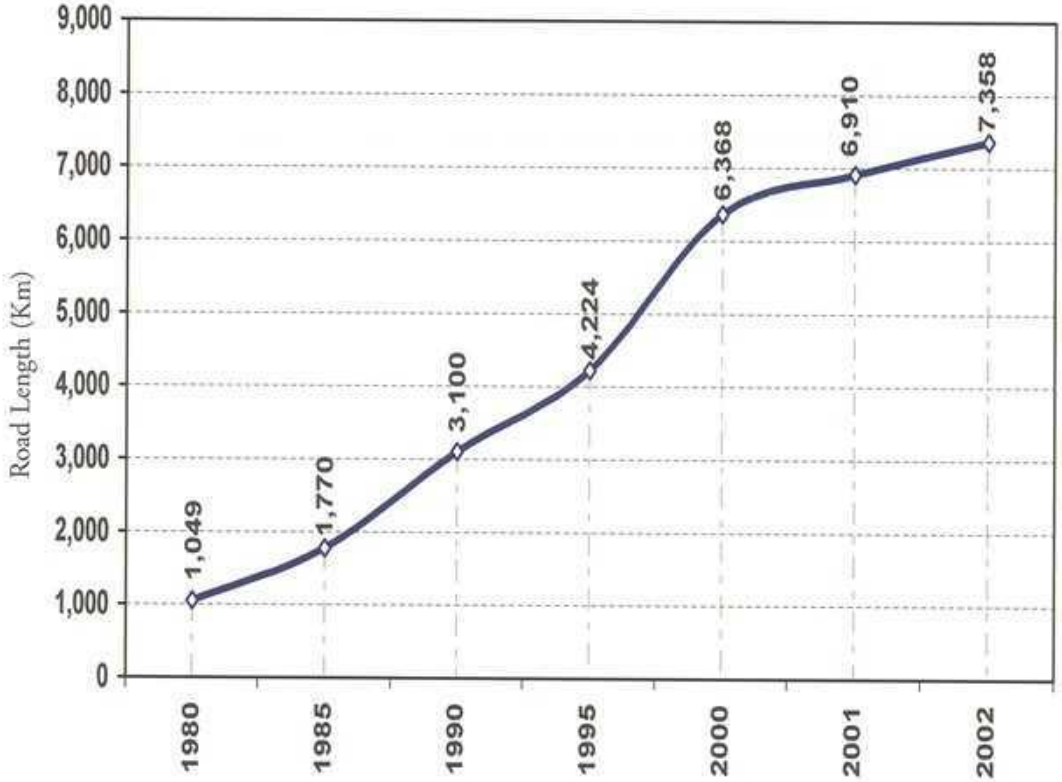
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Value (Million Dirhams)	489	578	429	379	660	647	634	688	890	610	446

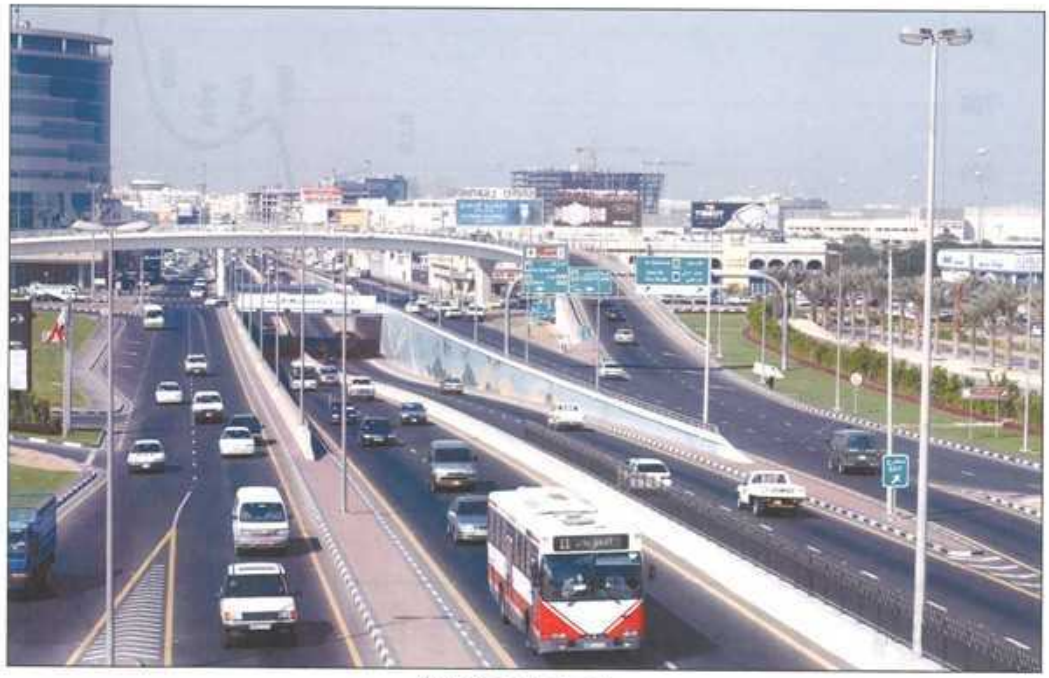
The total expenditure on Roads Projects between 1980 – 2002 was 8,414 million dirhams.

Graph No. 2. Expenditure on road projects, 1980 – 2002



Graph No. 3. Development of the Road Network, 1980 – 2002 Lane/Kilometres)





A local road network

Table No. 1. Length of roads (Lane/Kilometre), by type, 1980 – 2002

Type of Road	1980	1985	1990	1995	2000	2001	2002
Freeway	0	0	362.61	597.44	1,014	1,119	1,124.8
Highway	193.29	405.5	538.92	804.25	1,162	1,261	1,375.5
Arterial Roads	154.17	267.2	444.17	601.82	1,195	1,333	1,367.4
Junction Roads	242.02	371.28	516.08	757.52	1,176	1,272	1,334.6
Local Roads	459.84	730.31	1,238.11	1,462.97	1,821	1,925	2,155.5
Total	1,049.33	1,770.31	3,099.91	4,224.01	6,368	6,910	7,357.8

Increase in length of the road network (average – Lane/Km.), 1980 – 2002

Year	1985	1990	1995	2000	2001	2002
Length (Average Lane/ Km.)	698	1160	1476	2193	2434	3057

Graph No. 4. Increase in the Road Network, 1980 – 2002

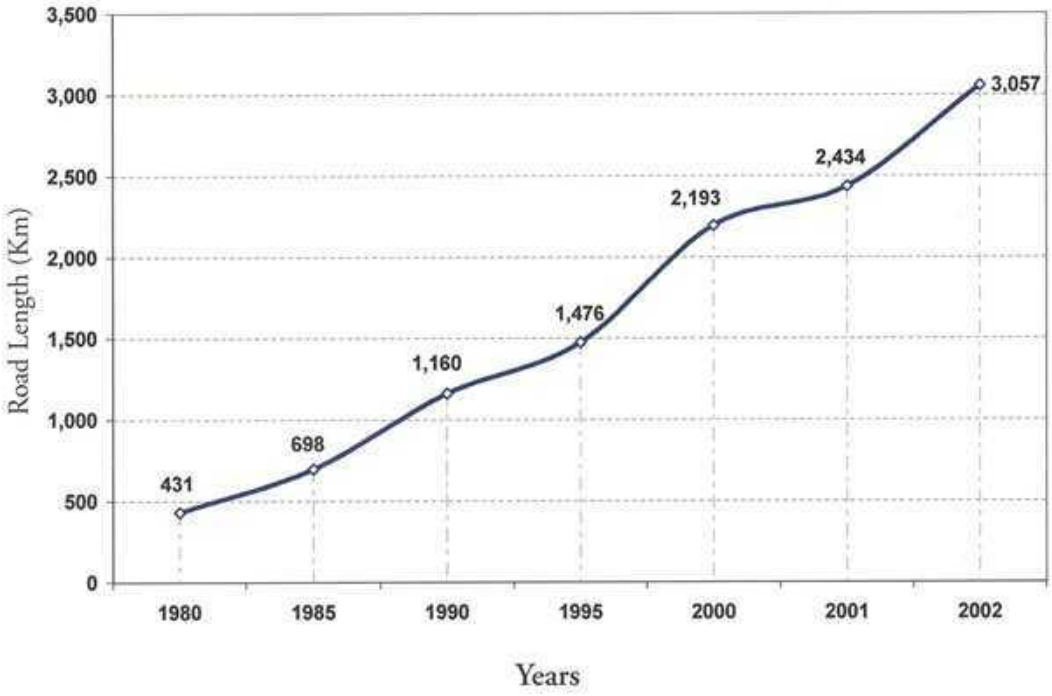
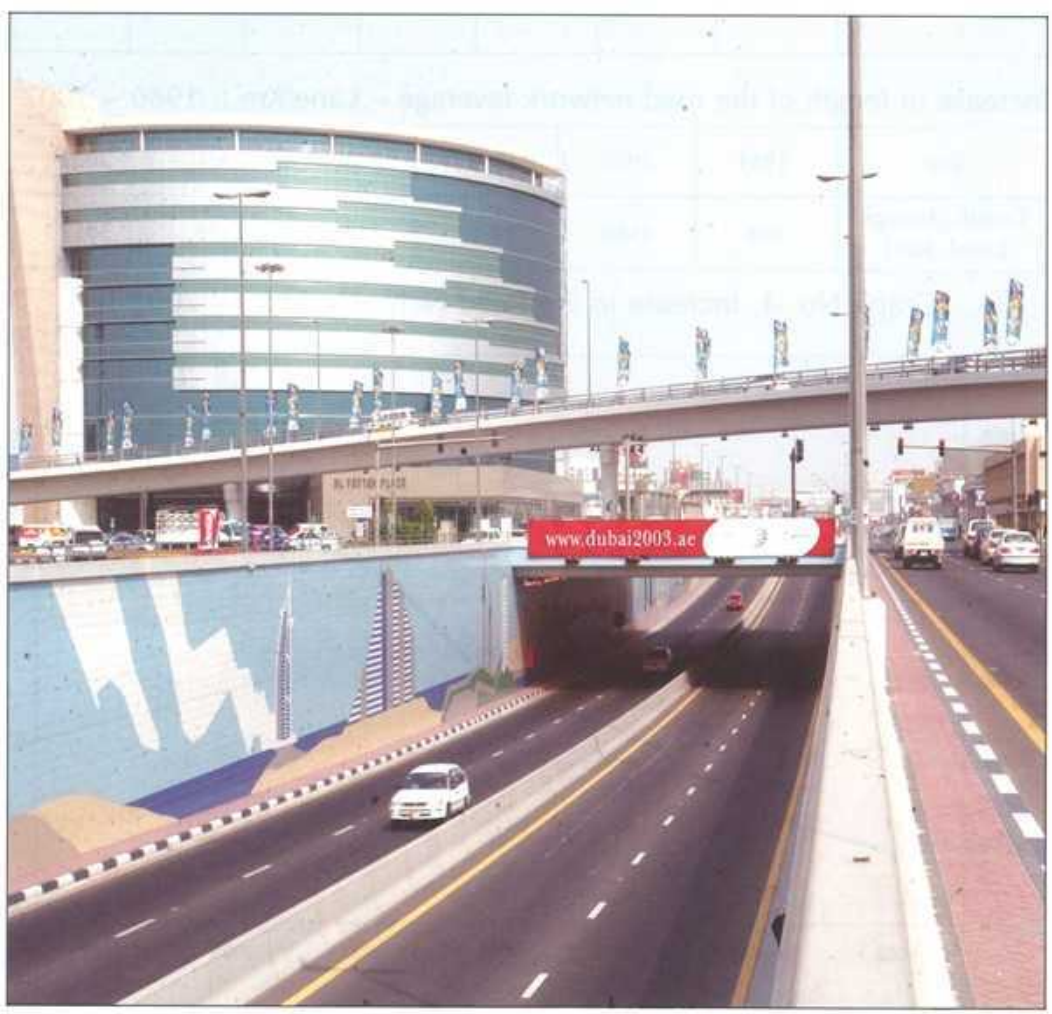


Table No.2. Main road tunnels built prior to 1985

Name	Length in Metres	Width in Metres	Date of Construction	Cost in Million Dhs.	Number of Lanes
Shindagha Tunnel	913	7.32	1975	60.0	2 + 2
Clock Roundabout Tunnel 1	314	9.6	1981	6.0	2
Clock Roundabout Tunnel 2	328	9.6	1981	7.0	2
Airport Road Tunnel	298	7.52	1981	8.0	2 + 2
Al-Qiyadah Tunnel	328	7.52	1981	10.0	2 + 2



Airport Road Tunnel

Projects carried out by the Department, by year

1982	
Psychiatric Hospital Road	Development of Abu Bakr Al-Saddiq Street
Al-Muraggabat – Riqqa Al-Bateen Road	Alterations to Al-Nahda Roundabout
Roads in Bur Dubai	
1983	
Car Parks at Al-Safa Park southern entrance	Connecting Road to Sheikh Maktoum's Palace
Roads in Deira	Roads and car parks in Rashid Hospital
Al-Aweer-Lihbab Road	Al-Mankhool Road
'U' turn on Khalid ibn Al Walid Street	Roads in Rashid Hospital ñ First Phase
Roads in Al-Khawaneej Village	Al-Rashid and Abu Bakr Al-Saddiq Road
1984	
Study and re-design of intersections on Abu Bakr Al-Saddiq Street	Roads in Deira
Alterations on Al-Dhiyafa Street from Al-Satwa roundabout to Zabeel Palace roundabout	Salahaddeen Road
Underpasses	Service Road on Al Ittihad Street
1985	
Expansion of Sharjah – Dubai Road	Roads in Jebel Ali Port
Service Road on Al-Maktoum Street	Roads in the labourers compound in Qusais
Paving work for the Civil Defence	Roads in the Central Market in Hamriyyah
Al-Quoz Graveyard Road	Road No. 88 in the Central Market in Hamriyyah
Signs bearing street names	Internal Roads in Al-Tawar – First Phase
Direction signs in Dubai	Interchange with Abu Dhabi Road
Roads in Nad El Sheba Residential area	Jebel Ali Port Road
Advanced works at Al-Nahda interchange	

1986	
Backfilling the Trade Centre roundabout	Roads in Al-Mateena area
Soil work and backfilling of second Zabeel Road	Al-Ain – Dubai Road – First Phase
Sabkha (non-asphalt) Road for the Labourers' Complex in Qusais	Intersection of Al-Wasl Al-Manara Road with Airport – Al-Romour Road, Road leading to Jebel Ali Hotel
Study of road planning	Main work done to Al-Nahda interchange
Roads in Al-Satwa – Second Phase	Road works for schools in Deira
Iraqi Consulate Road	Internal Roads in Al-Mankhool
Camel Race Course Road	Roads for Shabiyat Al-Qusais
Protection work for Defence Road	Roads in Al-Ra's
Schools Roads in Bur Dubai	Internal Roads in Al-Tawar
Roads in the Rashid Hospital area	
1987	
Al-Hamriyyah Market	Roads in Hor Al-Anz – Third Phase
Internal Roads in Al-Rashidiya	Roads in Al-Rashidiya
Asphalting works in Al-Maktoum Hospital	Roads in Al-Diwan area
Preservation of Umm Suqeim Beach and Sheikh Hamdan's Villa	Roads in Al-Lisaili
Soil work and backfilling in Al-Quoz	Al-Dhiyafa Street and Al-Wasl Street
Backfilling in Al-Wasl	Roads in Umm Suqeim
Soil works and backfilling in Al-Safa	Garhoud Bridge Road
Paving roads in the port and sabkha (non-asphalt) roads in Al-Mamzar	Fencing the Al-Khawaneej, Al-Rashidiya and Al-Amradi Roads
Roads in Al-Jafliya	Roads in Al-Karama
Dubai-Hatta Road	Temporary 'U'- turn at Al-Saqar Chemicals
Roads in the Exhibitions area in Garhoud	Roads in the Women's Prison & Clock Roundabout
Roads in Al-Satwa	Al-Qusais and Factory area road
Ground levelling in Al-Aweer Industrial area	

1988	
Expansion of Nad Al-Hamar Road	Roads in Hor Al-Anz – First Phase
Large Traffic Signs	Roads in Al-Hadheiba, Al-Asbeej, Al-Rola and Al-Hamriyyah
Paving of Al-Sikik (narrow roads) in Deira	Al-Aweer Roadside Fence
Nad Al-Sheba interchange	Ground levelling in Nad Al-Sheba (1)
Roads in Hor Al-Anz – Second Phase	Marine works on the Deira Corniche
Dubai-Al-Ain Road – Second Phase	Roads in the Hyatt Regency area
Survey of traffic control tools	Omer ibn Al-Khattab Road
Al-Nahda underpass project	Construction of Al-Nahda interchange on Etihad Road
1989	
Maintenance of Shindagha underpass	Road section in Al-Qusais/ Al Sharjah
Development of Garhoud Bridge	Protection for Umm Suqeim Beach
Containers in Jumeirah area	Protection for Jebel Ali Road
Works in Mina Seyahi	Pedestrian walkways
Works on Al-Maktoum and Garhoud Bridges	Service Road to the Trade Centre
Al-Ruwayyah interchange	Roads and car parks for the libraries in Bur Dubai
Al-Mamzar Project	Roads in the north of Al-Karama
Road between Al-Wasl & Jumeirah – Second Phase	Old Airport Road and New Airport Road
Civil engineering works for street lighting- (Al-Ain Road)	Nad El Sheba interchange – Second Phase
Road works in Al-Ittihad School	Roads in Deira Corniche – Market
Protection of interchanges on Al-Ain Road	Road works in Al-Hamriyyah Market
Oud Maitha Road	Masfut Bridge works
Fence and Protection on the Dubai – Abu Dhabi Road	Extension to Sharjah Road
Roads and car parks for libraries in Deira	Civil Engineering Works for street lighting and car parks
1990	
Roads in Hor Al-Anz – Fourth Phase	Roads between Al-Wasl and Jumeira Streets
Stations for monitoring heavy lorries	Road connecting Bu-Khadra roundabout and Zabeel roundabout

Emergency water drainage works	Roads in Al-Mamzar – First Phase
Soil works in Al-Mezher	Car parks in Deira and Dubai
Road connecting to Nad Al-Sheba residential area	Service Road on Al-Mankhool Street
Roads in Jumeirah	Extension of Sharjah Road – Second Phase
1991	
Roads and car parks in the Gold Market	Road works between the Al-Madam & Hatta roads
Road connecting to Al-Merqab residential area	Roads in Al-Aweer – First Phase
Road connecting to the freight area in the airport	Roads in Al-Aweer – Second Phase
Roads and car parks in Al-Karama	Pedestrian bridges on Al-Maktoum Street
Roads in Zabeel east	Car parks in Riqqa Al-Bateen
Expansion of Al-Khaleej Road	Development of Al-Saqar roundabout
Roads connecting Al-Wasl, Jumeirah & Al-Quoz	Roads in Al-Tawar – third Phase
Improvement of Al-Saif Street	Protection of verges on Al-Ain Road
Dubai - Hatta Road – Second Phase	Road planning in Al-Mankhool
1992	
Improvement of Naif Street	Rehabilitation of al-Qusais Street
Civil Engineering work for street lighting	Roads surrounding Sheikha Mouza's Palace
Backfilling and levelling works in Al-Wasl and Al-Quoz.	Car parks for the New World Building
Survey of backfill areas	Car parks and roads connecting to the Courts
Backfilling in Umm Al-Qaiwain	Roads in Al-Quoz Industrial area
Painting pavements in Dubai and Deira	Roads surrounding Sheikh Mana's Palace
Backfilling of residential areas in Dubai	Roads in Al-Sufouh
Backfilling & levelling works in Shabiyat Meshrif	Improvement of Al-Dhiyafa roundabout
Development of Al-Aweer Industrial area	Improvement of Al-Saif Street
Sidewalks on Al-Muraggabat Street	
1993	
Car parks in Al-Riqqa	Sheikh Zayed Road – Third Phase
Car parks	Completion of fence on Hatta Road

Backfilling and levelling in Jumeirah and Umm Suqeim	Trade Centre car parks
Improvement of roundabout in Nad El-Sheba	Roads in Nad El-Sheba – Second Phase
Road connecting to Al-Khawaneej	Improvement of Al-Riqqa Street
Soil works in Al-Qusais Industrial area	Civil Engineering works for street lighting
Service Road in Jumeirah	Various car parks in Dubai
Improvement of Al-Hamriyyah Vegetable Market	Pedestrian bridge on Oud Maitha Street Docks
Development of Al-Wasl roundabout and Garden Roundabout	Roads surrounding Sheikh Ahmed's Palace
Road in Al-Mezher – Second Phase	Clock Roundabout underpass.
Sheikh Zayed Road – Second Phase	
1994	
Service Road on Abu Bakr Al-Saddiq Street	Backfilling for colleges
Expansion of Al-Maktoum Bridge and the interchanges with Rashid Hospital and Idhaía (Broadcasting) Roundabout	Advanced works on the Trade Centre interchange
	Lighting on Sheikh Zayed Street
Roads in Al-Mezher	Roads in Al-Rashidiya
Extension of Beni Yas Street	Roads in Zabeel East
Works on the port and customs	Mirdif interchange
Car parks for the schools – First Phase	Backfilling in Al-Quoz – First Phase
Shekh Zayed Road – First Phase	Backfilling in Al-Quoz – Second Phase
Backfilling in Al-Safa	Backfilling in Al-Quoz – Third Phase
Backfilling in Al-Manara	Backfilling in Al-Quoz – Fourth Phase
Backfilling in Al-Wasl	Various car parks in Dubai
Backfillinf in Umm Suqeim	Temporary services for Ports and Customs
Backfilling in Al-Rashidiya	Roads in Abu Hail area
Backfilling in Nad Al- Hamar	
1995	
The Road from CMC interchange to Bu-Khadra roundabout	Roads in Al-Satwa, West of Sheikh Zayed Street
Service Road on Khalid Bin Al-Waleed Street	Lihbab – Al Ain Road Road
Improvement of Road 206.	Improvement of Al-Baraha Street

Roads in al-Rashidiya – Second Phase	Levelling land in Al-Qusais Area 2
Roads in Al-Ra's	Roads south of Al-Safa Park
Improvement of Jumeirah Road	Road connecting to the Diwan
Controlling car parks in Deira Centre	Road connecting to Al-Zabeel Palace
Road Planning in Dubai	Road to Hatta
Levelling land in Al-Mizher – First Phase	Passageway for Al-Mamzar Corniche
Levelling land in Al-Mizher – Second Phase	Car parks for the Mosque in Nad El-Sheba
1996	
Roads in Umm Hurair	Roads in al-Karama
Commercial Centre Interchange	Al-Mamzar Corniche
Car parks for schools	Roads in Al-Aweer Industrial area
Al-Qata'iat interchange – Zabeel	Pavements in Al-Baraha
Roads in Al-Quoz Industrial area	Roads south of Al-Amal Hospital
Various car parks in Dubai	Road connecting to the Government Garage
Improvement of Al-Wasl Street	Central Control of Traffic Signals Project
Roads in Al-Mankhool	Civil Engineering works for road lighting
Improvements to interchanges in Dubai	Paving in Al-Bastakiya
1997	
Roads in Rashid Port	Roads connecting to Jebel Ali
Expansion of Al-Rashidiya Road	Fence in Al-Aweer
Land levelling works in Al-Qusais	Fence near Lihbab roundabout
Garhoud and Al-Romoul interchange	Al-Qusais- Sharjah Road
Service Road in Al-Aweer	Roads in Ra's Al-Khor Industrial area
Improvements to Al-Riqqa Street	Improvement of Al-Romoul Road
Roads in Al-Mizher	Al-Jadaf Road
Improvements in Shindagha	Entrance to Chicago Beach Hotel
Improvements to Al-Saif Street	Oud Maitha interchange with Sheikh Rashid Street

1998	
Improvements in Al-Khawaneej Road	Car parks for Al-Hamriyyah Market
Roads in Nad El-Hamar	Twin Towers interchange
Roads for Al-Mamzar Park	Civil Engineering Works for road lighting
Improvements to Sheikh Zayed Street	Street planning project
Improvements to Al-Dhiyafa Street	Multi-story car park in Naif
Improvements to Al-Rashid Street	Pedestrian Crossings
Development of interchanges in Deira	Roads in Al-Qusais
Paving the sikik (narrow roads) in Al-Ra's, Second Phase	Various work relating to Dubai Airport
Roads in Nad Shebeeb	Backfilling in Hatta residential area
Roads in Al-Hamriyyah	Aesthetic work in Al-Khor
Improvements to Al-Muraggabat Street	& improvements to Saif Street
Roads to Biocelene Centre	Various car parks in Dubai
Global Village for the Festival	Beni Yas Street interchange with Garhoud Street
Roads in Al-Mizher	Roads in Hor Al-Anz
	Construction of Sheikh Zayed Road from the Trade Centre interchange to Seih Sheib
1999	
Road across Dubai – First Phase	Road 204 & 211
Road connecting to the Majlis in Nad El-Sheba	Levelling land in Al-Warqa – First Phase
Internal Roads in Oud Maitha	Levelling land in Al-Warqa – Second Phase
Rehabilitation of Margham Road	Al-Wasl interchange with Al-Hadhayba
Various car parks in Dubai	Civil Engineering Work for street lighting
Nad El-Hamar Road – Al-Rashidiya	Numbering Streets and Sections
Improvements to Al-Saqar roundabout	Controlling car parks – Second Phase
Al-Mateina Street improvements	Roads in Al-Hamriyyah
Expansion of Al-Qusais Road – Al-Rashidiya	Roads in Al-Qusais
2000	
Improvements to Al-Tawar Street	Al-Ghabiba multi-story car park
Roads in Umm Suqeim	Pavements in Al-Mamzar

Roads in Jebel Ali Industrial area	Improvements to Al-Ittihad Street
Paving the sikik (narrow roads) in Bur Dubai	Circular Road / First Phase – Contract 1
Paving the sikik (narrow roads) in Al-Ra's	Circular Road / First Phase – Contract 2
Roads in Al-Barsha	Circular Road / First Phase – Contract 3
Connections to Sheikh Zayed Street	Circular Road / Second Phase
Expansion of Nad El-Hamar Road	Roads in Al-Warqa
Various car parks in Dubai	Roads and car parks in Dubai Int. Airport
Parking for small trucks	Al- Hadhayba interchange
2001	
Roads in Al-Zabeel area	Levelling works in Al-Warsan
Roads in Al-Rola area	Service Road on Al-Qusais – Sharjah Road
Expansion of Airport Road	Development of Al-Mamzar Corniche
Roads in Al-Qusais area	Entrances to Jebel Ali Free Zone, (JAFZA Bridge)
Dubai Circular Road – Phase 1	Entrances to the Fruit and Vegetable Market
Roads in Al-Quoz Industrial area	Various car parks in Dubai
Railways and passageways in Al-Ra's area	Roads and levelling land in Al-Khawaneej
Roads in Al-Warqa area	Dubai Circular Road – third Phase
Roads in Bur Saeed area	Al-Mamzar interchange
Passageways in Al-Satwa	
2002	
Roads in Al-Satwa area	Roads from Al-Safa to Umm Suqeim
Improvements in various locations in Dubai	Bu-Khadra interchanges
Improvement of Al-Safa interchange	Rehabilitation of Hatta road
Levelling works in Al-Warsan area	Ra's Al-Khor interchange
Roads in Hatta	Roads in Al-Mizher
Improvement of Al-Sufouh Street	Pavements in Al-Tawar area
Pavements in Al Hadhayba area	



H.H. Sheikh Mohammed bin Rashid Al-Maktoum reviewing one of the road projects

The most important projects completed between 1986 and 2002 were the following:

■ Construction of Al-Nahda interchange with Al-Ittihad Road and Al-Nahda underpass:

Completed 1986 **Cost Dh 46 million**

This interchange is the northern gateway to Dubai. Work began in 1985 and entailed the construction of a two way, three lane underpass to provide free flowing access for traffic movement between Sharjah and Dubai. A three lane roundabout was built on top of this underpass to provide a link to the surrounding road network.

■ Dubai – Al Ain Road:

Completed 1986 **Cost Dh 231 million**

Work began on this project in 1986. It begins at the Bu-Khadra roundabout on Al Wasl Road, and extends to the border of the Emirate, in the direction of Al Ain. Extending over a distance of 60 km., it is two way, with three lanes on either side of a central reservation, and with hard shoulders on each side. Bridges and side roads were built at the main junctions. Well-lit by street

lighting, these are between 17 and 25 metres in length. There are also eight underpasses for the use of camels and three for cars and pedestrians.

▪ Creekside Project:

Completed 1988 **Cost Dh 59 million**

This is adjacent to Beni Yas Street, stretching from the Municipality building and the Intercontinental Hotel to Al-Ra's and is a 1.4 km, two way / two lane road with pedestrian sidewalks and around 1450 car-parking places. A 1.3 km. protective wall was also built along the edge of the Creek.

▪ Pedestrian Walkways across Al-Maktoum Street:

Completed 1991 **Cost Dh 8 million**

These two walkways were designed for pedestrians wishing to cross the street.

▪ Expansion of Al-Khaleej Street:

Completed 1991 **Cost Dh 41 million**

This project involved the expansion of Al-Khaleej Street and provision for a 4.4 km, two-way, four lane 4.4 road between the Hyatt Regency interchange and Al-Waheeda Street roundabout, improvement and expansion of lanes on the existing roundabouts on this road and the construction of services roads on either side, so as to remove secondary traffic from the main flow. Additional car parks and lighting were also provided throughout the length of this road.

▪ Clock Roundabout Underpass No. 3:

Completed 1993 **Cost Dh 17 million**

The Clock Roundabout Underpass No. 3, 305 metres long and 9.6 metres wide, has two lanes, running one way from Al-Maktoum Street to Al-Maktoum Bridge.

▪ Wharfage on Beni Yas Street:

Completed 1993, Cost Dh 198 million

In 1991, it was decided that wharfage was needed along the Creek to accommodate the increasing number of traditional dhows requiring space, which could reach as many as 250 vessels. The project involved back-filling along a distance of around 7 km using around one million cubic metres of rock and sand, and the building of four docks for cargo handling, as well as



The Creek wharfage

Customs buildings, the necessary infrastructure for fuel and water supply and various decorative features.

■ Extension of Beni Yas Street (First Phase):

Completed 1994

Cost Dh 110 million

Work on this project began in 1992, prompted by the increase in pedestrian and vehicle traffic on Al-Maktoum Street. It involved the building of a new two-way, three lane road connecting Beni Yas Street from the Omar ibn Al-Khattab roundabout to Garhoud Street. It provided access to the Creek wharfage, and was divided from Tariq ibn Ziyad Street by an underpass leading towards Garhoud Street.

■ Extension of Al-Maktoum Bridge and both interchanges at Rashid Hospital and Idha'a (Broadcasting) Roundabout Project:

Completed 1994 **Cost Dh 180 million**

This involved the construction and improvement of roads and bridges near Al-Maktoum Bridge in addition to the expansion of the bridge itself, providing it with four lanes in each direction. Associated works included the construction of a 1.5 km., two-way, four lane road, two raised interchanges and a 9-metre high1.9 km. long supporting wall, as well as other facilities and landscaping.

▪ Improvements to Jumeirah Road:

Completed 1995 **Cost Dh 24 million**

This involved the laying of new asphalt from on this road from Al-Dhiyafa Roundabout to the Chicago Beach Hotel, a distance of 11.4 km., as well as the construction of six junctions with traffic lights and nine pedestrian crossings.

▪ First Phase of the car-parking control project:

Completed 1995 **Cost Dh 9 million**

Designed to deal with the problems caused by a lack of sufficient parking in central Deira, this involved the installation of pay and display parking meters on roads and car park barriers on Beni Yas Street facing the Creek.

▪ Trade Centre and Sheikh Zayed Road Interchanges:

Completed 1996 **Cost Dh 178 million**

This project, on which work began in 1994, was designed to ease the flow of traffic between Sheikh Zayed, Sheikh Rashid and Al-Dhiyafa Roads. It involved the construction of three underpasses and four bridges.

▪ Zabeel Street interchange with Sheikh Rashid Street:

Completed 1996 **Cost Dh 158 million**

This project, on which work began in 1994, segregated traffic flow at this interchange by constructing under-passes linking Sheikh Zayed Street and the Al-Maktoum and Garhoud bridges. Landscaping work was also involved.

▪ Central Control of Traffic Signals:

Completed 1996 **Cost Dh 26 million**

This involved a replacing of all existing signals, including 97 sets of traffic lights and 27 sets controlling pedestrian crossings. These were replaced by an automatically-controlled network designed to reduce congestion and to smooth the flow of traffic.

▪ Oud Maitha Road interchange with Sheikh Rashid Road:

Completed 1997 **Cost Dh 75 million**

The project involved the construction of a raised interchange to permit free movement between Sheikh Zayed Street and Garhoud Bridge, as well as associated landscaping.

■ Al-Romoul Interchanges:

Completed 1997 **Cost Dh 116.5 million**

This involved the construction of six bridges to link Garhoud Bridge to all major roads in the Garhoud, Al-Romoul and Al-Bustan areas, as well as associated landscaping.

■ Sheikh Zayed Road:

Completed 1998 **Cost Dh 684 million**

Sheikh Zayed Road was designed to be the first road of Highway standard, stretching from Dubai towards Abu Dhabi. It was carried out in three phases, and took into account the need for the highest possible level of safety for users. Street lighting, a central reservation, service roads and landscaping were part of the package. Details of the three phases follow.

■ Phase One: Trade Centre Roundabout to Defence Intersection:

Completed 1994 **Cost Dh 62.5 million**

Work began in 1993, with the widening of the existing road to four lanes in each direction



Sheikh Zayed Road

and the construction of an underpass to link the Trade Centre area to Sheikh Zayed Road. Two service roads, each 1.5 km. in length were built on either side, along with street lighting and rainwater drainage, as well as the laying of the necessary utilities infrastructure for water, electricity and telecommunications.

■ Phase Two: Defence Roundabout to Jebel Ali:

Completed 1994 **Cost Dh 424 million**

In this phase, Sheikh Zayed Road was widened to four lanes in each direction. The six main junctions, Defence Roundabout, the Al-Safa and Al-Manara interchanges and the roads to the Chicago Beach Hotel area (now the site of the Jumeirah Beach Hotel and Burj al-Arab), to Jebel Ali and to the Emirates Golf Course at Jebel Ali, were provided with bridges and access roads, to facilitate the smooth flow of traffic on the highway, as well as easy access to and departure from adjacent areas.

Three separate contracts were awarded for this work, one covering the 8 km. from the Jebel Ali roundabout to the Emirates Golf Course, for a value of Dh 136 million, the second the 12 km. from the Golf Club to Al-Manara, costing Dh 118 million, and the third from Al-Manara to Defence Roundabout, costing Dh 170 million.

■ Phase Three: Jebel Ali roundabout to Seih Sheib:

Completed 1998 **Cost Dh 198 million**

This phase, extending from the Jebel Ali roundabout to the border with the Emirate of Abu Dhabi, involved the widening of the highway to four lanes in each direction and the construction of bridges and access roads at junctions 7 and 8, to ensure the smooth flow of traffic.

■ Beni Yas Street Extension interchange with Garhoud Street (Phase 2):

Completed 1998 **Cost Dh 82 million**

This involved the construction of an underpass and two bridges to link Garhoud Street and Beni Yas Street, with associated landscaping work.

■ Aesthetic Projects in Al-Riqqa, Al-Dhiyafa, Al-Muraggabat, Al-Mateina:

This group of projects included Al-Riqqa Street (Completed 1997, Cost Dh 10.8 million), Al-Muraggabat Street (Completed 1998, Cost Dh 13.6 million), Al-Dhiyafa Street (Completed 1998, Cost Dh 18.2 million) and Al-Mateina Street (Completed 1999, Cost Dh 21.8 million).

The projects involved widening of the roads and the pavements, as well as the provision of



Al-Riqqa Street

open spaces in either side for recreational use. The much-wider pavements are used by adjacent restaurants and food outlets, and have proved popular during the annual Dubai Shopping Festivals.

■ Improvement of Al-Saif Street:

Completed 1998 **Cost Dh 4.3 million**

This involved the creation of pedestrian walkways along the side of the Creek, complete with seating and lighting, as well as safety barriers.

■ Rooftop and Multi-Storey Car Parks:

Completed 2000 **Cost Dh 135 million**

These projects were carried out to increase the amount of car-parking available in central areas.

■ Roads and Car Parks at Dubai International Airport:

Completed 2000 **Cost Dh 142 million**

This project involved the building of connecting roads and car-parking, with a capacity for 1,100 cars, as well as an underpass and bridge at the Al-Bustan interchange, seven other bridges, and two covered and air-conditioned raised pedestrian crossings with moving walk-ways.

■ Emirates Road Project (Dubai Ring Road):

Completed 2001 **Cost Dh 813 million**

The purpose of this project was to provide a link between Dubai and the rest of the Emirates and to reduce congestion on the main roads in the city. Work, which began in 1998, was divided into three phases.

The first two phases were completed on 6th January 2001, covering a distance of 50km., and including thirteen underpasses, to permit future development related to electricity, water and drainage, as well as five crossings for camels.

Phase One

This involved three sections, covering 22 km., and stretching from the junction with the Dubai – Al Ain road to the border with the Emirate of Sharjah. It included the building of 19 other stretches of ancillary and joining roads and eight interchanges, seven of which were raised and the other at ground level, as well as 34 bridges:

Section One, completed in 2000 at a cost of Dh 158 million, stretched from the border with Sharjah to the Al-Nahda interchange in the Al-Qusais area. Six km. long, has had two interchanges, with three bridges and a ground-level link.

The second section, 5 km. long and running from the Al-Khawanjeej road to Al-Romoul Street and also completed in 2000, had two raised interchanges with a total of eleven bridges.

The third section, completed in 2001, runs 11 km. from the road to Al-Aweer to the junction with the Dubai – Al Ain road, and has three raised interchanges with 20 bridges.

Phase Two

Completed in 2000, and costing Dh 214 million, this 28-km. section ran from the Dubai – Al Ain road to the junction with the Jebel Ali to Lihbab road and has four intervening junctions, providing links to the Jebel Ali Free Zone, Al-Barsha, the Al-Quoz Industrial Area and Dubai Investments City.

Phase Three

The third phase, also completed in 2001 and costing Dh 68 million, involved the building of a link to the 16 km. Jebel Ali – Lihbab road.

■ Entrances to the Fruit and Vegetable Market

Completed 2001 **Cost Dh 47 million**

This involved an expansion of and improvements to the road network in the Ra's al-Khor area, including entrances to and exits from the Central Fruit and Vegetable Market and the second-hand car market, as well as expansion of the facilities of the Dubai Ports Authority. Among the work undertaken was six kilometres of roads enlarged from single-lane to double-lane, a widening of the Al-Aweer road within the Ra's al-Khor area to three lanes in each direction, 2 kilometres of road widened from two to three lanes, the building of an interchange on the Al-Aweer road, linking of the Central Market with the adjacent city road network at the junction of the Nad al-Hamar road with Road 67 and the laying of main rainwater and drainage lines.

■ Al-Mamzar Interchange

Completed 2001 **Cost Dh 40 million**

This involved the construction of an interchange with four bridges and associated services for utilities half-way between the Al-Nahda roundabout in Dubai and the Al-Nahdha interchange in Sharjah. It was built to facilitate the movement of traffic between Al-Mamzar, Al-Qusais and Al-Ittihad Street.

Improvement work to main roads

Through the Roads Construction Section, the Department has engaged in a continuous programme of work designed to improve the main road network in Dubai. This work has involved an expenditure of around Dh 1.5 billion.

Building of local roads

Many local roads in residential, commercial and industrial areas have also been built, with the costs of these amounting to around Dh 650 million by 2001. Among such roads have been those at the City Centres in Bur Dubai and Deira and other roads in Umm Suqeim, Al-Barsha, Al-Mamzar, Al-Baraha, Al-Qusais, Al-Hamriyyah, Nad al-Hamar, Nad al-Sheba, Al-Mankhool, Al-Mizher, Hor al-Anz, Umm Hurair, Al-Karama, Al-Rashidiya, Satwa, Port Rashid and the industrial areas in Ra's al-Khor, Al-Quoz, Al-Aweer and Jebel Ali.

■ Development of Al-Safa Interchange

Completed 2002 **Cost Dh 68 million**

This involved the building of an interchange with three bridges, two circular ramps and associated links to and from Sheikh Zayed Road, as well as re-planning of car-parking facilities, land-

scaping, lighting and the relocation of and protection of the utilities infrastructure.

▪ Bu-Khadra Interchange

Completed 2002 **Cost Dh 112 million**

This project linked the Bu-Khadra and Wimpey interchanges with Road 313 and the Dubai to Al Ain road, and also involved the construction of a new interchange linking the road from the Defence Interchange and Al-Khail Road, which runs parallel to Sheikh Zayed Road, to the Emirates Highway.

▪ Ra's al-Khor Interchange

Completed 2002 **Cost Dh 42 million**

This involved the building of an interchange linking Nad al-Hamar Street with the Al-Aweer road, the widening of the Ra's al-Khor road from three to four lanes over a distance of four km., and building of a four-km. long link road from the main Al-Aweer road.

▪ Dubai Cross Road Project (First Phase)

Completed 2002 **Cost Dh 15 million**

This involved the widening of Al-Amardi Street from a single lane to a two-lane, two-way road from the Al-Khawaneej road to Al-Aweer and the building of a 4.8 km. long double-lane dual carriageway to the Dubai-Hatta road, as well as an interchange and two camel-crossings.

▪ Dubai Cross Road Project (Second Phase)

Completed 2003 **Cost Dh 48 million**

This second phase, covering a distance of 135 km., runs from the new roundabout on the Dubai to Al-Aweer road to the Ruwayyah bridge on the Dubai to Al Ain road. Dual carriageway, with two lanes, 7.5 metres wide, on each side, and with a 15 metre central reservation, the road has lighting, two camel-crossings and associated works.

▪ Street lighting and operation of traffic systems

Street lighting and traffic signals are key elements of the road network, and have the objective of providing for road-users a safe network that can be used at the lowest possible cost, permitting travel as quickly as possible within the necessary constraints imposed by safety needs. The Municipality's policy of the provision of street lighting can be defined as follows:

Control of Traffic Systems

One of the main problems faced by cities worldwide is the control of traffic flow resulting from urban expansion. In Dubai, this problem has been exacerbated by the rapid growth of tourism and commerce. The solution adopted by the Dubai Municipality, following a detailed study, was the installation of a modern automated central traffic control system, capable of responding swiftly to changes in traffic flow and delays at traffic lights.

Table illustrates the Municipality's policy for the provision of lighting facilities.

Classification of Road	Lighting Policy
External Freeways	– Complete lighting of the roads if the traffic flow reaches 60% of the road's capacity or if there is a higher possibility of accidents occurring due to a lack of lighting.
External Highways	– Complete lighting of the roads if the traffic flow reaches 60% of the road's capacity or if there is a higher possibility of accidents occurring due to a lack of lighting.
Urban Highways	– Complete lighting of the roads
Arterial Roads	– Complete lighting of the roads
Roads in residential areas	– Complete lighting of double-lane roads. – Lighting of single lane roads in an area developed to 40% of its capacity. – Lighting of roads near public utilities such as mosques, schools, parks and commercial shops provided that the construction of the drainage network has been completed
Local streets in residential areas Streets in industrial areas	– Complete lighting of double-lane roads. – Lighting of roads in fully-developed areas – Lighting of double-lane roads if there are no obstructions.
Local streets in central commercial areas	– Complete lighting of the roads.

Lengths of streets provided with lighting, 1985 – 2002 (in kilometres)

Year	1985	1990	1995	2000	2001	2002
Total length of streets with lighting	138	484	681	1,196	1,290	1,655

Lengths of streets provided with lighting, by road classification, at the end of 2002 (in kilometres)

Road Classification	Total length of roads with lighting (km.)	Total length of roads (km.)	Percentage of roads with lighting
Freeways	149.6	149.6	100%
Highways	167.7	254.7	66%
Urban Highways	101	101	100%
Arterial Streets	498	498	100%
Collective Streets	466	946	49%
Local Streets	273	1,109	25%
Total	1,655	3,058	54%

Lengths of streets provided with lighting, by road lane classification, at the end of 2002

Item	Total length of roads with lighting (km.)	Total number of lamp-posts	Total number of lighting units	Total energy/ megawatts	Total cost of annual electric consumption in million Dirhams
Lanes E	418	6,523	13,361	8.4	7.36
Lanes D	498	10,310	22,845	10.17	9.06
Areas	739	20,555	26,110	7.5	6.56
Total	1,655	37,388	62,316	26.07	22.98

The Traffic Control Centre was opened in September 1996, staffed by five well-trained Emirati engineers.

The project cost a total of Dh 26 million, which covered both the necessary changeover of the traffic lights and pedestrian crossings themselves as well as the installation and programming of the control centre.

It began by covering 97 traffic lights and 27 pedestrian crossings, although by the time this report was compiled, there were a total of 166 traffic lights and 52 pedestrian crossings in operation.

In the six years since the system was first installed, the number of traffic lights and pedestrian crossings it controlled rose from 125 to 218, an increase of 75 per cent. The number of vehicles registered rose from 213,305 at the end of 1996 to 387,305 by the end of 2002, an increase of 81 per cent.

The graph below illustrates the increase in traffic movement during this period.

Number of Traffic Signals and Pedestrian crossings, 1985 – 2002

Item	1985	1990	1995	2000	2001	2002
Number of traffic light interchanges	50	60	101	147	156	166
Number of pedestrian crossing signals	-	16	26	41	53	52

Maintenance of Traffic Signals

Preventative Maintenance

Maintenance work	Implementation Policy	Maintenance work	Implementation Policy
Replacement of Traffic Signals	Once every 15 years	Cleaning Traffic Signal Units	Once a month
Cleaning & checking traffic signals	Annually	-	-
Replacement of bulbs in traffic signals:		Replacement of bulbs for pedestrian crossing signals:	
Red	Annually	Green	Once every 6 months
Yellow	Annually	Red	Once every 6 months
Green	Annually	-	-

Corrective Maintenance

Maintenance Work	Implementation Policy
Repairing damage to traffic signal cables	Within 1 hour
Repairing damage to control equipment	Within 1 hour
Malfunctions resulting from accidents	Within 1 hour
Replacements of traffic signal parts damaged by accidents	Within 8 hours
Replacement of damaged light bulbs	50 per cent within 1 hour 25 per cent within 8 hours 25 per cent within 24 hours
Malfunction of sensory devices	25 per cent within 2 day 50 per cent within one week 25 per cent within one month

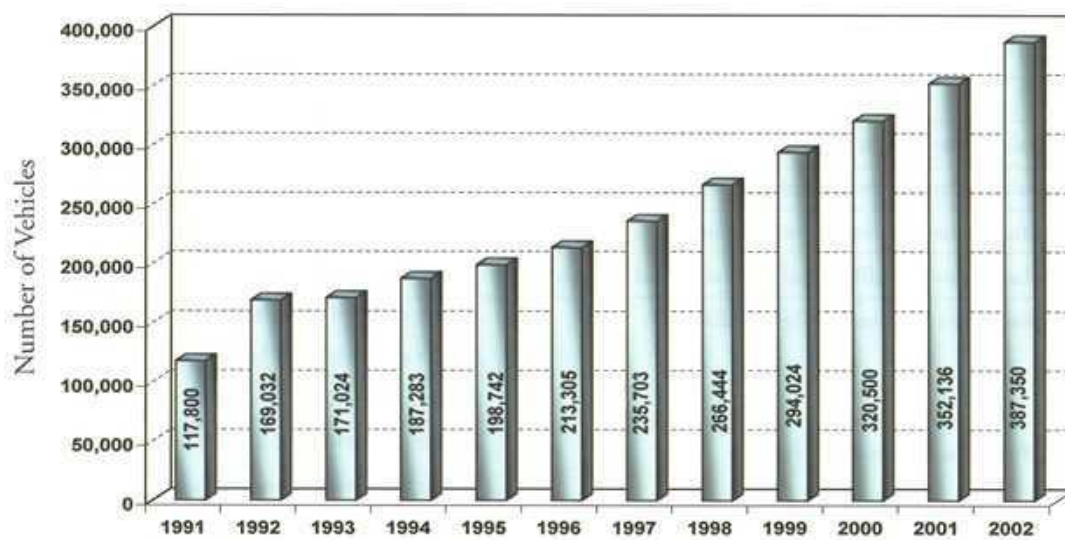


Traffic Signal System Control Room

Increase in vehicle movement, 1991 – 2002

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No.	117,800	169,032	171,024	187,283	198,742	213,305	235,703	266,444	294,024	320,500	352,136	387,350

Increase in vehicle movement, 1991 – 2002



The Roads Department continues to carry out a variety of projects designed to develop and improve the roads network in Dubai. These include the improvement of road surfaces, carried out by the Road Paving Department, which has developed a manual and a computerised database on various types of surfacing, and research into an asphalt mix which is suitable for local weather conditions and for the level of traffic loads.

Roads are continually repaired, where this is required, while a review of the road signs in use has been carried out. A system for the numbering of small roads, streets, lanes and sections within Dubai has also been developed.

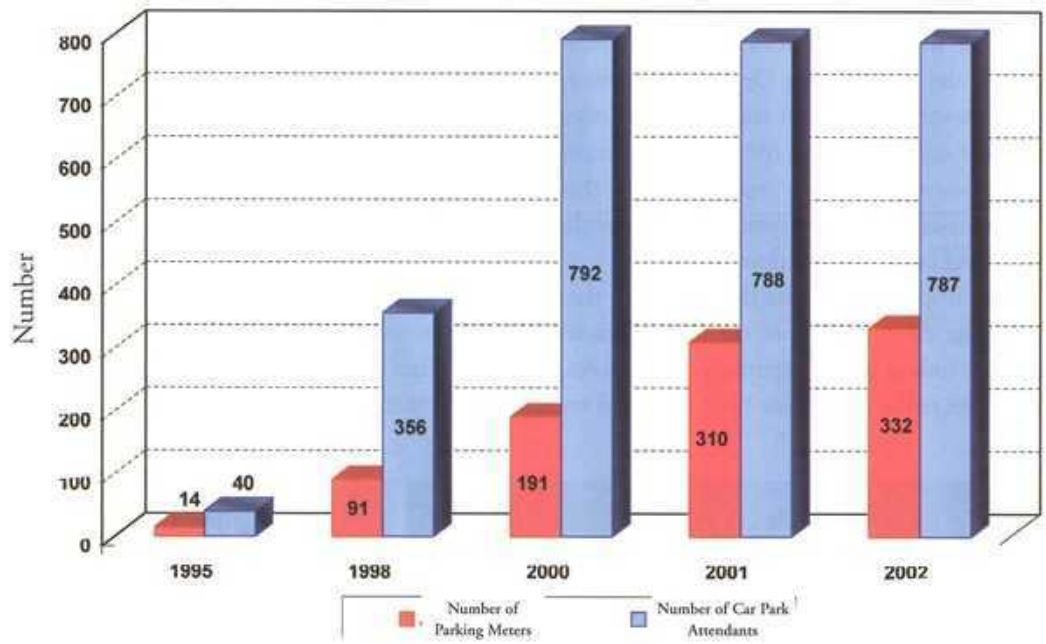
One important project developed by the Roads Department, as well as its other work, has been the development of car-parking controls. This has involved the installation of parking meters, linked to a computerised monitoring network. First tested in 1995, this system of paid on-street parking has now been extended to many areas of the city.



Car parking meters

Increase in number of car Park attendants and parking meters, 1995 - 2002

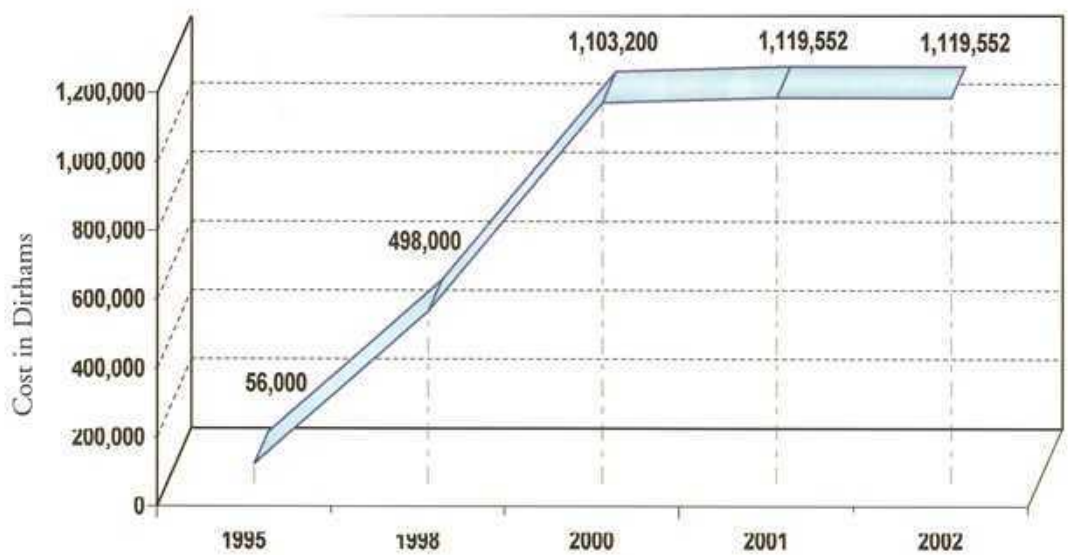
Year	1995	1998	2000	2001	2002
Number of Parking Attendants	14	91	191	310	332
Number of Parking Meters	40	356	792	788	787



Cost of maintaining parking meters (in Dirhams), 1995 – 2002

Year	1995	1998	2000	2001	2002
Cost	56,000	498,000	1,103,200	1,119,552	1,119,552

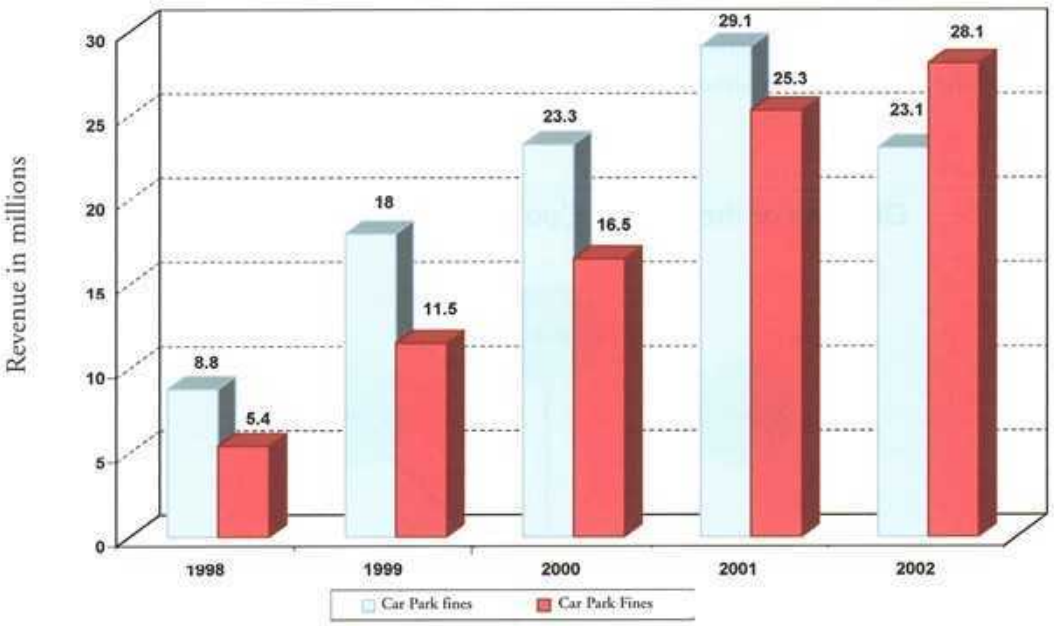
Cost of maintaining parking meters (in Dirhams), 1995 – 2002



Annual income for the Car Parks Section, 1998 – 2002 (in millions of dirhams)

Year	1998	1999	2000	2001	2002
Car Park Fees	8.8	18	23.3	29.1	23.1
Car Parking Fines	5.4	11.5	16.5	25.3	28.1

Annual income for Car Parks Section (in millions of Dhs.), 1998 – 2002



On 26th November 2002, the late H.H. Sheikh Maktoum bin Rashid al-Maktoum issued Law No. 7 regarding the organisation of the roads network in the Emirate of Dubai, laying down the role of the Municipality and the Roads Department in equipping and operating roads, car parks, the traffic control system and traffic signals.

Service Co-ordination Office

In April 1997, a Service Co-ordination Office was established in the Municipality to co-ordinate between utility providers such as the Dubai Water and Electricity Authority, DEWA, and Etisalat and the Municipality Drainage & Irrigation and Building Departments. The task of the Office is to simplify the procedures for the necessary cables and lines that these authorities lay under the roads. The Office also specifies the criteria and conditions relating to the No Objection Certificates issued to Consultants Offices and Contracting Companies and safety regulations related to excavations on the road network. It issues, electronically, No Objection Certificates (NOC) and Completion Certificates for

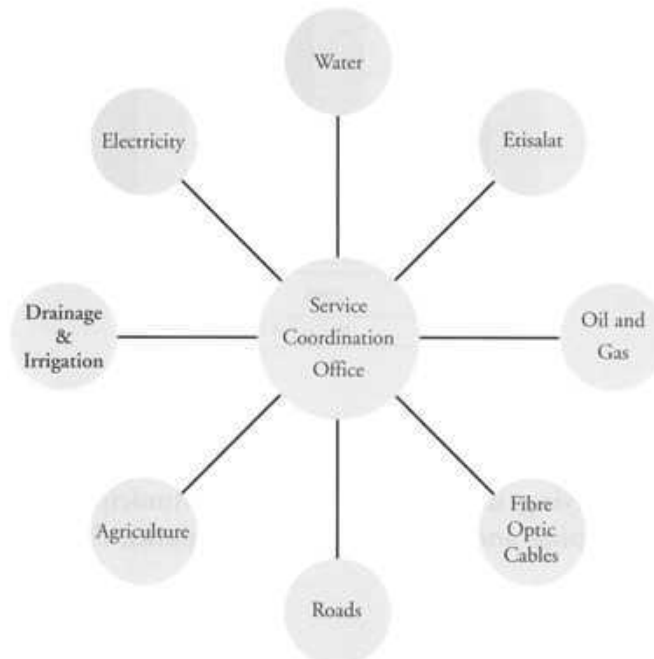
works and service projects related to Dubai's infrastructure that are carried out on the roads, these being provided to service authorities, contractors and consultants.

The Office also serves as a point of contact between contractors and consultants and the relevant parts of the Municipality, as well as other, related authorities for all matters related to the co-ordination of services and to the simplification of the procedures for issuing NOCs.

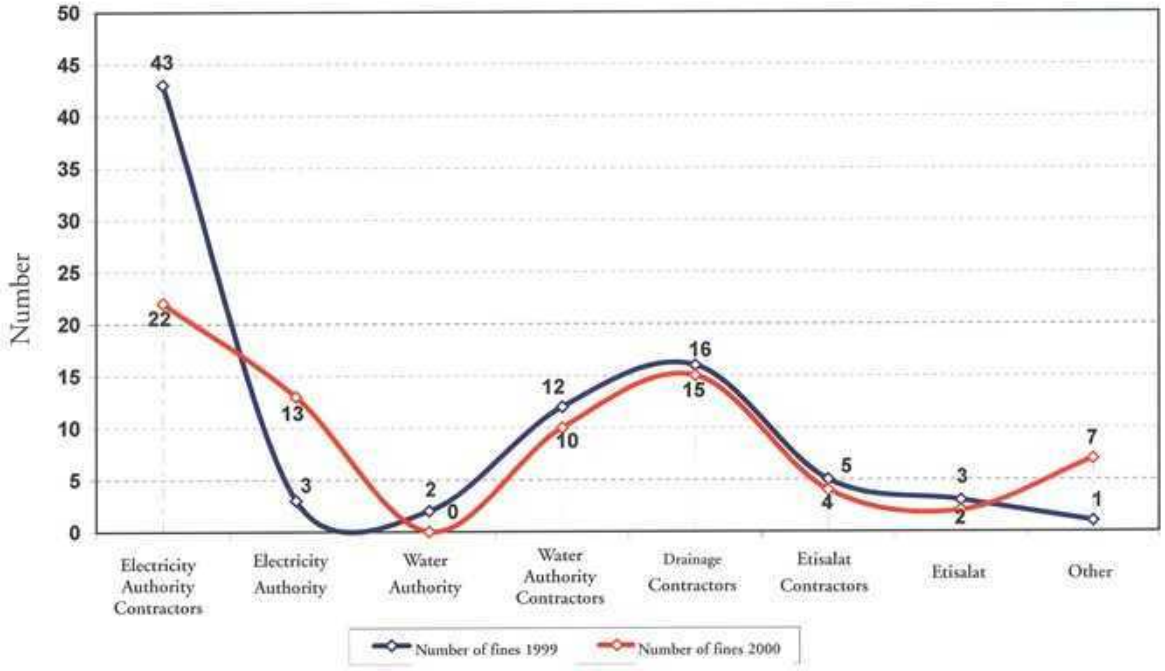
Another task is to co-ordinate with DEWA, Etisalat, Dubai Internet City and opther Government and private bodies on matters relating to the laying of services under or adjacent to roads.

In accordance with Administrative Decree No. 5, issued on 13 January 2002, the Service Co-ordination Office, formerly a part of the Roads Department, was made directly responsible to the office of the Assistant Director General of Roads and General Projects Affairs.

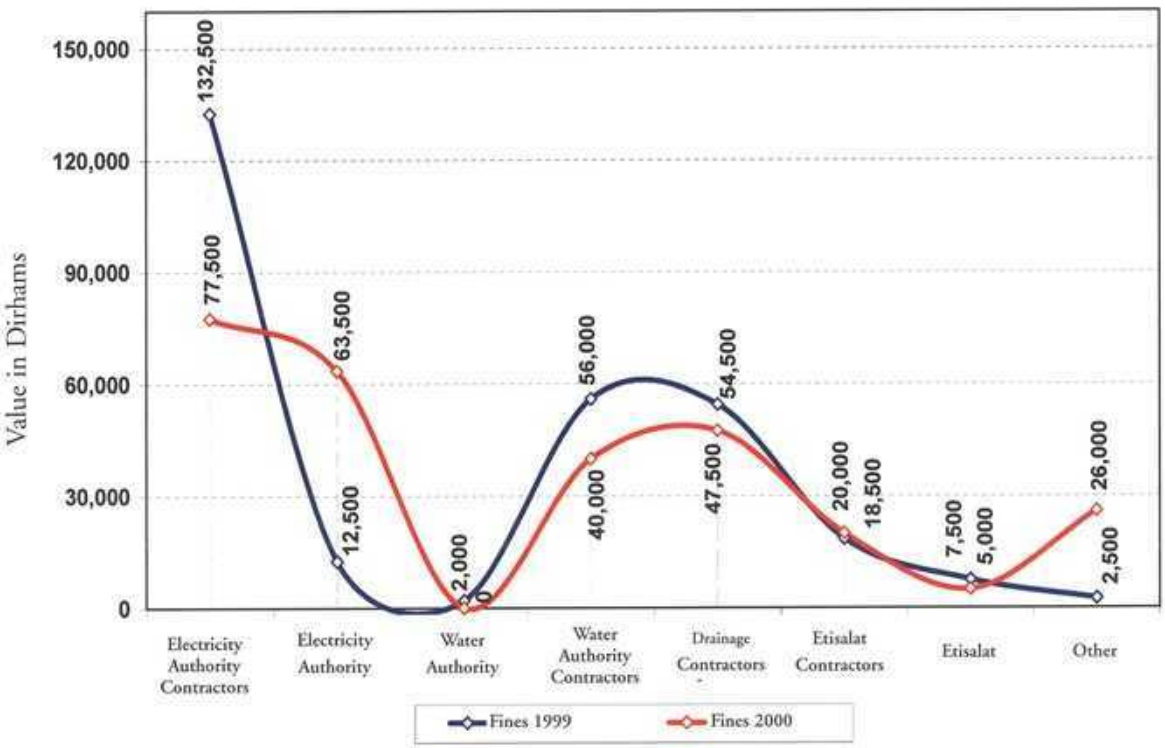
Diagram of the Service Coordination Office in 1997



Number of violation orders issued by the Service Coordination Office, 1999 – 2000



Value of fines related to violation orders issued by the Service Coordination Office, 1999 – 2000



Municipal Ordinances

Year	Number	Title
1961	1	To organise the parking of cars and other vehicles and places to tie riding animals
1961	3	Cleanliness and organising the use of public roads, bridges, streets, public squares and open spaces.
1967	18	Various Municipal Ordinances
1986	29	Laying service lines on public roads.
1991	60	Amendment of vehicle licence fees or their renewal, in accordance with the table attached to the Road Traffic Law issued in 1967.
1993	84	Amendment of articles in Municipal Ordinance No. 21/1981 regarding the laying of service lines on public roads in the Emirate of Dubai.
1995	92	Organising the use of public car parks within the Emirate of Dubai.
1997	109	Amendment of some articles pertaining to Municipal Ordinance No. 87/1991 regarding the specification of costs owed for repaving roads and repairs resulting from accidents.
1997	112	Works related to paving of roads, building exteriors and commercial shops within the Emirate of Dubai.
2000	7	Organising the rules for membership and reservation of public car parking spaces owned by Dubai Municipality.
2001	4	Amendment of some articles pertaining to Municipal Ordinance No. 9/2000 prohibiting the display of cars in public car parks within the Emirate of Dubai for the purposes of sale or rent.

Administrative Directives

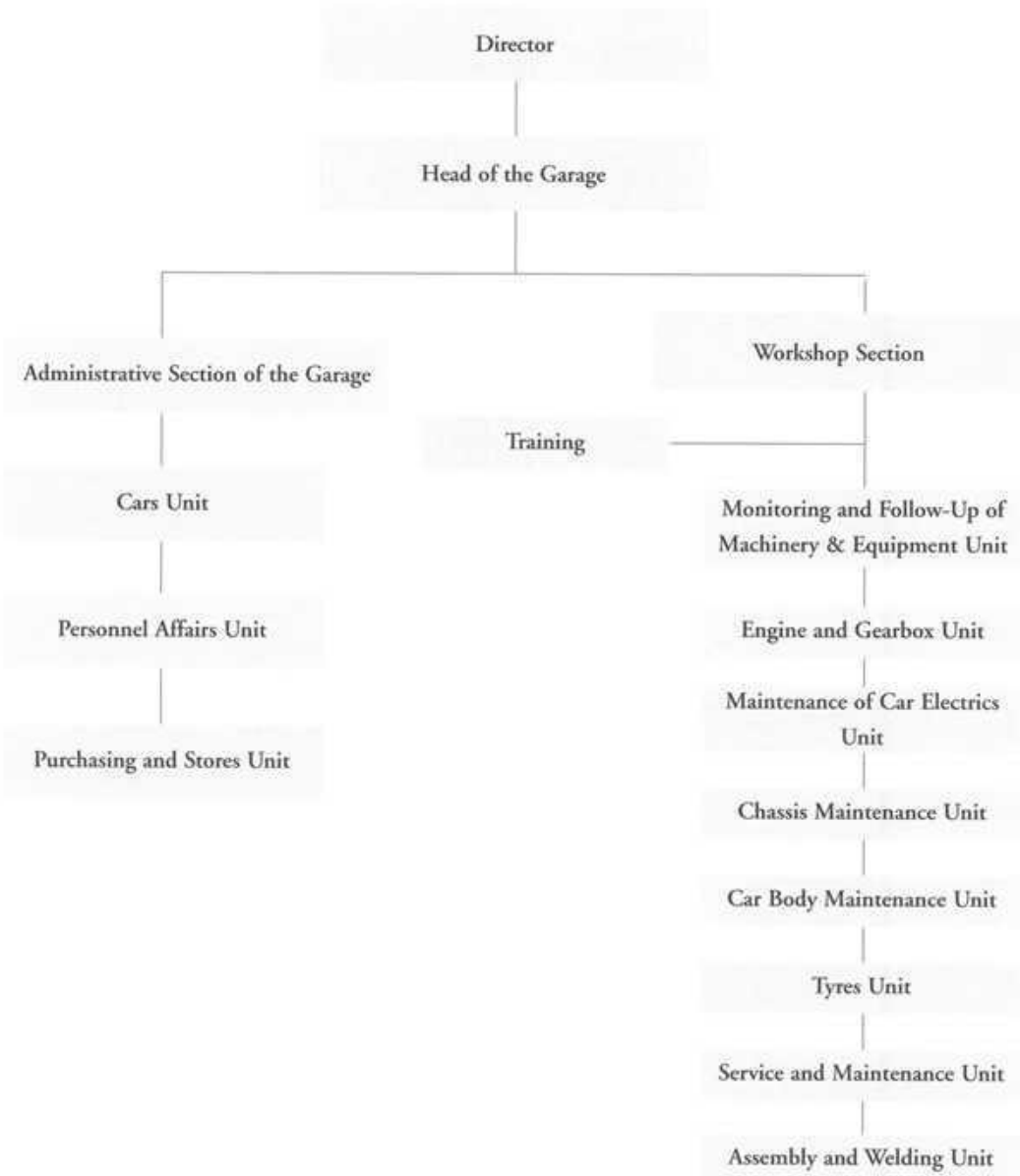
Year	Number	Title
1997	527	Formation of the Service Coordination Committee in the Emirate of Dubai
1997	1174	Rules organising works related to paving of roads, building exteriors and commercial shops within the Emirate of Dubai.
1998	298	Rules organising the placement of directional signs for some establishments within the Emirate of Dubai.
1997	118	Organisation chart and description of duties for the Road Department.
2000	36	Organisation of procedures relating to calculation, receipt and payment of all costs pertaining to works for improvement, development and transfer of service network lines.
2000	67	Amendment of fees for the use of some public car parks in the Emirate of Dubai.
2001	290	Amendment to the affiliation of the Service Coordination Office
2002	58	Creation of the Traffic Technical Section and amendment of the organisation chart for the Roads Department.
2002	162	Formation of the Technical Committee for the Dubai Train Project
2002	293	Formation of a committee to follow up the recommendations of the Transport Committee arising from the United Nations Economic and Social Commission for Western Asia ESCWA

Transport Department

Background

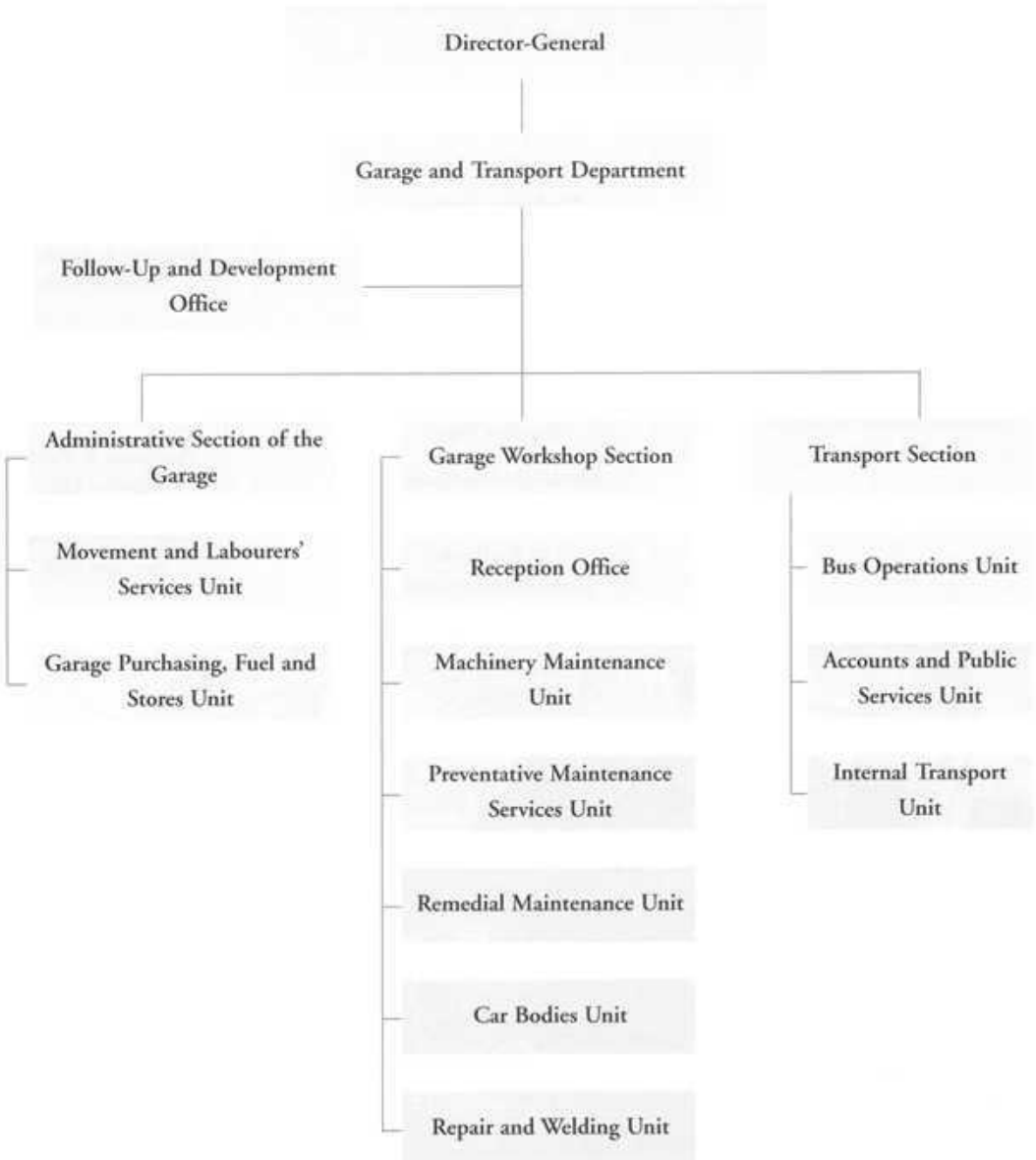
The origins of the Transport Department of today date back to the setting up of the Municipality Garage, in 1961. Then located in Al Maktoum Street, it was moved in 1980 to the Umm al-Ramool area, and was included in the Organisation Chart as the Garage Section, see Chart No. 1.

Chart No. 1. Organisation Chart for the Garage Section in 1980



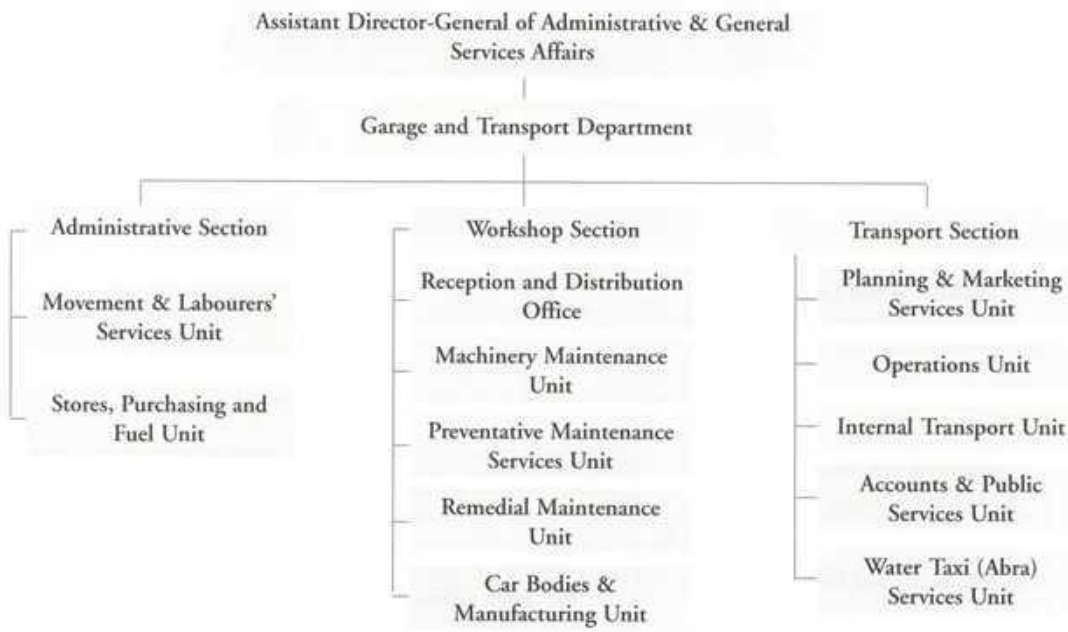
The Transport Section was established in 1968, when a number of buses were purchased by the Municipality, to permit it to introduce a public transport service. This was merged with the Garage Section to create the Garage and Transport Department in 1990 in accordance with the terms of Administrative Directive No. 311 for that year, issued on 10th February. Chart No.2 illustrates the revised structure.

Chart No. 2. Organisation Chart for the Garage and Transport Department in 1990



In 1995, to take account of the expansion of the Department's duties, new buildings were constructed, at a cost of 28 million dirhams. These included new administrative offices, a petrol and fuel station, a carpark with a capacity for 600 vehicles, stores for up to 20,000 types of spare parts and a workshop able to deal with 150 vehicles and other machines on a daily basis. At an administrative level, an Assistant Director-General post was created, also in 1995, with the amendment to the Organisation Chart shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Garage and Transport Department in 1995

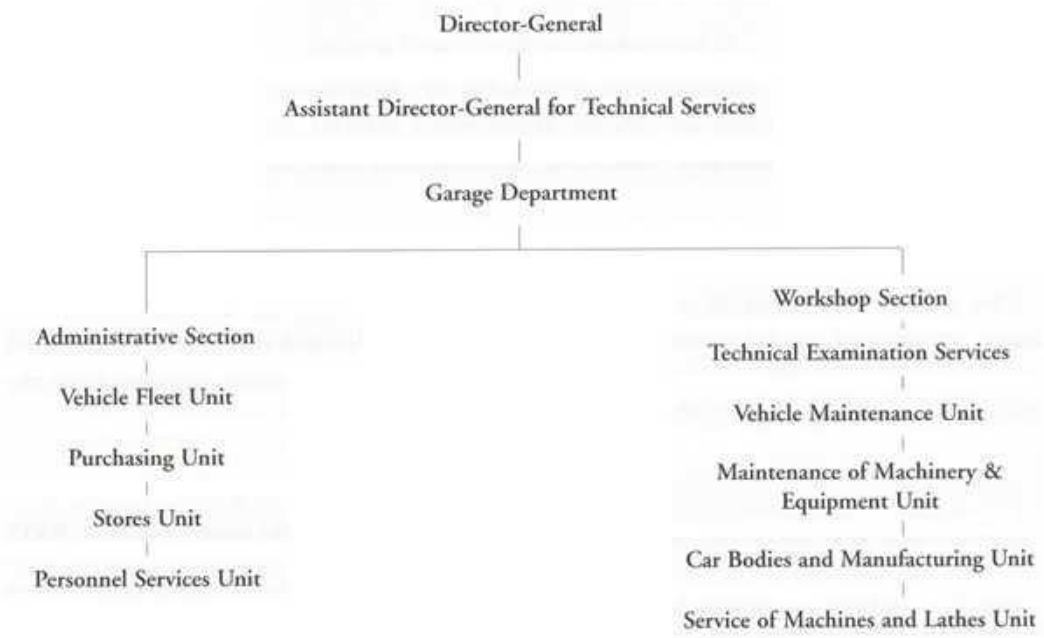




Al Shindagha Bus Station

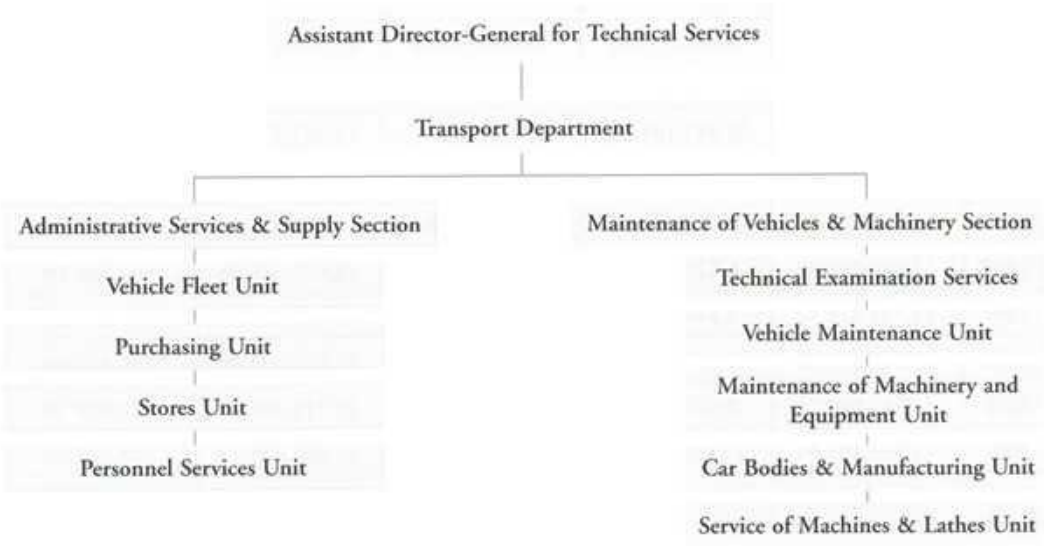
In 1998, the Transport Section* was separated from the Department, which was renamed the Garage Department, as shown in Chart No. 4.

Chart No. 4. Organisation Chart for Garage Department in 1998



In 2000, the Department's name was changed to the Transport Department, with Section names and job specifications also being changed. These alterations are shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Transport Department in 2000



*The Transport Department See Separate chapter on Page 473

Duties and Responsibilities of the Transport Department and its Sections

The Transport Department is responsible for providing all the needs of the various units of the Municipality with regards to vehicles and machinery, for carrying out the scheduled preventative and corrective maintenance for the fleet of vehicles and machinery owned by the Municipality and the supply of fuel and spare parts.

Administrative Services Section

This Section provides administrative services for all Department employees, ensures the supply of fuel and technical services for Municipality vehicles, manages the vehicle and machinery compound, provides vehicles for administrative units and carries out feasibility studies on vehicle use.

Vehicles and Machinery Maintenance Section

This section carries out all necessary repairs, if necessary through external repair contracts, administers regular maintenance contracts for vehicles and machinery, studies and compile technical specifications for all vehicles used by the Municipality and lays down the policies for, and implementation of management and maintenance.

Expenditure and Revenue for the Transport Department, by type, 1988 – 2002

Year	Salaries	Current Expenditure	Capital Expenditure	Total Expenditure	Total Revenues
1988	10,703,129.00	1,806,150.00	329,481.00	12,838,760.00	-
1989	17,041,080.00	4,067,520.00	896,854.00	22,005,454.00	-
1990	7,204,422.00	2,105,316.00	692,470.00	10,002,208.00	-
1991	9,418,939.00	2,117,804.00	371,186.00	11,907,929.00	-
1992	9,890,925.00	2,193,526.00	339,576.00	12,424,027.00	-
1993	10,269,682.00	2,296,572.00	1,014,998.00	13,581,252.00	-
1994	10,544,825.00	2,007,758.00	846,831.00	13,399,414.00	-
1995	9,961,984.00	1,435,103.00	2,556,260.00	13,953,347.00	-
1996	10,583,924.00	9,569,449.00	2,238,676.00	22,392,049.00	125,881.00
1997	10,640,754.00	7,921,206.00	253,875.00	18,815,835.00	108,712.00
1998	11,488,971.80	4,526,824.03	2,059,830.21	18,075,626.04	117,408.00
1999	11,758,918.47	2,144,667.98	414,998.19	14,318,584.64	177,283.80
2000	13,347,371.22	4,017,434.08	192,198.50	17,557,003.80	155,575.19
2001	14,211,989.75	8,378,009.46	533,455.16	23,123,454.37	212,029.35
2002	15,953,499.44	15,986,660.55	747,247.74	32,687,407.73	204,807.00
Total	173,020,414.68	70,574,000.10	13,487,936.80	257,082,351.58	1,101,696.34

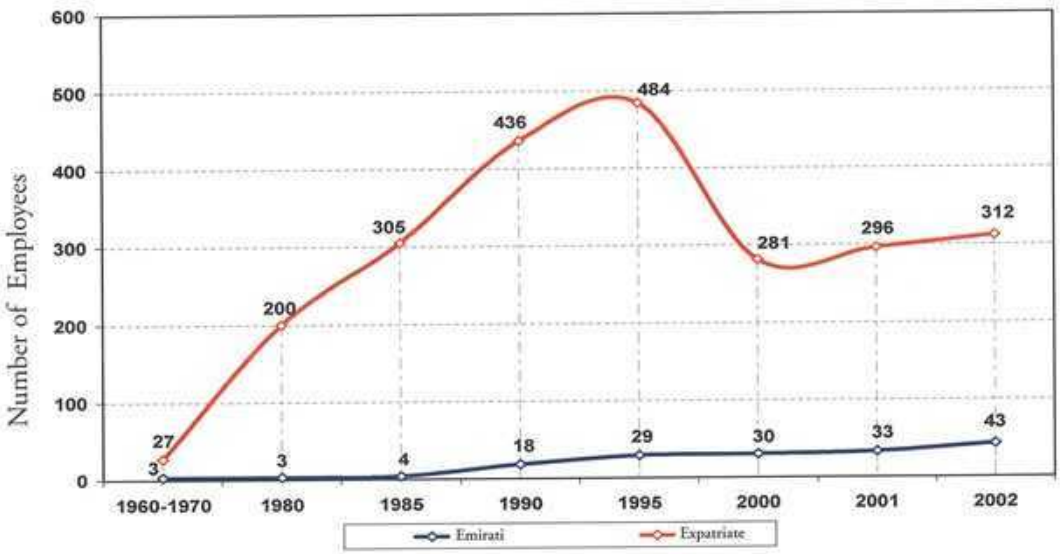
Development of the Department

During the 1960s and 1970s, the nucleus of what was to become the Transport Department had only a very limited number of employees, reaching a maximum of thirty, of whom three were UAE citizens. By 1980, the total number of employees had risen to 203, still with only three Emiratis, representing 1.47 per cent of the total, while in 1985, only four people (or 1.29 per cent) of the Department's 305 employees were Emiratis. This had risen to 18 out of a total of 454 employees, or 3.9 per cent. by 1990. Continuing efforts to recruit more UAE nationals saw their numbers rise to 30, out of 311 (or 9.65 per cent) in 2000 and to 43 out of 355, or 12.11 per cent, by 2002.

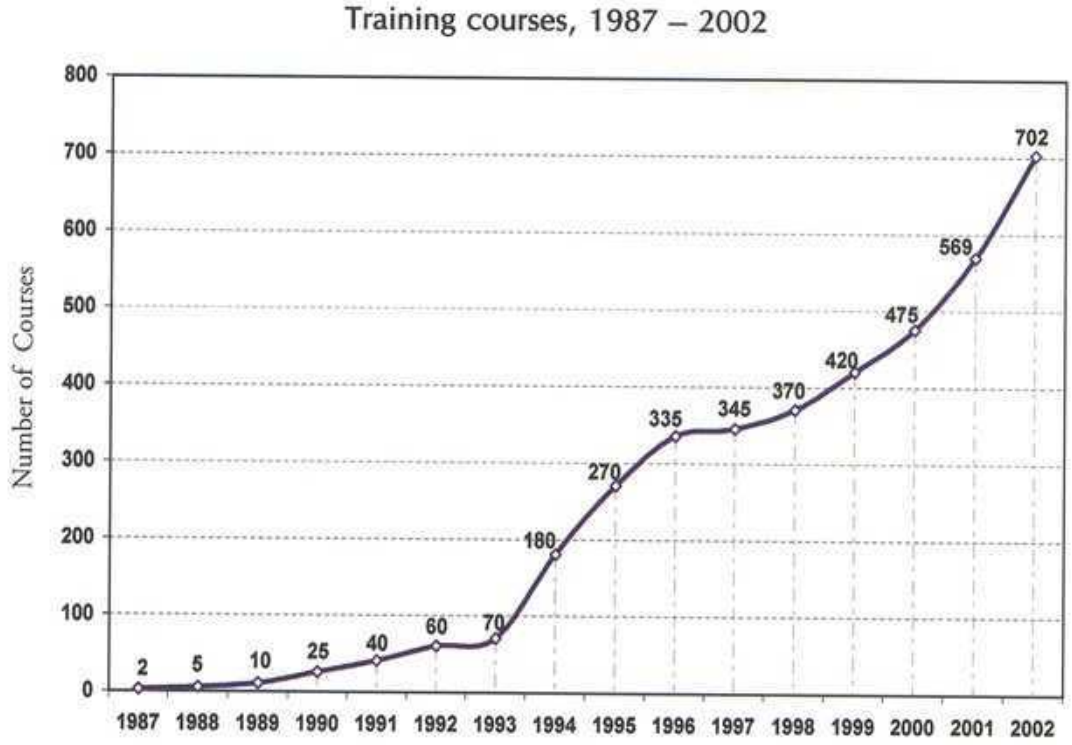
Employees of the Department, 1960 – 2002

Year	Emirati	Expatriate
1960-1970	3	27
1980	3	200
1985	4	305
1990	18	436
1995	29	484
2000	30	281
2001	33	296
2002	43	312

Employees of the Department, 1960 – 2002



As part of the Municipality's policy of providing training to its employees so as to equip them to perform more effectively, and in accordance with the latest practices, the Department has made it possible for its staff to benefit from both administrative and technical training courses. By 2002, 702 courses had been completed.





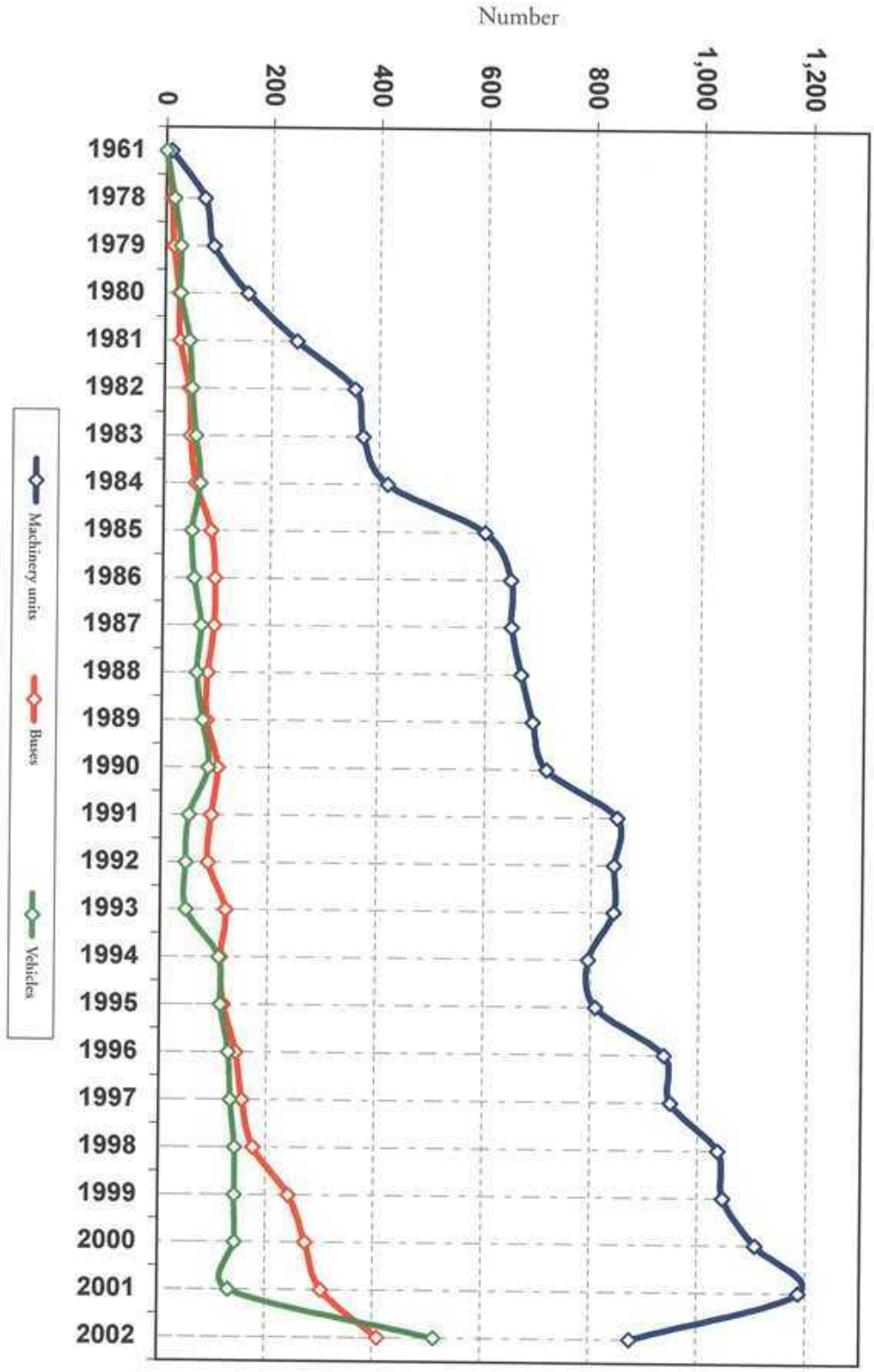
A drivers' training course

Fleet

The expansion of Dubai meant that the Municipality needed both more vehicles, and more types of vehicle and other machinery, for its own use. This process of expansion was particularly marked during the 1980s, the number of vehicles owned by the Municipality rising from 133 in 1979 to 848 in 1989. The process continued during the next decade, with the total rising to 1,431 in 1999 and then to 1,798 by the end of 2002.

Number of Municipality vehicles & machinery units, by type, 1961 – 2002

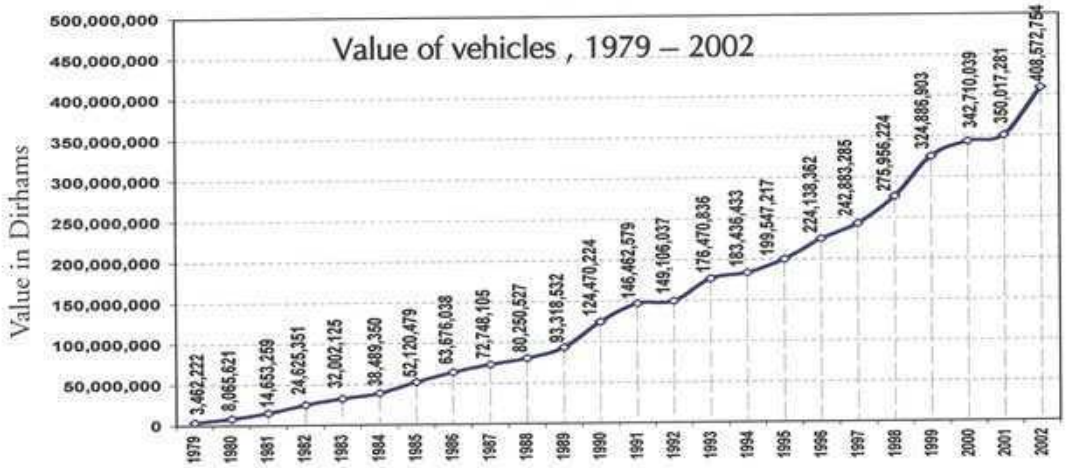
Year	Vehicles	Buses	Machinery	Total
1961	10	0	0	10
1978	72	11	16	99
1979	90	15	28	133
1980	154	26	28	208
1981	246	28	46	320
1982	354	46	51	451
1983	370	49	59	478
1984	416	60	68	544
1985	598	89	53	740
1986	646	97	58	801
1987	648	96	71	815
1988	666	85	64	815
1989	688	84	76	848
1990	715	105	87	907
1991	847	93	52	992
1992	842	88	47	977
1993	842	122	48	1,012
1994	795	113	109	1,017
1995	809	119	113	1,041
1996	937	143	129	1,209
1997	949	155	133	1,237
1998	1,037	176	142	1,355
1999	1,047	242	142	1,431
2000	1,107	274	143	1,524
2001	1,187	304	131	1,622
2002	876	409	513	1,798



Municipality vehicles and machinery units, 1961 – 2002

Cost of Municipality vehicles, 1979 – 2002

Year	Purchase Cost of Cars in UAE dirhams
1979	3,462,222
1980	8,065,621
1981	14,653,259
1982	24,625,351
1983	32,002,125
1984	38,489,350
1985	52,120,479
1986	63,676,038
1987	72,748,105
1988	80,250,527
1989	93,318,532
1990	124,470,224
1991	146,462,579
1992	149,106,037
1993	176,470,836
1994	183,436,433
1995	199,547,217
1996	224,138,362
1997	242,883,285
1998	275,956,224
1999	324,886,903
2000	342,710,039
2001	350,017,281
2002	408,572,754



Types of vehicle and machinery units owned by the Municipality in 2002

Type	Number
Four Wheel Drive vehicle	409
Ambulance	5
Bus	409
Boat	6
Saloon Car	156
Beach Cleaning unit	2
Waste Collection Truck	77
Crane for Street Lighting	4
Dumper	18
Bulldozer	13
Digger	4
Forklift	9
Tractor	19
Heavy Duty Crane (30 Tons)	3
Motorcycle	46
Light Transport Vehicle	311
Skip Truck	19
Train for parks	3
Earthmover (large/ small)	47
Road-sweeper	21
Trailer	3
Tanker	77
Truck	114

Services

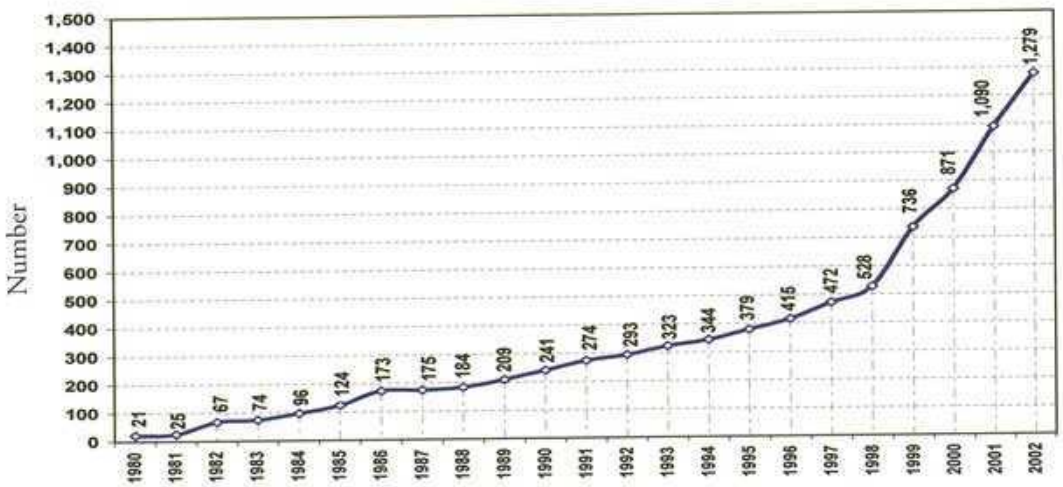
Administrative Services

Handling a fleet of vehicles and other units of this size posed both administrative and technical challenges. One is that of ensuring that there are enough reserve and relief drivers for vehicles, and a total of 60 have been employed to supplement the 918 regular drivers.

Municipality drivers, 1980 – 2002

Year	Total Number	Year	Total Number
1980	21	1992	293
1981	25	1993	323
1982	67	1994	344
1983	74	1995	379
1984	96	1996	415
1985	124	1997	472
1986	173	1998	528
1987	175	1999	736
1988	184	2000	871
1989	209	2001	1,090
1990	241	2002	1,279
1991	274		

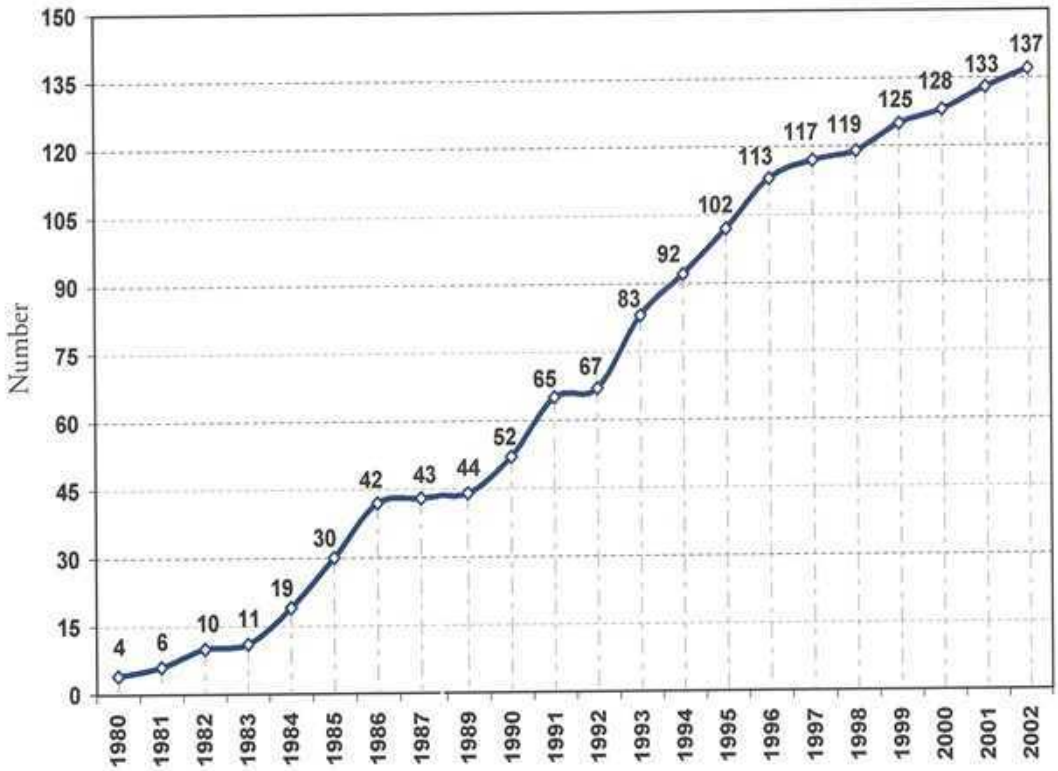
Municipality drivers, 1980 – 2002



Drivers appointed to the Transport Department, 1980 – 2002

Year	Total Number
1980	4
1981	6
1982	10
1983	11
1984	19
1985	30
1986	42
1987	43
1989	44
1990	52
1991	65
1992	67
1993	83
1994	92
1995	102
1996	113
1997	117
1998	119
1999	125
2000	128
2001	133
2002	137

Appointment of Transport Department drivers, 1980 – 2002



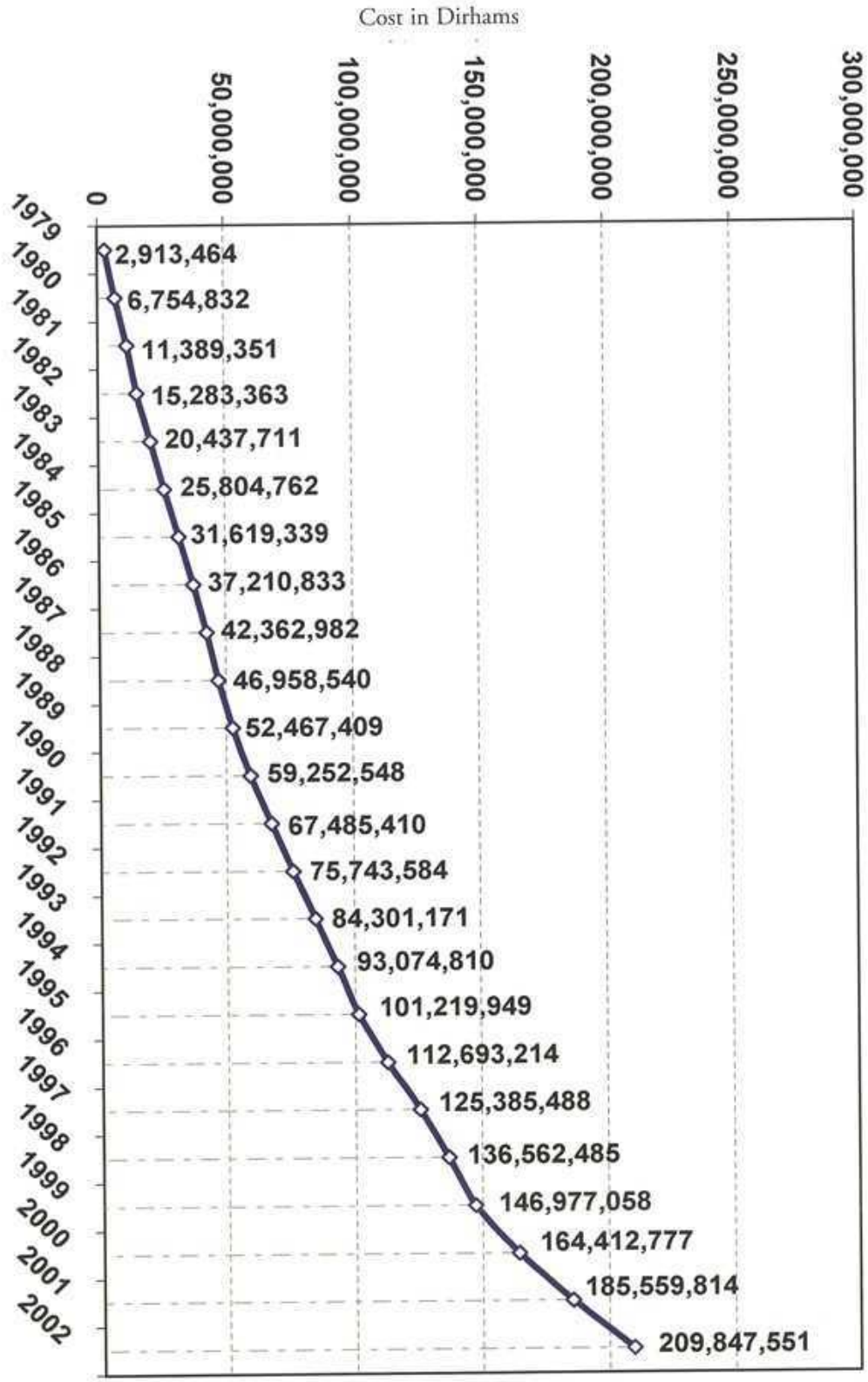


Buses during regular maintenance

In 1995, as noted above, a new petrol station was built to provide fuel to Municipality vehicles and other machinery and to other bodies working in collaboration with the Municipality.

Fuel Costs, 1979 – 2002, in UAE dirhams

Year	Total Cost of Fuel (Dh)
1979	2,913,464
1980	6,754,832
1981	11,389,351
1982	15,283,363
1983	20,437,711
1984	25,804,762
1985	31,619,339
1986	37,210,833
1987	42,362,982
1988	46,958,540
1989	52,467,409
1990	59,252,548
1991	67,485,410
1992	75,743,584
1993	84,301,171
1994	93,074,810
1995	101,219,949
1996	112,693,214
1997	125,385,488
1998	136,562,485
1999	146,977,058
2000	164,412,777
2001	185,559,814
2002	209,847,551

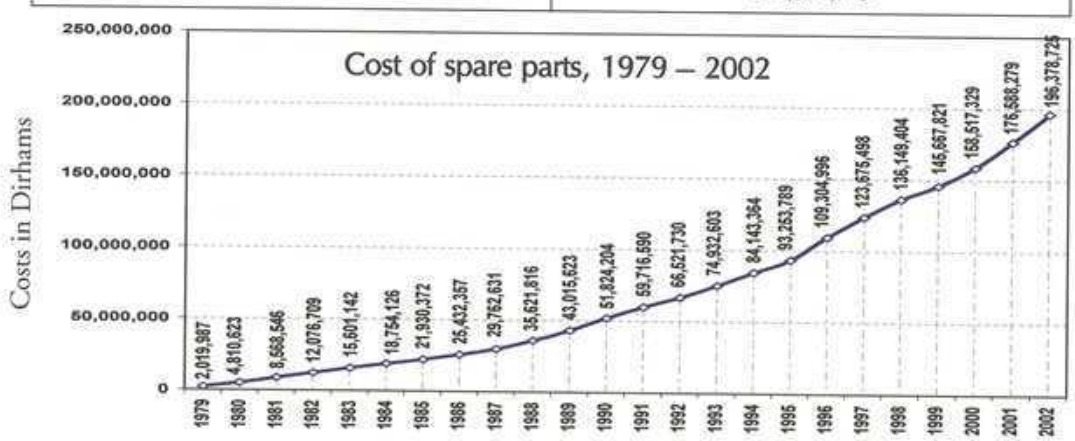


Fuel costs, 1979 – 2002

The Department is also responsible for the purchasing of spare parts required for the regular and routine maintenance of all of the Municipality's vehicles.

Cost of spare parts, 1979 – 2002 (in UAE dirhams)

Year	Cost (Dh)
1979	2,019,987
1980	4,810,623
1981	8,568,546
1982	12,076,709
1983	15,601,142
1984	18,754,126
1985	21,930,372
1986	25,432,357
1987	29,762,631
1988	35,621,816
1989	43,015,623
1990	51,824,204
1991	59,716,590
1992	66,521,730
1993	74,932,603
1994	84,143,364
1995	93,253,789
1996	109,304,996
1997	123,675,498
1998	136,149,404
1999	145,667,821
2000	158,517,329
2001	176,588,279
2002	196,378,725



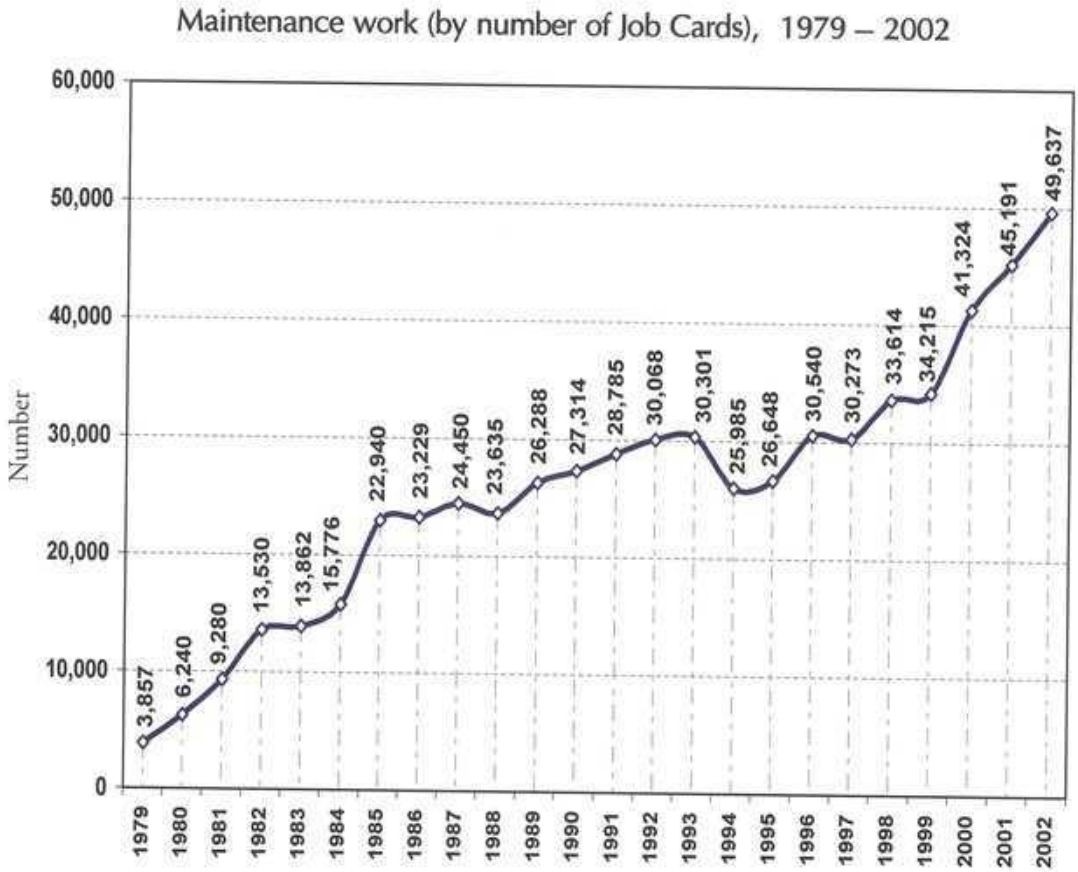
Technical Services

The maintenance of the Municipality's vehicles is a key part of the process required to keep them operational, and in 1987, a Technical Reception Office was established to handle all maintenance and repair.

In 1995, a modern workshop was built, which was fully-equipped to carry out preventative maintenance, and had a capacity of 1,500 vehicles, compared to only 500 for the old workshop, built in 1980.

Maintenance work (by number of Job Cards), 1979 – 2002

Year	Number of Job Cards
1979	3,857
1980	6,240
1981	9,280
1982	13,530
1983	13,862
1984	15,776
1985	22,940
1986	23,229
1987	24,450
1988	23,635
1989	26,288
1990	27,314
1991	28,785
1992	30,068
1993	30,301
1994	25,985
1995	26,648
1996	30,540
1997	30,273
1998	33,614
1999	34,215
2000	41,324
2001	45,191
2002	49,637

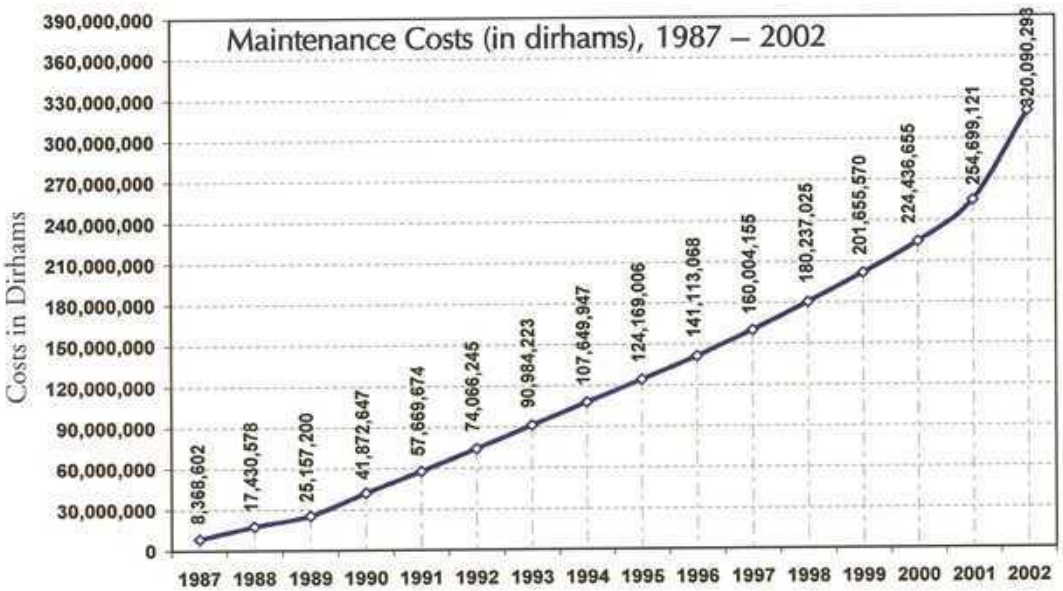




Technical Inspection in the Workshop

Maintenance Costs (in Dirhams) 1987 – 2002

Year	Cost (Dh)
1987	8,368,602
1988	17,430,578
1989	25,157,200
1990	41,872,647
1991	57,669,674
1992	74,066,245
1993	90,984,223
1994	107,649,947
1995	124,169,006
1996	141,113,068
1997	160,004,155
1998	180,237,025
1999	201,655,570
2000	224,436,655
2001	254,699,121
2002	320,090,293



Systems Development

In 1996, as part of the Municipality's policy of decentralising work as much as possible, the Department was given responsibility for the approval of leave for its employees.

In 1999, as part of moves by the Municipality to introduce computer-based systems of management, the Department introduced a Management Maintenance System to monitor and manage cost accounting. This permitted vehicle maintenance programmes to be planned and to be put into effect, allowed the costs of operating and maintaining each individual vehicle or other item to be monitored and facilitated the creation of a broad-ranging database. This, in turn, made it possible for annual budgets to be drawn up easily, with the retrieval of data becoming easier, quicker and more accurate. With a capacity to store data for up to 3,000 vehicles and other units of machinery, the system also made it easier to prepare regular reports and to provide services of use in the purchasing of spare parts and stock control.

It was connected to the Contracts, Purchasing and Stores systems already operating within the Municipality and was also connected to the Dubai Government's e-Government system and to the Internet.

In 2000, an automated system was introduced for stock management and for the administration of spare parts management and purchasing. This was connected through computers linked to the main Purchasing and Stores systems, and was also linked to the broader Dubai e-Government network. 4,495 purchase orders had been processed at the time that this report was compiled.

The new system reduces the length of time that vehicles and other machinery are out of service while awaiting the arrival of spare parts, facilitates automated management of the requirements for and the availability of spare parts, allows stocks to be administered and handled efficiently and also specifies the minimum stock levels for each type. It also makes it possible to specify the economically-viable size of orders and to classify those spare parts for which there is a rapid turnover, as well as more slow-moving items, in accordance with international classifications.

General Projects Department

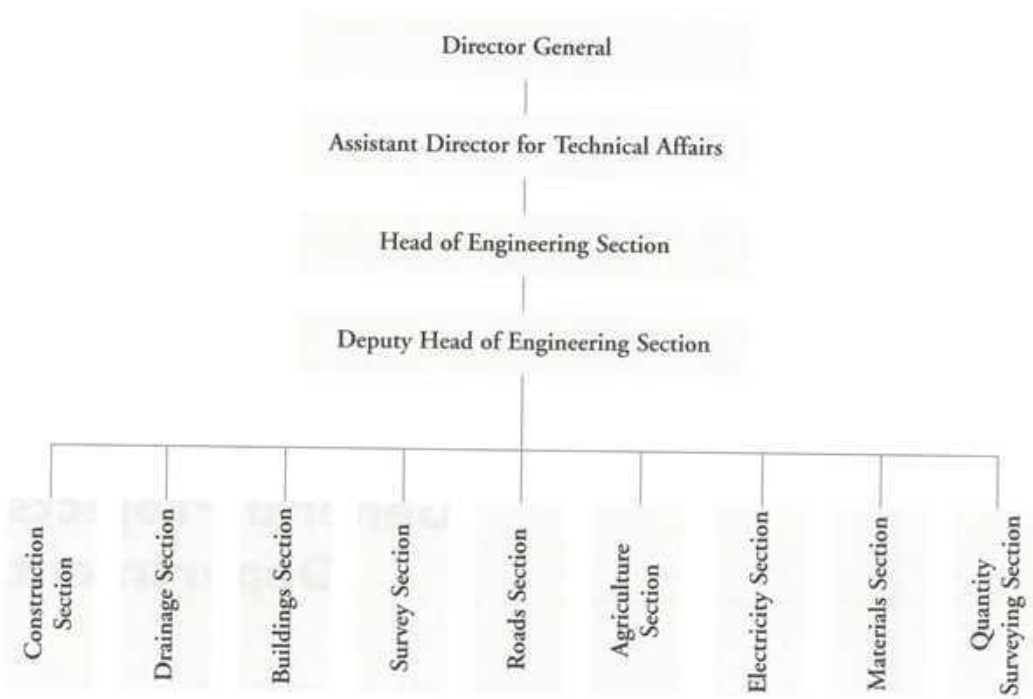
As is the case with other parts of the Dubai Municipality, the General Projects Department began on a small scale, and has grown dramatically over the years, in line with the growth of Dubai as a whole. Until 1986, various small engineering projects undertaken by the Municipality were handled by the Engineering Section, under the Assistant Director of Technical Affairs, as shown in Chart No. 1.

In that year, the continued growth of engineering projects of varying sizes prompted the formation of the Implementation Section, as well as other sections, as shown in Chart No. 2.

Chart No. 1



Chart No. 2



Development of the organisation chart, 1988 – 2001

The Projects Section was founded in 1988 established as part of the Planning Department by Administrative Directive No. 326/1988, and with the Road and Drainage Units being excluded from the scope of the new Section. It was given responsibility for planning and supervision, in liaison with various other parties, and for ensuring that projects were carried out in accordance with the criteria and standards appropriate, with its internal structure being as shown in Chart No. 3.

Chart No. 3



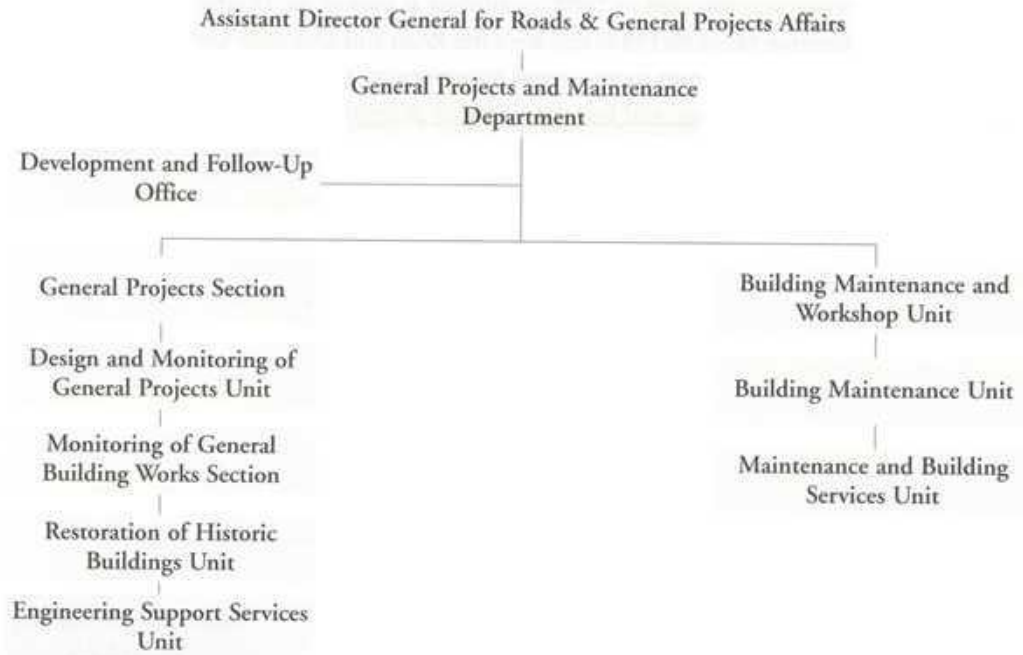
In 1991, a new unit was created in the Section to be responsible for the restoration of historic buildings, under the terms of Administrative Order No. 267/1991, with the consequent changes to the organisation chart being shown in Chart No. 4.

Chart No. 4



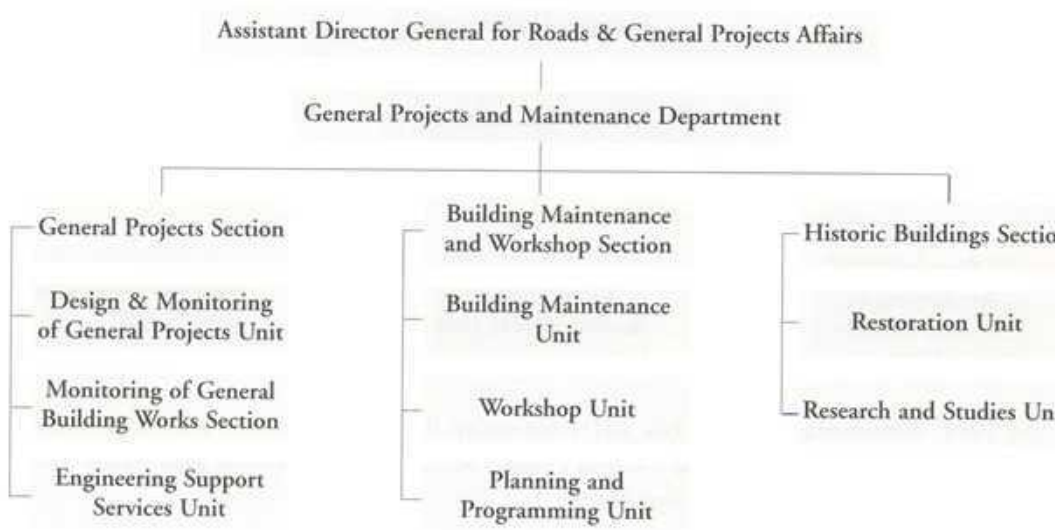
In 1994, Administrative Order No. 131/1994 set up the General Projects and Maintenance Department, with two sections, the General Projects Section and the Building Maintenance and Workshop Section, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the General Projects Department in 1994



In 1995, the organisation chart was again amended, under the terms of Administrative Directive No. 591/1995, which set up three separate sections, as shown in Chart No. 6, the General Projects Section, the Building Maintenance and Workshop Section and the Historic Buildings Section.

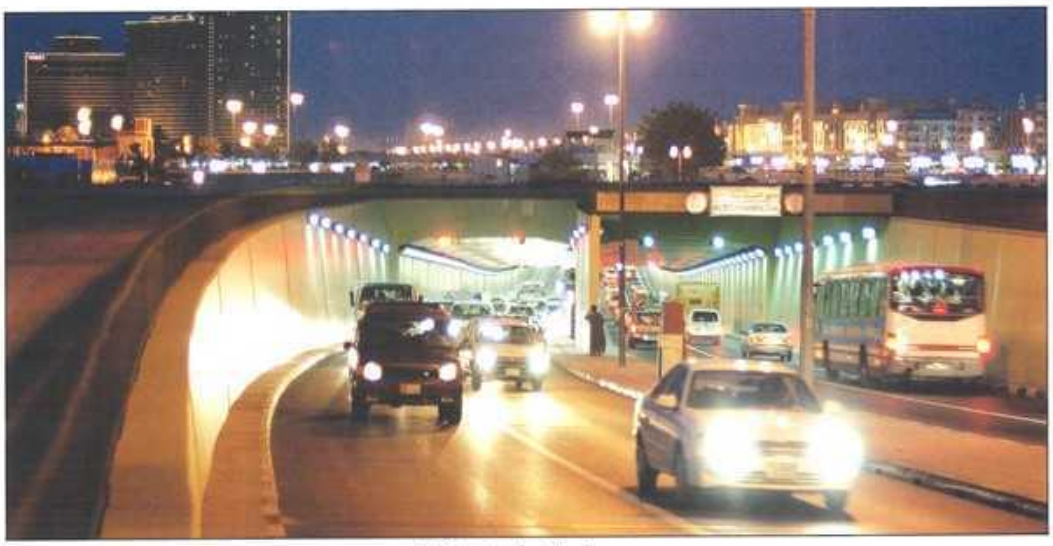
Chart No. 6. Organisation Chart for the General Projects Department in 1995



Then, in 1998, the General Maintenance Department was established in accordance with Administrative Directive No. 185/1998, as shown in Chart No. 7. The Maintenance of Buildings and Utilities Section was moved to the new General Maintenance Department and the organisation chart was amended, with the Department having three separate subsidiary units, the Maintenance of Buildings and Utilities Section, the Road Maintenance Section and the Maintenance Planning Office, as shown in Chart No. 7.

Chart No. 7. Organisation Chart for the General Projects Department in 1998



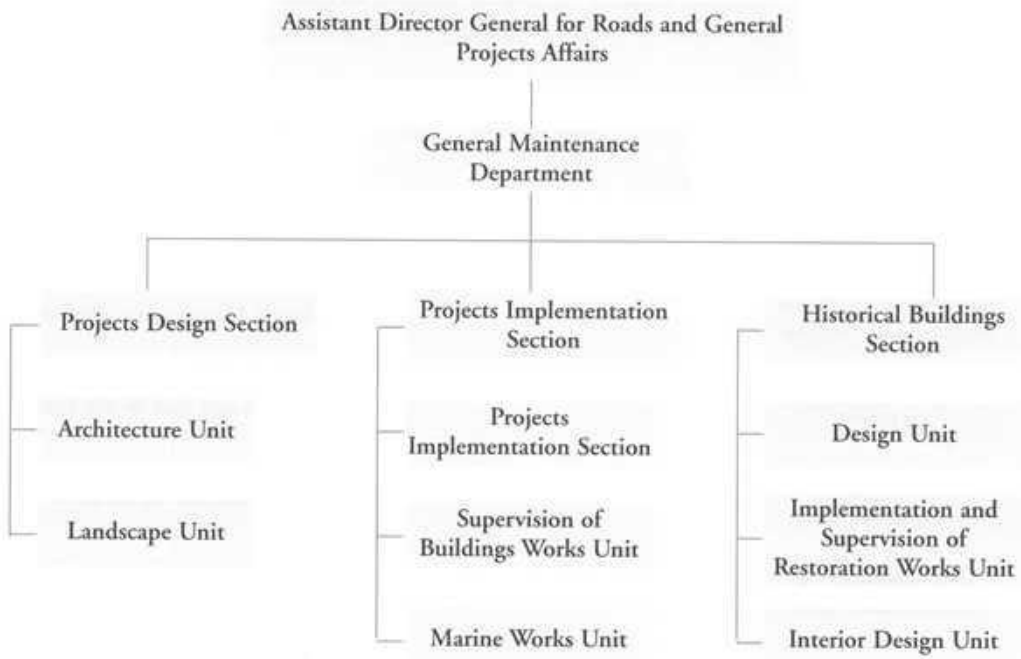


Al Shandagha Underpass

In 1999, further organisational changes took place, with the name of the department becoming the General Projects and Maintenance Department, and with the Building Maintenance and Workshop Section being included within it, under the terms of Administrative Directive No. 10/1999, and as shown in Chart No. 8. the Department then had three sections:

- The Projects Design Section
- The Projects Implementation Section
- The Historic Buildings Section.

Chart No. 8. Organisation Chart for the Projects Department in 1999



Further changes were also made to take account of the continual growth in the responsibilities of the Department, these including the creation of internal administrative units, the upgrading of its specialised technical personnel and the employing of new technical members of staff.

- An Interior Design Unit was added to the Historic Buildings Section, to take responsibility for the furnishing and interior decoration of historic buildings and museums while the Section was also provided with an administrative unit.
- In the Projects Design Section, a Landscape Unit was created, being placed in charge of all gardens and parks in the Emirate. It was also charged with providing support to other units of the Municipality.
- Another step was the setting up of the Marine works Unit, whose tasks included the carrying out of studies on Dubai's coastline and the impact on it of various projects, as well as providing long-range projections on the future of the coastline.

Development of Activities and Specialities

Over the course of the last eight years, the quality and quantity of the activities undertaken by the Department have changed significantly. Having begun by handling only small and medium-sized projects, it then moved on to tackle much larger projects, of various kinds. These included Government projects, service projects undertaken for other bodies in Dubai, the provision of low-cost housing for employees and projects of a recreational nature, such as sports and recreational clubs, public gardens and parks, educational projects, commercial markets and the restoration of historic buildings as part of a programme of preserving Dubai's architectural heritage.

The Department has also made an important contribution to the development of the regulatory framework for the construction industry, has prepared draft documents for regulations on the protection of historic buildings and has laid down regulations for construction activity along the coastline.

Other tasks have included the carrying out of various studies on projects in both the public and private sectors and the supply of information on marine and other topics, while the Department has also been involved in a number of projects carried out by the Municipality itself.

The skills developed with regards to the restoration of historic buildings have also been used in a number of projects elsewhere in the United Arab Emirates as well as abroad.

Other activities have included participation in studies on the marine environment, while the Department has also presented papers at three international conferences, one held in Al Ain and the others in Sweden and Singapore.

Another aspect of its work has been the carrying out of technical studies on thermal insulation of buildings, the results of which were presented at a conference organised by the Municipality that led to the drafting of a Municipal Ordinance on this topic.

Duties and Responsibilities of the General Projects Department

The main duties and responsibilities of the Department and of its various subsidiary units include the following:

1– To ensure that contract applications are processed in accordance with specified Municipality rules and procedures, in co-ordination with the Contracts and Tenders Section and the Cost Control unit of the Contracts and Purchasing Department.

2– To monitor work carried out by contractors and consultants employed to carry out work for the Department's projects and to ensure that they adhere to the terms of the relevant contracts, and to present regular appraisal reports to the Assistant Director General for Roads and General Project Affairs.

3– To carry out studies on the requirements of the beneficiaries of various projects, in particular relating to provisions for general projects, for buildings and for the Municipality.

4– To prepare specifications for large projects that cannot be undertaken by the Department and to follow up on the carrying out of these projects by external consultants and contractors.

5– To propose projects for the restoration of historic buildings and to implement those which are approved.

6– To co-ordinate with other Departments and Sections, in particular with the Contracts and Purchasing Department, the Building Research Section and the Quality Control unit, on the carrying out of and the and monitoring of projects.

7– To ensure the most efficient and cost-effective use of resources, including manpower, equipment and materials.

8– To propose and to carry out specialised technical studies on design criteria, implementation, maintenance and supervision, so as to improve efficiency.

9– To co-operate with the Personnel Department on training of employees, and, in particular, to suggest career development programmes for Emirati personnel.

10– To prepare and present monthly and quarterly reports and to help in the preparation of annual reports on the Department's activities, showing how plans and targets have been met, in accordance with standard Municipality practices.

The General Projects Department has three main sections, each of which has a number of Units and other units, and is mainly focussed on the design and carrying out of projects for public buildings and for the preservation of Dubai's historic buildings.

Projects Design Section

This section has two Units:

- Architecture
- Landscape

Project Implementation Section

This section has three Units:

- Supervision of Building Work
- Marine Works
- Engineering Support Services

Historic Buildings Section

This section has three Units:

- For Design

– Implementation and Supervision of Restoration Work
– Interior Design

Project Design Section

This Section carries out initial studies for and the design of special projects for the Municipality as well as for other government projects. It also follows up on, supervises and prepares points relating to designs and studies undertaken by consultants.

Amongst its duties are the preparation of policies and legislation and the development of research to improve performance and the formulation of plans for the study and design of projects. It is also charged with identifying suitable techniques for the restoration of historic buildings, based upon traditional building methods. This work is undertaken through co-ordination, at both an administrative and a technical level, with other parts of the Municipality.

The Section also oversees sensitive or complex projects by preparing individually-designed procedures and makes use of modern engineering techniques, where appropriate, while a more general task is that of ensuring that all projects are carried out in accordance with the technical specifications, whether carried out by the Municipality or by external contractors.

The work of external contractors is monitored on a regular basis to ensure that they adhere to contract terms, with monthly reports being prepared, while reports on projects needing regular or specific maintenance are also prepared.

At an internal level, the Section works closely with the Personnel Department to organise the appropriate training for Section employees, while internal courses, lectures and seminars are also held.

Project Implementation Section

This key task of this Section is to supervise construction projects to ensure that the approved designs and specifications are carried out. It also provides engineering support to other parts of the Municipality.

Within this broad framework, the Section is responsible for implementing all Municipality policies, rules and regulations on projects, for ensuring that contractors and consultants keep to the terms stated in their contracts and for following up effectively on all phases of project implementation.

Initial and final designs presented by consultants and contractors are reviewed for an audit of specialised electro-mechanical, structural and marine aspects while structural and electro-mechanical designs are prepared for various works, where appropriate, this process being followed up through co-ordination with other Departments within the Municipality.

Consultants and contractors are reviewed and approved, in line with the appropriate Municipality procedures, this work being done in association with the relevant Administrative units, while close contact is maintained with other Sections and Departments of the Municipality, as well as with relevant external bodies, to ensure that their participation in project design and implementation is obtained, where necessary.

On the payment side, the Section reviews and audits payment orders, amending these, where necessary, and also makes suggestions for alternative building materials, where these meet

Municipality specifications.

The Section is also responsible for implementing Municipality policies and rules on project implementation, in particular where specialised expertise is required, as in the case of landscaping and marine projects.

Finally, the Section is responsible for gathering data and for maintaining a database on the marine environment, dealing with topics such as wind, water temperatures and marine currents, and for making sure that this data is accessible for use in Municipality projects or for projects being carried out by other Government bodies.

Marine Section

This Section is responsible for decision-making and for providing the necessary expertise, monitoring and data with regards to coastal engineering work.

It is equipped with the necessary equipment and computer programmes, with appropriate regulations having been laid down for it to perform its work.

Its personnel have the requisite experience to undertake their tasks, while, at the same time, keeping in mind environmental, demographic and other issues related to development.

The Section has devoted particular attention to the need to train UAE citizens, and has been successful in recruiting a marine consultant and an assistant data technician of UAE nationality who are being given the appropriate training, both internally and externally.

Further recruitment is under way.

Historical Buildings Section

This Section carries out research, formulates the plans and techniques necessary for the preservation of historic buildings and then undertakes restoration, including the proposal of alternative uses for buildings and their interior furnishing.

As part of this work, the Section makes proposals for new policies and legislation and also puts forward ideas for research, as well as studying social, cultural and historical aspects of the community, so as to place the restoration of historic buildings within the appropriate context.

It also works closely with international bodies with expertise in the restoration of historic buildings, while, at the same time, ensuring that use is made of the appropriate local techniques, building materials and expertise.

Another task of the Section is to identify buildings that can be placed on international registers of world heritage.

In terms of carrying out its varied tasks, the Section works closely with other parts of the Municipality, while it also ensures that there is proper oversight of the work being carried out and the technical specifications, both for projects it carries out itself and for those being undertaken by external contractors. Regular monitoring of consultants and contractors is undertaken, with monthly reports being prepared.

Finally, the Section works closely with the Personnel Department on the organisation of the appropriate training courses and also carries out its own internal training programme

Development of the Department's Technical Capabilities

In view of the need to cope with its increasing responsibilities and to provide the highest standard of services, the organisation of the Department in terms of its technical expertise has been continually upgraded. The objective has been to ensure that there are suitably trained personnel throughout the Department.

In 2002, a number of new engineers and specialists were taken on, as well as assistants who were capable of undertaking tasks related to the preservation of the architectural heritage of the Emirate.

In 1994, there were 23 technical employees in the Municipality dealing with the functions currently carried out by the Department. By 2002, this number had risen to 60, of whom 34 per cent are UAE citizens, with 48 technical assistants, while the number of administrators rose from nine in 1994 to 35 administrators and administrative support employees in 2002.

Training and employment of Emiratis



A view of the Creek

As a result of carefully-prepared planning, there has been a notable increase in both the total number of and the percentage of Emiratis in the Department. By 2002, as noted above, 34 per cent of those in technical positions were Emiratis, while all senior level administrative staff were also UAE citizens.

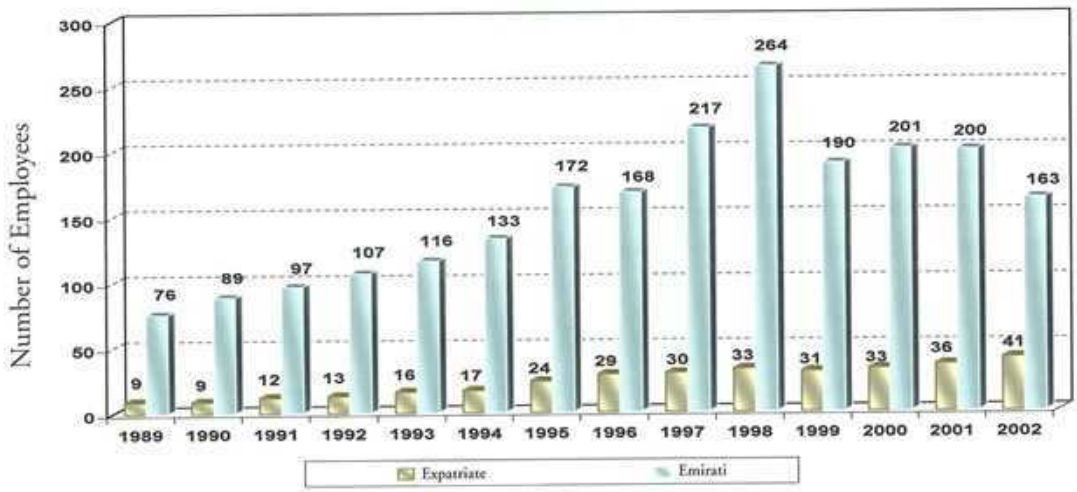
The following table illustrates the growth in the number of Emiratis in the Department between 1989 and 2002.

Year	Administrative	Technical	Technical Assistant	Total
1989	1	6	2	9
1990	1	6	2	9
1991	1	9	2	12
1992	1	10	2	13
1993	3	10	3	16
1994	3	11	3	17
1995	6	12	6	24
1996	6	16	7	29
1997	6	17	7	30
1998	6	17	10	33
1999	5	18	8	31
2000	11	16	6	33
2001	14	15	7	36
2002	24	28	9	61

Emiratis and expatriates in the Department, 1989 – 2002

Year	Emirati	Expatriate	Total	Percentage
1989	9	76	85	10%
1990	9	89	98	9 %
1991	12	97	109	11%
1992	13	107	120	11%
1993	16	116	122	12%
1994	17	133	150	11.50%
1995	24	172	196	14%
1996	29	168	197	15%
1997	30	217	247	12.50%
1998	33	264	297	11%
1999	31	190	221	14.50%
2000	33	201	234	14.50%
2001	36	200	236	15.50%
2002	41	163	204	20%

Emiratis and expatriates in the Department, 1989 – 2002



Projects undertaken by the Department listed by year

1982	
Accommodation for Employees – Phase 1	
1983	
Health Services Centre	Housing for Health Workers in Al-Aweer
1984	
Development of Mushrif Park – Phase 1	Al-Hamriyyah Central Market
Taxi Station in Dubai	Extensions to the Municipality Garage
Extension of the Biology Laboratory	Development of Al-Safa Park – Phase 1
1985	
Housing for Labourers in Al Qusais	New stores for the Rashidiya warehouses
Cultivating the main playing fields with natural grass in Dubai's clubs – Phase 1	Renovation work in the Municipality's clinic
Extensions to the Materials Laboratory building, Phase 1	Renovations in Al-Hamriyyah Central Market
1986	
Extensions to the Health Office at Tawi Lisaili	Construction of 4 indoor sports halls for Dubai clubs
Extensions to Hatta School for Girls	Furnishing of Municipal Council Hall
Rebuild of Sheikh Saeed's House in Shindagha	Renovation of Municipality lifts
Renovations and lavatories for the Municipality's Laboratory	Al-Quoz Graveyard
Fencing of the hazardous waste facility in Jebel Ali	Lavatories and renovation of the Health Clinic
Fencing of Hatta's waste facility	Additions to the Materials Laboratory building
Fencing of archaeological sites in Jumeirah	Construction of the Microbiology Laboratory – Biology
School in Al-Khawaneej	Fence and car park for Al-Qusais Graveyard
Maintenance of Marine Docks	Assembly of playground equipment and games in Safa Park
Landscaping of the Commercial Centre Roundabout	Construction of waste recycling stations
Service buildings for Al-Refa'a Graveyard	Cultivating the main playing fields with natural grass in Dubai's clubs – Phase 2
Additions to the Health Offices in Al-Rashidiya	Maintenance of Municipality Lifts
Commemorative monument for the Chess Olympics	Al-Rashidiya Market
1987	
Mosque for Labourers Housing complex in Al-Qusais	Maintenance of Zabeel Mosque

Fence for Al-Qusais Graveyard	General Exhibition of Municipality Projects
Renovations to the Municipality's VIP Lifts	Survey and study on fire protection facilities
Veterinary Clinic and Labourers Housing in Al-Quoz	Addition to the Roads Section offices in Al-Rashidiya
Fence for Al-Refa'a Graveyard	Design and fitting of signs for Municipality offices
Fence for Al-Rula Graveyard	Irrigation network for Veterinary Clinic
Fence for Al-Hamriyyah Graveyard	Residential gardens in Al-Hamriyyah
Fence for Al-Riqqa Graveyard West	Public squares in Al-Tawar
Maintenance for Hatta Municipality	Car auction services in Al-Qusais
Fence for Al-Tawar Graveyard	Shaded bus stops in the city
Eid Prayer area in Al-Rashidiya	Fencing of Municipality labour housing in Al-Qusais
Fencing of Jumeirah and Umm Suqeim Graveyards	Six stations for the collection and recycling of waste
Renovation of Municipality Laboratory	Construction of Health Centres in Umm Suqeim and Al-Karama
Scrap Compound Services	
Municipality branch offices (Umm Suqeim and Al-Karama)	

1988

Public squares in Al-Satwa and Mankhool	Municipality visitors' lifts
Gardens in Al-Rashidiya	Fence for the Post Office in Al-Rashidiya
Renovation of Al-Ittihad Building gate	Landscaping of Al-Wasl and Al-Shabab Clubs
Renovation of the Health Office in Hor Al-Anz	Protection of indoor arenas against birds
Expansion of Municipality offices in Al-Ittihad Square	Lavatories in wholesale market
	Refrigeration equipment for Municipality Abattoir
Maintenance of Al-Ahli Club	Equipment for extraction of waste in Municipality Abattoir
Public squares in Nad Rashid	
Maintenance of Municipality building	Treatment equipment for Municipality Abattoir
Maintenance of Public Health Offices in Al-Aweer	Municipality Abattoir
Maintenance of Jumeirah Zoo	Greenhouse in Al-Garhood Nursery
Public Squares, Al-Hamriyyah	Commemorative monument for Dubai Secondary School
Maintenance of men's swimming pool in Mushrif Park	
	Expansion of the Public Library in Dubai
Nayif Market	Al-Dhiyafa roundabout fountains
Fish and Vegetable Market in Al-Ra's	Landscaping of Al-Ahli Club
Addition of two check-out counters to the Womenís Association Headquarters	Public Squares
	Paving of Dubai Museum courtyard
Jumeirah Beach Park – Phase 1	Maintenance of the fire sprinkler system in the Municipality building
Landscaping of Al-Nasr Club	
Furnishing of Sheikh Saeed Al-Maktoum House in Al-Shandagha	Fence for Municipality Housing in Al-Qusais
	Furnishing of meeting room in Al-Bidya building

1989	
Al-Khazan Park	Temporary veterinary quarantine centre
Equipment for the kitchen and washing area in the Municipality Abattoir	Maintenance of Dubai schools – Group A
Maintenance of Municipality Building equipment	Maintenance of Dubai schools – Group B
Model Library Branches	Maintenance of Dubai schools – Group C
Additions to Materials Laboratory	Maintenance of Dubai schools – Group D
Development of Mushrif Park - Phase 2	Maintenance of Dubai schools – Group E
Landscaping of Deira Corniche and entrance to the Creek	Maintenance of Dubai schools – Group F
Fencing of Dubai Zoo	Food Market in Al-Mafraq, Deira
Dubai Central Abattoir	Maintenance of Al-Zabeel Mosque
Model for renovation of Hatta Heritage Village	Maintenance and additions to Civil Defence Centre in Al-Karama
District Libraries (Umm Suqeim, Al-Safa, Hor Al-Anz, Al-Rashidiya)	
1990	
Development of Mushrif Park	Jumeirah Beach Park – Phase 2
1991	
Fence for Jumeirah School – Girls	Maintenance of wooden floor – Al-Ahli Club
Addition to Mosque in workers' housing in Al-Qusais	Transformation of laboratory room in Dubai Abattoir into a store
Location for collection of waste in Al-Aweer	Public squares: Al-Muraqqabat, Al-Mezher, Al-Khawaneej
Maintenance of the stadiums in Al-Ahli and Al-Wasl Clubs	Extension to Al-Garhood Nursery – Phase 1
Addition to the Zoo in Jumeirah – Phase 1	Public squares: Umm Suqeim, Al-Bed'aa
Bus and Taxi Station in Bur Dubai	Maintenance of Dubai 1991 schools –Group A
Fencing of children's play area in Mushrif Park	Maintenance of Dubai 1991 schools –Group B
Construction of offices for Employee Housing Maintenance Section, Al-Qusais	Maintenance of Dubai 1991 schools –Group C
	Maintenance of Dubai 1991 schools –Group D
Livestock Market in Al-Qusais – Phase 1	Maintenance of Dubai 1991 schools –Group E
Additions to the Civil Defence Centre in Al-Karama	Protecting 4 indoor arenas against birds
	Landscaping of Al-Nahda roundabout
Helipad in Jumeirah Beach Park	Maintenance of the fire sprinkler system in Municipality Building – Phase 2
Maintenance of public fountains project	Fence for Umm Suqeim Park
Additions to Jumeirah Zoo – Phase 2	
Additions to Municipality Laboratory building	
Multi-story car park in Beni Yas Street	

1992

- Installation of fire fighting equipment
- Central file stores for Dubai Municipality
- Maintenance of stadiums in Al-Shabab and Al-Nasr Clubs
- Construction of public lavatories in Deira – Phase 1
- Urgent maintenance work for Zabeel Palace and mosque
- Fencing of Mushrif Park
- Protection of Sheikh Saeed's House against bird droppings
- Development of Al-Safa Park – Phase 2
- Maintenance and renewal of public utilities in Al-Wasl Club
- Renovation and additions to Al-Fahidi Fort – Phase 1
- Vegetable and Food Market in Al-Shandagha
- Maintenance of Municipality Main Building
- Coverage of traditional markets
- Fencing of the Chess Commemorative Monument
- Bur Dubai Abattoir
- Maintenance of Dubai 1992 schools –Group A
- Maintenance of Dubai 1992 schools –Group B
- Maintenance of Dubai 1992 schools –Group C
- Maintenance of Dubai 1992 schools –Group D
- Maintenance of Dubai 1992 schools –Group E
- Maintenance of Dubai 1992 schools –Group F
- Renovation and maintenance of Hatta Sports Club
- Public lavatories in Dubai – Phase 2
- Construction of public lavatories in Dubai – Phase 3
- Public lavatories in Dubai – Phase 2 - A
- Renovation of the Clock Tower
- Fire fighting and safety systems for the Municipality building
- Renovation of Burj Nahar
- Additions to the Municipality Centre in Al-Karama
- Waste Recycling Station in Beni Yas Street
- Maintenance and renovation of Al-Saeediya School in Al-Karama
- Veterinary Centre in Hatta
- Expansion of the Municipality Public Relations Office

1993

- Landscaping of Al-Maktoum Street
- Shaded areas and workshops for Civil Defence
- Model of Sheikh Saeed Al-Maktoum House
- Fence for Jumeirah Beach Park – Phase 2
- Additions to Dubai Abattoir (Deira)
- Fencing of farms in Margham
- Changes to the entrance to Al-Rashidiya Central Market
- Fence for the Health Office in Al-Satwa
- Shaded areas for bus stops
- Khor Al-Mamzar Park
- Construction of offices for the central archiving stores
- Mosque in Zabeel
- Shades for Al-Khansa School
- Protection of Al-Shandagha Market from birds
- Fencing stores for the Renovation of Historical Buildings Unit
- Lighting of football pitch in Hatta Club
- Adjustments to Al-Shandagha Food Market
- Renewal and construction of stores in Al-Garhood and Nad Al-Sheba
- Maintenance of Dubai Schools 1993 – Group E
- Maintenance of Dubai Schools 1993 – Group F
- Public Health Services Centre
- Al-Khor Park (Creek Park)
- Survey of Nayif Fort Project
- Landscaping of Al-Ra's roundabout
- Survey of historical buildings in Al-Shandagha
- Waste facility services in Nad Al-Hamar

Construction of artist halls in the Municipality	Display of Municipality Projects by computer
Deepening of Khor Al-Mamzar	Construction of public lavatories in Deira, Dubai
Extension to Municipality Main Building	Restoration of historic towers (Burj Nahar, Al-Shandagha, Al-Wa'el, Al-Baraha)
Maintenance of Dubai 1993 schools –Group A	Maintenance of fountains
Maintenance of Dubai 1993 schools –Group B	Renovation of Al-Fahidi Fort
Maintenance of Dubai 1993 schools –Group C	Additions to Al-Khor Park (Creek Park)
Maintenance of Dubai 1993 schools –Group D	Competition for the Conference and Cultural Centre
1994	
Hatta Graveyard services	Development of Fishing Harbours in Jumeirah
Maintenance of Municipality Employees' Housing: Building 4	Maintenance of Dubai 1994 schools –Group A
Landscaping of Al-Qusais and Al-Muraqqabat Streets	Maintenance of Dubai 1994 schools –Group B
Fence for Umm Suqeim and Al-Satwa graveyards	Maintenance of Dubai 1994 schools –Group C
Development and protection of Jumeirah Beaches	Maintenance of Dubai 1994 schools –Group D
Replacement of the central air conditioning system in Jumeirah Mosque	Construction of additional classes for Dubai schools
Coverage of swimming pools in employee residences in Al-Muraqqabat	Pest Control Centre
Expansion of Veterinary Clinic in Al-Rashidiya	Renovation of Hatta Heritage Village
Dubai Museum	Barrier to prevent pollution in Khor Dubai nature reserve
Shading for waste recycling car park in Al-Qusais	Landscaping of Al-Satwa roundabout
Fence for Hatta graveyards	Additions to the Food Control Centre
Landscaping around Nayif Park	Renovations of an old Majlis in Umm Al-Shaif
Protection of Municipality Building against birds	General maintenance of Zabeel, Jumeirah and Al-Rashidiya mosques
Shades and services for Jebel Ali Beach	Fitting-out and lighting of Sheikh Saeed's House
Cattle Market in Al-Qusais	Renovation of buildings in the Large Market in Deira
Replacement of air conditioning system in Al-Safa Park	Khor Al-Mamzar Park
Replacement of air conditioning systems in Dubai clubs	Renovation of archaeological sites
Model of old Dubai (1950)	Model of modern Dubai.
1995	
Additional furnishing for Dubai Museum	Maintenance of the fire sprinklers system in the Municipality building
Dubai Projects Exhibition	Maintenance of Dubai schools 1995 - Group B
Rebuilding of Lootah Mosque in Al-Ra's	Umm Suqeim Park
Renovation of Heritage Residence	

Renovation of Al-Ahmadiyyah School	Showers and shades for Jebel Ali beach
Landscaping of Nayif Street	Maintenance of Al-Hamriyyah Central Market
Model of Dubai 1833	Renovation of Al-Bastakiya buildings
Changes to Al-Quoz Graveyard – Phase 2	Dubai International Marine sports club
Development of Municipality Town Hall	Protection system of Al-Mamzar and Jumeirah beaches
Marine protection for a private palace	
Model of Al-Wasl Park	Maintenance of roofs in Al-Rashidiya Central Market
Furnishing of Sheikh Saeed Al-Maktoum House in Al-Shandagha	Maintenance of Dubai schools 1995 -Group C
Study to improve Dubai Creek	Maintenance of Dubai schools 1995 -Group D
Change and expansion of the Municipality Garage in Al-Rumool	Installation of pumps and installations for wells in Hatta
Mosque for the Fish Market in Deira	Fencing of Al-Hamriyyah Port
Construction of a gate for Al-Safa Park	Maintenance of Building Nos. 1, 2 & 3 in Al-Qusais
Fencing of the waste facility in Al-Qusais	
Construction of a waste centre behind Al-Manal Centre	Maintenance of Municipality villas in Al-Muraqqabat
Additions and maintenance of the Fish Market in Deira	Installation of kitchens, wash rooms and water heaters in labour residence – Al-Qusais
Model of Al-Khor Park (Creek Park)	Construction of fences and graveyards
Coverage of internal courtyards in the Public Library	General maintenance and construction of area for ablution in Jumeirah Mosque
Municipality Clinic	Maintenance of Al-Rashidiya Mosque
General maintenance of labour accommodation in Lisaili	Design of animal and bird zoo in Mushrif
Improvement of lifts in main Municipality building	Public squares – Phase 3
Dubai Government Garage	Survey of old buildings in Dubai
Construction of central stores for the Municipality	Maintenance of Dubai schools 1995 – Group A
Coverage of the old market in Deira	

1996

Model of Al-Shandagha area in 1950	Public Square in Al-Tawar
Fence for Dubai Museum	Landscaping of Al-Dhiyafa Street
Preparation of Dubai Historical Encyclopaedia	Maintenance of Dubai 1996 schools –Group A
Adjustments to model of city centre	Maintenance of Dubai1996 schools –Group B
Furnishing of Al-Ahmadiyya School	Maintenance of Dubai 1996 schools –Group C
Maintenance of Municipality employee residences	Maintenance of Dubai 1996 schools –Group D
	Expansion of Hor Al-Anz Library
Renovation of Hatta's historical forts – Phase 2	Additions to the Main Municipality building
Construction of Majlis Al-Ghurayfa Park	Expansions to the Reform and Social Guidance Association

Renovation of large Market building in Bur Dubai	Development of fire fighting system for the Municipality building
Public lavatories in Beni Yas	Survey of Dubai City 1950
Museum of photos and Dubai's historical documents (Sheikh Saeed House)	Al-Tawar Park
Renovation of Under-Secretary's Residence	Renovation of old mosques in Al-Shandagha
Mushrif Park – Phase 3	Fishermen's residences in Al-Quoz
Construction of Al-Hamili Residence in Al-Ra's	Maintenance of Hatta Heritage Village
Model of Dubai City in Mushrif Park	Manual of Traditional Architecture in Dubai
Colleges of Higher Education for girls	Jumeirah Beach Park – Phase 2
Maintenance of air conditioners in Zabeel Mosque	Renovation of Al-Fahidi Fort, northern tower
Models of government housing buildings	Manual of traditional ornamentation in Dubai
Fodder stores for the cattle market	Fitting of traditional seating in public areas
Additional shades in cattle market	Documentation of renovation works
New bus station in Bur Dubai	Renovation of Creek wharfage in Bur Dubai
Sunshades in Al-Mamzar Park	Wholesale Food Market
Coverage of old markets in Bur Dubai – phase 3	Public squares – phase 4
Depots for Pavement Unit in Al-Rumool	Renovation of Al-Barajeel Residence
Ladies Club in Jumeirah	Renovation of room in Umm Al-Shaif Majlis room
Shades for bus stops	Renovation of buildings in Al-Bastakiya
Coverage of Bur Dubai Market	Expansion of Ittihad Association premises in Al-Hamriyyah
Construction of 15 shops in Al-Hamriyyah Market	

1997

Additions to Al-Rashidiya Laboratory	Landscaping of Dubai Central Laboratory
Landscaping of Beni Yas public square	Development of Ittihad Square Park
Improvement of swimming pools and canteens in Mushrif Park	Labourers Residence in Al-Qusais
Coordination works for Dubai Marine Club	Play equipment in Al-Tawar Park
Services of Al-Mamzar Park beaches	Abattoir in Hatta
Maintenance of the Municipality main building	Three-dimensional figure in Jumeirah Beach Park
Coverage of play equipment in public squares – Phase 2	Protection and development of Jumeirah Beach – Phase 2
Furnishing of Bin Jam'an Residence	Development of Coastguard services in Port Rashid
Air conditioning for Ladies Club	Services for Health Department's drivers
The Diving and Heritage Villages	Umm Suqeim Park
Waste collection point in Hatta	Landscaping of Al-Diwan entrance and Al-Saif Street
General maintenance of Zabeel Mosque – Phase 1	Dubai Central Laboratory
Study of veterinary quarantine stations	Renovation of the facades of the large Market – Phase 2
Tourist Information Centre	Rehabilitation Centre for the Disabled in Dubai
Hatta Market and Abattoir	

Development of Dubai Creek	Oud Maitha and Ittihad Square Parks
Furnishing of Under-Secretary's Residence	Maintenance and renovation of Dubai's abattoirs
Lighting of outdoor theatre in Al-Mamzar Park	Maintenance of schools 1997 – Group B
Construction of applications hall in Ministry of Labour and Social Affairs	Maintenance of schools 1997 – Group C
	Decoration for the Gold Market
Maintenance of various buildings in Hatta	Improvement of Burj Nahar Park
Maintenance of schools 1997 – Group A	Abra jetties in Al-Khor Park (Creek Park)
Maintenance of schools 1997 – Group D	Maintenance of Al-Mamzar Park swimming pool
Development of Al-Saif Street	Shades and showers in Jebel Ali – Phase 2
Development of Dubai Creek docks	Sports halls for Dubai's schools
Development of lifts in Al-Riqqa car park	
1998	
Expansion of theatre in Al-Khor Park (Creek Park)	Furnishing of Heritage Residence
	Higher Colleges of Technology for Girls – Phase 2
Renovation of facades of large Market, in Dubai	Health Department's offices building in Al-Quoz
Two mosques in Sa'eir and Suhaila	Bus Stations in Al-Satwa and Jebel Ali
General maintenance of Al-Safa Park	Construction of a building for the Central Customs Department
Municipality offices in Hatta	
Torch monument in Al-Ittihad Street Park	Services for fishing harbours in Umm Suqeim
Housing for low income employees from the Ministry of Justice, Islamic Affairs and Awqaf	Municipality Employees' Club
	Mosque and shades for the marina
Dubai Chess and Culture Club	Landscaping at the Disabled Centre
Renovation of buildings in Al-Bastakiya	Improvement of the Fish Roundabout
Housing for the veterinary clinic in Lisaili	Girls' Chess Club
Hor Al-Anz Park	Landscaping of Municipality Employees' Club
Development of Hatta Sports Club	Maintenance of workers' accommodation in Hatta
Furnishing of Hatta Heritage Village	Temporary cattle market in Hatta
Services in Ladies Club	Dubai Central Laboratory
Drivers waiting building in Port Rashid	Renovation of buildings in the large Market (Bur Dubai and Deira)
Abattoir in Zabeel	
Second-hand car complex	Maintenance of 14 public squares
Renovation of old mosques in Al-Shandagha	
1999	
Health quarantine laboratory at Al-Hamriyyah Port	Maintenance of swimming pools in Mushrif Park
	Open-air theatres in Al-Mamzar and Al-Khor (Creek) Parks
Coverage of swimming pools in Al-Mamzar Park	Maintenance of Dubai 1999 schools – Group A
Hazardous Waste Treatment Facility in Jebel Ali	Maintenance of Dubai 1999 schools – Group B
Maintenance and renovation of the Building Research building	Maintenance of Dubai 1999 schools – Group C

Bus Station in Hor Al-Anz and Al-Rashidiyah	Maintenance of Dubai 1999 schools – Group D
Additions to the Grand Mosque in Hatta	Maintenance of Dubai 1999 schools – Group E
Construction of public lavatories in Al-Saif street	Central Civil Defence building
Office for the Abra Section in Bur Dubai	Development of Al-Shandagha Market
Furnishing of the Municipality Club	Temporary protection of Jumeirah Beach
Shades for the train in Al-Mamzar Park	Mushrif Park – Phase 3
Traditional Markets in Nad El Sheba	Construction of workshop in Al-Saada School in Hor Al-Anz
Model of Hatta Heritage Village	Development of lighting system in sports clubs fields
Public utilities for truck park in Al-Hamriyyah	Renovation of buildings in Al-Bastakiya area
Renovation of Al-Barajeel Residence	Renovation of guesthouses in Al-Bastakiya
Mechanical model of drainage station	Expansion of a mosque in workers accommodation in Al-Qusais
Boarder guard and Coastguard Base	Housing for low income employees
Maintenance of Rashid Scout Camp in Al-Aweer	Renovation of Heritage Residence
Maintenance of swimming pool in Jumeirah Beach Park	Dubai Centre for Rehabilitation of the Disabled
Maintenance of Jumeirah Grand Mosque	Construction of a central building for the Customs Department
Design of Al-Khair Residence in Al-Qusais	Design of park in Al-Sufouh area
Service station and garage for buses in Al-Qusais	
4 sports halls for Dubai schools	

2000

Development of main parks in Dubai	Maintenance of Dubai 2000 schools – Group A
Showers and shades for Jumeirah Beach	Maintenance of Dubai 2000 schools – Group B
Expansion and maintenance of branch libraries in Al-Safa and Al-Rashidiyah	Maintenance of Dubai 2000 schools – Group C
Maintenance of sports halls in Dubai clubs	Maintenance of Dubai 2000 schools – Group D
Mosque in Hatta	Expansion of Municipality store in Al-Karama
Expansion of Al-Qusais mosque	Additions to the Municipality Garage
Dubai Club for the Handicapped	Furnishing of the Meetings Room within the Municipality building
Building for the Folklore Association in Dubai	Marine protection for the length of Jumeirah Beach
Fencing of the Vegetable and Fruit Market	Lavatories on Bur Dubai Corniche
Construction of container rooms in Al-Qusais Abattoir	

2001

Veterinary quarantine at Al-Hamriyyah Port	Design of Nad Shema Park
Additions to Ladies Club in Jumeirah	Adjustments to Al Ra's Library
Study of sources of marine sand	Annual maintenance of Dubai's coastline
Expansion of Higher Colleges of Technology for Girls in Abu Hail	Veterinary Clinic and the Environment Department's Offices

Public Squares in Al-Qusais Expansion of Municipality offices in Hor Al-Anz and Al-Qusais Coverage of Markets – Phase 5 Children's City Flagpole for Dar Al-Ittihad Development of lighting system for fields in Dubai clubs	Bus Service Station Expansion of the Municipality's Clinic Fencing of Al-Warqa area Fire fighting system for the scrap yard Municipality stores in Al-Karama

2002

Children's City in Al-Khor Park (Creek Park) Workshops for coastguards in Port Rashid Coverage of Deira old markets Additions and adjustments to the public library in Al-Ra's Fence for Zabeel Park in Zabeel area Labourer's residence in Al-Aweer Shading for Nad Al-Sheba Nursery Expansion of the mosque in Al-Qusais Graveyard Automatic fire fighting system for the scrap yard in Al-Qusais Fences in Al-Warqa, Lihbab and additional work in Al-Khawaneej Decorating the main entrance to the Municipality building Landscaping the Youth Hostel Association headquarters in Al-Qusais	Indoor sports halls for schools in the Dubai educational zone, Al-Rashidiya and Al-Barsha Monument for Dubai International Award for Best Practices work to improve living conditions in Al-Saif Street – Bur Dubai Additions to Dubai Central Laboratory Swimming pool and changing room for the Municipality Employees Club Dubai Women's College (second phase) in Al-Qusais Public squares in Nad Shema, Al-Qusais and Al-Rashidiya Abra floating platform in Bur Dubai Environment department Offices in Al-Mezher Improvement of Municipality Stores in Al-Rashidiya



H.H. Sheikh Hamdan bin Rashid Al-Maktoum during a review of plans for Municipality projects

Major projects completed between 1984 and 2002

Al-Hamriyyah Central Market

- This was completed in 1984
- Cost 13.5 million dirhams
- Located in Al-Hamriyyah

This is a consumer market, built by the Municipality to serve Al-Hamriyyah and nearby areas. It has 27 shops, selling a variety of goods, including clothing, perfumes, accessories, meat, fruit and vegetables. There are also tourist and travel agencies, shipping and freight companies, a restaurant, barbers, tailors and laundries, as well as a branch of the Co-operative Society, a branch of the National Bank of Dubai and a mosque for 400 people.

Deira Taxi Station in Deira

- Completed in 1984
- Cost 5 million dirhams
- Located in Al-Ittihad Square in front of the Municipality building

This cost five million dirhams. The area is landscaped and has special stands for travel from Dubai to each of the other emirates and essential services for travellers.

Development of Al-Safa Park

- Phase One was completed in 1984
- Cost five million dirhams
- Phase Two in 1992
- Cost 56 million dirhams

In the first phase, the main fence was replaced, with entrance gates being constructed, while internal paths and service utilities were built.

In Phase Two, completed in November 1992, further utilities and services were added, as well as recreational areas and attractions, such as the waterfall and lake, and the small train that runs through the park. A special area was designated for the use of women and children, which was provided with rest areas for mothers and play areas for children, as well as the necessary public services.

Multi-Storey Car Park in Al-Sabkha

- Completed in 1985
- Cost 14 million dirhams
- Located in Al-Sabka

This car park has 16 storeys, with a capacity for 460 vehicles, with additional services including offices and public lavatories.

Main Playing Fields for Dubai Clubs, using natural grass

- Completed in 1985
- Cost5.5 million dirhams
- This project provided playing fields for the Al-Ahli, Al-Shabab, Al-Nasr & Al-Wasl Clubs

The synthetic grass surfaces that had previously been used were replaced by natural grass playing fields, with modern irrigation systems and a drainage network to prevent the build-up of salts.

School in Al-Khawaneej

- Completed in 1986
- Cost 4 million dirhams
- Located in Al-Khawaneej

Completed in 1986 at a cost of four million dirhams, this single-storey school has eleven classrooms, a multi-purpose hall, studio and exhibition hall, a medical care centre, a library, laboratories, with a dedicated room for preparation of materials and a music room, along with offices for the School Principal, the administration and a social worker.

Construction of 4 Indoor Sports Halls for Dubai Clubs

- Completed in 1986
- Cost 91 million dirhams
- This project provided new sports halls for the Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl Clubs.

Each hall has a playing area of 40 metres by 60 metres, with spectator seating. They can be partitioned into three smaller units to permit separate sports activities to take place at the same time, and all also have bowling lanes and the appropriate support facilities.

Commemorative Monument for the Chess Olympics

- Completed in 1986
- Cost 140,000 dirhams
- Located in front of the Municipality building

This was built in 1986 and consists of a 2 metre high camel with a chess piece (a rook, or castle) on top. It is fenced, with special lighting to enhance its appearance at night. The monument was built to commemorate the holding of the 27th Chess Olympiad in Dubai in 1986, in which 111 countries took part.

Municipality Branch Centres

- Completed in 1987
- Cost2.2 million dirhams

This project involved the construction of one-storey branch centres for the Municipality in several areas, including Al Karama and Umm Suqeim, as part of plans to improve services such as licence applications for the Municipality's customers. Each has offices used by several Departments of the Municipality.

Shelters for Bus Stops in the City

- Completed in 1987
- Cost1.7 million dirhams

This project involved the erection of around 200 shelters for bus-stops throughout the city of Dubai. Besides providing shade for bus passengers, these can also be used to earn revenue through the selling of advertising space.

Renovation of Sheikh Saeed Al-Maktoum House in Al-Shandagha

- Completed in 1988
- Cost 11 million dirhams
- Located in Al-Shandagha

Involved the restoration of the residence of a former Ruler, which had been built in 1896.

Besides its importance for the history of Dubai, the house, which covers an area of 3,600 sq. metres, is also an excellent example of traditional Dubai architecture.

The decision to preserve and restore the house was taken in 1981, with a consultant being commissioned to prepare plans that would ensure the preservation of its traditional architectural features, but would also strengthen the foundations, walls and roof, while allowing for the installation of electric cables and other modern facilities.

The building now contains a museum of old photographs, maps and documents dealing with the history of the Emirate of Dubai, as well as sections to display traditional lifestyle, coinage and wildlife. The photographic collection dates mainly to the 1950s.

The restored building was officially inaugurated in 1986 by H.H. Sheikh Hamdan bin Rashid Al-Maktoum.

Nayif Market

- Completed in 1988
- Cost 4 million dirhams
- Located behind the Burj Nayif (Nayif Tower)

It has a number of small shops, replacing the open-fronted cubicles that formerly existed, and support services such as a security office and public conveniences, as well as its own fire-fighting system, while the walkways are covered to provide shade for shoppers.

Libraries in Umm Suqeim, Al-Safa, Hor Al-Anz and Al-Rashidiya

- Completed in 1989
- Cost 35 million dirhams
- This involved the construction of public libraries in the expanding residential areas of Umm Suqeim, Al-Safa, Hor Al-Anz and Al-Rashidiya, each with a main building and a building for services.

The main buildings include a reading room, with dedicated areas for men and women, a children's room and a reception area, as well as a multi-purpose hall.

Dubai Central Abattoir

- Completed in 1989
- Cost23 million dirhams
- Located in Al-Qusais

Facilities include slaughtering areas, refrigeration units, a veterinary clinic, to check the health of animals and carcases, administrative offices, a fee collection office, an annex and sale and distribution areas. This fully-equipped abattoir can handle goats, sheep and camels.

Al-Khazan Park

- Completed in 1989
- Cost2.5 million dirhams
- Located in Al-Bed'aa

This fenced park is designed for the use of local residents. Facilities include entrance gates, service areas, pathways, children's play areas and an electronically-operated irrigation system.

Development of Mushrif Park

- Completed in 1990
- Cost 66 million dirhams
- Located on Al-Khawaneej Road, around 15 km, from the centre of Dubai

The development of Mushrif Park, was completed in 1990 at a cost of million dirhams.
The Global Village in the park has houses of different styles from around the world, as well as a games area, a swimming pool, areas for riding horses and camels, barbeque areas and restaurants.

The park covers an area of around 125 hectares, to which has been added another 400 hectares containing natural woodland, which has been designated as a nature reserve. It was inaugurated on the occasion of the 18th UAE National Day.

Jumeirah Beach Park

- Completed in 1990
- Cost 231 million dirhams
- Located in Jumeirah

The Jumeirah Beach Park covers an area of 13.5 hectares, within which are a beach, cafeterias, playgrounds, grassed areas and a helipad, as well as areas for barbeques.

Multi-Storey Car Park in Beni Yas Street

- Completed in 1991
- Cost10 million dirhams
- Located in Beni Yas Street

This five-storey building has a capacity of 833 cars, along with support services, offices, including a security office, a waste collection and compression room, lavatories, a cafeteria and a control room. It also has a collection centre for recycling with 61 shops providing retail space.

Bus and Taxi Station (Bur Dubai)

- Completed in 1991
- Cost 11.5 million dirhams
- Located in Al-Shandagha

To act as an intermediary station for taxi routes between the city centre and the outlying areas of Al-Satwa, Al-Safa and Al-Bed'aa, as well as for buses plying throughout the Emirate of Dubai and for taxi services to Abu Dhabi and Al Ain.

Dubai Municipality Central Archive Store

- Completed in 1992
- Cost 5 million dirhams
- Located in Deira

To allow the Municipality to store and protect its documents. It has two floors for archives, these being equipped with a fire sprinkler system, and also contains the necessary offices and other facilities.

Fruit and Vegetable Market in Al-Shandagha

- Completed in 1992
- Cost 46 million dirhams
- Located in Al-Shandagha

It has three courtyards, surrounded by shops, seating areas and pathways. Designed for the use of local residents, it has special areas for the sale of fish, meat, fruit and vegetables and is surrounded by ample car-parking facilities.

Commemorative Monument for the first secondary school in Dubai

- Completed in 1992
- Cost 3.3 million dirhams
- Located on Al-Maktoum Street

This monument, in Al-Ittihad Park, commemorates the opening of the first secondary school in Dubai, in the 1960-1961 academic year. Ten metres high, it is located on top of a special plaza with lighting, a fountain and seating.

Renovation of the Clock Tower

- Completed in 1992
- Cost 6.6 million dirhams
- Located at the intersection of Al-Maktoum Street and Abu Bakr Al Saddiq Street

The Dubai Clock Tower was built in 1963. It had a new clock face installed, while the renovation project also involved the building of a fountain with coloured lights, and the Clock Tower has now become one of Dubai's best-known attractions.

Covering of Traditional Markets

- Completed in 1992
- Cost 10 million dirhams
- Involved the covering-over of traditional markets in Bur Dubai and Bur Dubai, like the Bandar Talib Market, the Gold Market, the Deira Market and the Bur Dubai Market.

It included the covering over of alleys between the shops, to provide shade and shelter, decoration and the installation of modern fire sprinkler systems.

The design took into account the architecture of the nearby residential areas, in accordance with a desire to relate the markets to adjacent restoration projects undertaken by the Historic Buildings Section.

Bur Dubai Abattoir

- Completed in 1992
- Cost 6 million dirhams
- Located on Al-Shandagha

It was built to provide a service to residents of the locality.

Al-Khor Park (Creek Park)

- Completed in 1993
- Cost172 million dirhams
- Located in Al-Maktoum Bridge and Al-Garhood Bridge, along the share of Dubai Creek.

Covers an area of 100 hectares. One of the main venues for events associated with the Dubai Shopping Festival, the park has a horticultural collection of a total of 280 plant species. Facilities include pathways, children's play areas, an 18-hole mini-golf course, an open-air theatre with a seating capacity of 4,000 and four abra stations on the creekside. There is also a train running around the park, and a cable-car that permits visitors to obtain a view of the whole park.

Renovation of Al-Fahidi Fort

- Completed in 1993
- Cost 13 million dirhams
- Located in Al-Fahidi

Believed to be the oldest building in Dubai, and dating back to 1799, the Al-Fahidi Fort is an important example of local defensive architecture and is in the historic centre of the city, in Bur Dubai. It was first opened to the public in 1971, by H.H. the late Sheikh Rashid bin Saeed Al-Maktoum.

This renovation involved the use of traditional materials to repair the foundations and the walls, so that the historic character of the building was preserved.

It was then converted by the Municipality for use as the Dubai Museum, this being undertaken in such a way as to make use of the latest technological aids, such as computers and audio-visual equipment. The displays include material on the archaeology, traditional lifestyle, including a recreation of the old Dubai Market, and marine heritage of Dubai. Also on display are traditional weapons, old musical instruments and artefacts and other items formerly used by the Bedouin.

The Museum was opened to the public in 1994.

Defensive Towers - Burj Nahar, Al-Shandagha, Al-Wa'el, Al-Baraha

- Completed in 1993
- Cost135,000 dirhams.

These square towers formerly played an important part in the defence of Dubai, and are of a typical traditional design.



The pollution barrier in the Dubai Creek nature reserve

Pollution Barrier pollution in Dubai Creek Nature Reserve

- Completed in 1994
- Cost1.5 million dirhams

Involved the building of a 1.3 km. long barrier to collect waste and other residues from the Creek, so as to protect the marine and bird life to be found in the nature reserve. The waste is removed on a regular basis.

Al-Qusais Cattle Market

- Completed in 1994
- Cost26 million dirhams
- Located in Al-Qusais

The abattoir has 146 enclosures, loading bays and a store for fodder. It also has clinics, quarantine enclosures for sick animals, accommodation for labourers and administrative offices.

Development of Fishing Harbours in Jumeirah

- Completed in 1994
- Cost1.3 million dirhams
- Located in Jumeirah

This project involved the development of three small harbours in Jumeirah for the use of fishermen. Workshops were built for maintaining and servicing of boats and shaded areas were provided, with each of the harbours being fenced to provide security. Toilets and washing facilities were also built for the fishermen while facilities were also constructed for the coastguard. A petrol station was also built.

Renovation of Hatta Heritage Village

- Completed in 1994
- Located in Hatta
- Cost 7 million dirhams

Hatta is one of the oldest settlements in the Emirate of Dubai, with evidence of occupation dating back for at least 2,000, perhaps more than 3,000, years. The old village itself still has around 30 more recent buildings, both domestic and defensive in nature, overlooked by high mountains. From the two nearby peaks, the area was formerly known as Hajarain – or 'the two peaks. The project allowed the restoration of the surviving buildings of the old village.

First, the Municipality commissioned a specialist consultant to study the buildings and to make proposals for their restoration, under the supervision of Municipality engineers, using traditional techniques. For the lower courses of the walls, rocks from the nearby mountains were used, with mud-brick being used for the upper courses. The roofs were restored using the traditional palm trunks.

The Historic Buildings Section then re-built some of the smaller out-buildings.

In 1995, management of the restored village was given to a suitably-qualified firm to develop as a tourist and cultural centre, and the project was opened to the public in 2000.



Hatta Heritage Village



Al-Mamzar Park

Al-Mamzar Park

- Completed in 1994
- Cost 106 million dirhams
- Located in Al Mamzar Park, north-east of Al Hamriyyah Port

On the shores of Khor Al-Mamzar, on the eastern side of Dubai. The park covers an area of 90 hectares and has four beaches, these being divided by groynes to protect the beaches against erosion.

There are also swimming pools for both adults and children, lawns, areas for barbeques, a traditionally-designed cafeteria with a wind-tower (barjeel) and 15 other small cafeterias.

Other features include an eight metre tower, permitting views over the whole park, while there are also a number of air-conditioned chalets on the beachfront which can be rented from the Park's Administration.

Pest Control Centre

- Completed in 1994
- Cost 6 million dirhams
- Located in Al-Quoz

With an area of over 3,000 sq. metres, it has offices, exhibition halls and a reception area

as well as a laboratory building, including a specimens' store and a store for poisons, a workshop, a room for protective clothing, a laundry, and other essential facilities.

Development of Jumeirah Beach

- Completed in 1994
- Cost 90 million dirhams
- Located in Jumeirah (1)

One of the most important parts of Dubai's attractions for tourists is its beaches. The first phase of this project was designed to protect the beaches in the Jumeirah area by building barriers to protect them against erosion.

Facilities for visitors, like car-parking, walk-ways, changing rooms, toilets, open-air showers and courts for playing sports, were also built.

Dubai Government Garage

- Completed in 1995
- Cost 18 million dirhams
- Located in Al-Jadaf

It includes an administrative office as well as a workshop equipped to undertake all types of repair work, as well as other facilities such as an oil-change station, car-washing and scrapyards.

Renovation of Al-Ahmadiyya School

- Completed in 1995
- Cost 4.3 million dirhams
- Located in Al-Ra's

The Al-Ahmadiyya School was the first school to be built in Dubai, in 1912, and is an important historic monument. The building has many traditional architectural features. It covers an area of 528 sq. metres.

Traditional building materials and techniques were used throughout the process of strengthening the foundations and walls and in restoring the plaster ornamentation and flooring, so as to preserve its original character, although electric wiring and other modern facilities were introduced so as to permit the building to be given a new use.

It has now been furnished as a museum of Dubai's educational history and was opened to the public in 1999.

Rebuilding of the Lootah Mosque

- Completed in 1996
- Cost 450,000 dirhams
- Located in Al-Ra's

The Lootah Mosque was built in 1910.

Ladies Club in Jumeirah

- Completed in 1996
- Cost13 million dirhams
- Located in Jumeirah

The Ladies' Club in Jumeirah was built adjacent to the Jumeirah Beach Park and provides the appropriate privacy, in accordance with local traditions, thus encouraging ladies to take part in sporting activities. It has a fully-equipped gymnasium, a restaurant, cafeteria, sauna, 2 steam rooms, 2 outdoor tennis courts and a swimming pool in addition to private beach access.

Expansion of the Social Reform and Guidance Association

- Completed in 1996
- Cost 400,000 dirhams
- Located inAl-Qusais

This project involved the addition of changing rooms, the provision of showers and bathroom and the laying of outdoor plating fields, to supplement the other facilities at the Association premises in Al-Qusais.

Renovation of Buildings in Al-Bastakiya

- Completed in 1996
- Cost 29 million dirhams.
- Located in Al-Bastakiya

The Bastakiya area contains many of the surviving traditional buildings of Dubai. Work on preserving these began in 1993 with a survey of the remaining 57 buildings, followed by the laying down of a schedule of restoration work for the consultant appointed by the Projects Section, part of the General Projects Department.

In 1996-1997, the project was transferred to the Historic Buildings Section, also part of the General Projects Department, this section then commencing work by co-ordinating with the project consultant on work on the first nine buildings, in accordance with an agreed timetable.

By 2002, work on eleven buildings had been completed, with work on twelve more already under way, and was due to finish by the end of 2003.

Between 1996 and 2002, the Section also restored nine buildings using its own resources, for use as a museum, for exhibitions and as administrative offices.

Restoration of all of the buildings is expected to be completed by 2008 and studies are under way on how the whole area can be integrated into tourism planning, to promote this aspect of Dubai's heritage.

Dubai Photographic and Historic Documents Museum (Sheikh Saeed House)

- Completed in 1996
- Located in Al-Shandagha
- Cost 2 million dirhams.



The late H.H. Sheikh Maktoum bin Rashid Al-Maktoum during a visit to Sheikh Saeed House

The Sheikh Saeed House had been the subject of an earlier restoration programme, as noted above. In a second phase of work, it was converted, at a cost of two million dirhams, into a Photographic and Historic Documents Museum, This work involved the creation of several separate displays, including one in the wing which was used by Sheikh Saeed, formerly Ruler of Dubai, as his private quarters, as well as the other displays mentioned earlier in the section on the original renovation of the building.

Al Tawar Park

- Completed in 1996
- Cost 7 million dirhams.
- Located in Al-Tawar residential district

This 4.3 hectare park, It has children's play areas, a football pitch, a basketball court and other playing fields as well as cafeterias and shaded areas.

Fishermens' Accommodation

- Completed in 1996
- Cost8 million dirhams.
- Located in Al-Quoz

This project, in Al-Quoz, consists of four separate buildings, surrounding a courtyard, built to provide housing for the fishermen working from Jumeirah's fishing harbours. It provides accommodation for a total of 1,440 fishermen.

Under-Secretary's Residence

- Completed in 1996
- Cost 1 million dirhams.
- Located in Big Market in Bur Dubai

The residence of the Under-Secretary is located in the area of the big Market. It was built in 1934, as the first purpose-built administrative building in Dubai, and overlooks the Creek on its northern side and the market to the south.

Renovation of the Umm Al-Shaif majlis

- Completed in 1996
- Cost 110,000 dirhams
- Located in Umm Suqeim

This majlis (a building for receiving visitors) was built in 1955 by the late HH Sheikh

Rashid bin Saeed Al Maktoum, former Ruler of Dubai, as a summer residence. The building itself has a ground area of 100 sq. metres, in a plot of a total of 3,300 sq. metres.

The Diving and Heritage Villages

- Completed in 1997
- Cost1.5 million dirhams
- Located in Al-Shandagha

The Diving and Heritage Villages are both located in the Al-Shandagha area, which was the political centre of Dubai in the 1950s. The villages overlook the Creek and have been built as part of a plan to create a compound in which activities representative of Dubai's traditional heritage, recreation and culture can be found, as well as a traditional market.

Tourism Information Centre

- Completed in 1997
- Cost 2.2 million dirhams
- Located in the Tourist Information Centre, adjoining Sheikh Zayed Road in the Jebel Ali area

It is a one storey building of traditional design, inside which is a waiting room with customer service counters, administrative offices and the necessary services.

Applications Hall at Ministry of Labour and Social Affairs

- Completed in 1997
- Cost 1 million dirhams
- Located in Ministry's building in the Hor Al-Anz

In collaboration with the federal Ministry of Labour and Social Affairs, the Municipality created a modern hall for receiving applications from the public on the ground floor of the Ministry's building in the Hor Al-Anz area.

In preparing the design, the number of applicants daily was taken into account as well as the need to install the latest electronic equipment for processing their applications.

Development of Coastguard Services in Port Rashid

- Completed in 1997
- Cost 12 million dirhams
- Located in Port Rashid

Involved the building of a multi-purpose engine maintenance workshop in Port Rashid for the Coastguard, along with maintenance of the marina, to allow the number of Coastguard patrol boats to be increased.

Sports Halls for Dubai Schools

- Completed in 1997
- Cost 25.8 million dirhams
- Located in Bur Dubai and Deira, two for boys and one for girls

This project covered three schools in Bur Dubai and Deira, two for boys and one for girls. Sports halls were built with courts for basketball, volleyball, badminton and other sports, with areas for warm-up exercises, changing rooms and administrative offices and with seating for spectators.

Umm Suqeim Park

- Completed in 1997
- Cost 10 million dirhams
- Located in near the Jumeirah Beach Hotel, Umm Suqeim

The project involved the construction of a women's and children's section of the park, which is near the Jumeirah Beach Hotel. The area has a water feature and a cafeteria and two playgrounds, with inter-connecting paths..

Development of Al-Saif Street

- Completed in 1997
- Cost 10 million dirhams
- Located in the whole length of Al-Saif Street

The project stretches the whole length of Al-Saif Street, along the Dubai Creek waterfront, and included the provision of shaded seating areas, gardens and cafeterias, improving the recreational space and providing areas for displays.

Development of Wharves along the Creek

- Completed in 1997
- Cost 50 million dirhams
- Located on Bur Dubai side, near the Diwan and the big Market

The Creek provides a vibrant artery running through the heart of Dubai which remains of considerable importance for shipping. The project involved the deepening of areas close to its bank on Bur Dubai side, near the Diwan and the big Market, to a depth of 5.5 metres, to facilitate use by dhows, and the building of offices for the Customs Department and the Coastguard at the entrance to the Creek as well as a new abra station, as well as maintenance of the wharves and of the foundations of buildings adjoining the Creek.

Hatta Market and Abattoir

- Completed in 1997
- Cost1 million dirhams
- Located in Hatta

This project involved the building of a new market, to replace the older one, and of a new abattoir.

Sa'eir and Suhaila Mosques, Hatta

- Completed in 1998
- Cost 4 million dirhams
- Located in Hatta

This project was part of a general plan to provide services to residents in rural areas and involved the construction of two mosques, in the low-cost housing areas of Sa'eir and Suhaila, near Hatta, each with a capacity for 150 worshippers as well as a house for the Imam. Public conveniences and three shops were also built adjacent to each mosque.

Municipality Employees' Club

- Completed in 1998
- Cost 13.5 million dirhams
- Located in Al-Jadaf

The Club has three main buildings, with a VIP reception area, a snooker hall and other indoor games facilities, a gymnasium and a library, as well as outdoor playing fields, car parks and a swimming pool. The playing fields are overlooked by the Club buildings, to provide easy viewing of the sports activities.

Hor Al-Anz Park

- Completed in 1998
- Cost 1.2 million dirhams
- Located in Al-Jadaf

The Hor Al-Anz Park covers an area of 4,800 sq. metres and has a children's playground, a volleyball court and a paved area.

Development of Hatta Sports Club

- Completed in 1998
- Cost 10 million dirhams
- Located in Hatta

This project involved the renovation and expansion of facilities at the Club, with the

provision of a shaded seating with a capacity of 500 spectators for the public along with a VIP entrance, restrooms, service facilities and a changing room for the players. It also included the provision of floodlighting for the football pitch, an improved irrigation system and a large area for car-parking.

Dubai Central Laboratory

- Completed in 1998
- Cost 35 million dirhams
- Located in Al-Karama

The Dubai Central Laboratory is in the Al-Karama area. It has three buildings, one of which houses the Administration, a laboratory for valuable items and a laboratory for testing of consumer electrical goods. The second has a laboratory for testing building materials and for quality control while the third has a foodstuffs laboratory and an environment protection laboratory. There is also a subsidiary building for maintenance materials.

Higher Colleges of Technology for Women

- Completed in 1998
- Cost 86 million dirhams
- Located in the Dubai campus of the Higher Colleges of Technology for Women (Dubai Womens' College), in Al-Qusais, and covers an area of 348,000 sq. metres.

Designed with a capacity to house a total of 4,800 students, the campus has buildings with classrooms, laboratories and computer rooms as well as a restaurant and a building



Buildings of the Dubai Womens' College

for the Students' Union. There are also playing fields, a gymnasium and a swimming pools as well as adequate parking for cars. Additional space is available for future expansion of the facilities, when this is required.

Dubai Chess and Culture Club

- Completed in 1998
- Cost 5.5 million dirhams
- Located in the Chess and Culture Club building, in Hor Al-Anz East

It has a main hall for tournaments, suitable for competitions of international standard, and associated administrative offices. There is also a special hall in which UAE national teams can train as well as separate facilities for women.

Renovation of old mosques in Al-Shandagha

- Completed in 1998
- Cost 2.3 million dirhams
- Located in Al-Shandagha

These old mosques, adjacent to small pathways in the heart of the Al-Shandagha area, are important examples of small, simply-constructed local religious buildings. Many are richly ornamented.

A schedule of work was drawn up for their restoration, this being carried out after a detailed architectural and historical study and using traditional materials and methods. Any recent additions were removed. Renovation also allowed for essential services to be connected, in a way that preserved the original style and simplicity.

The large Market (Bur Dubai – Deira)

- Completed in 1998
- Cost 6 million dirhams
- Located in Large Market (Bur Dubai - Deira)

This market was originally built in around 1950 and overlooks both sides of the Creek. It was restored following the completion of a detailed architectural, structural and historical study, with traditional building materials being used throughout.

Second-Hand Car Hypermarket

- Completed in 1998
- Cost 53 million dirhams
- Located in Ra's Al-Khor

The second-hand car hypermarket was built in three sections. One has 140 showrooms,

each with the capacity for 16 cars, the second is the auction area, complete with buildings for the auctioneers, while the third section has administrative buildings and offices for the registration of cars and for insurance companies.

Hazardous Waste Treatment Plant, Jebel Ali

- Completed in 1999
- Cost 41 million dirhams
- Located in Jebel Ali

The plant has four parts, with the appropriate ancillary services. There is an Administration building, which also contains a laboratory for the testing of waste and a meeting room. A treatment area includes facilities for chemical treatment, treatment by mixing waste with concrete and a temporary storage area while there is also a waste burial area and a temporary waste storage area.

Traditional Markets at Nad Al-Sheba

- Completed in 1999
- Cost 4 million dirhams
- Located in Nad Al-Sheba

This project is located adjacent to the Nad Al-Sheba race course, and involved the expansion of the traditional market which sells all the accoutrements for camel-racing. 70 new shops were built, as well as auction areas, car parks and internal roads.

Border and Coast Guard Centre

- Completed in 1999
- Cost 11 million dirhams
- Located in Port Rashid

This project was designed to enhance the facilities provided for the UAE Border and Coast Guard. It involved the provision of administrative offices, a workshop for repairs and storage depots as well as the providing of moorings along the sea wall.

Central Civil Defence Building

- Completed in 1999
- Cost 12 million dirhams
- Located in Al-Mehaisina

This office is in the Al-Mehaisina area and covers an area of 4,000 sq. metres. The main office has a public hall and a training hall while there is also a separate building for the administration as well a car-park.

Main offices for the Customs Department

- Completed in 1999
- Cost 55 million dirhams
- Located in Al-Refa'a

It includes two main buildings of a ship-like design, complete with large sails, to reflect the function of the complex. Each has four floors, with a hall for receipt of applications and a meeting room while there are also several small buildings for the administration. Ample car-parking was provided while there is also space for future expansion, if required.

Housing for low income employees

- Completed in 1999
- Cost 56 million dirhams
- Located in Al-Qusais

This project was undertaken in order to supply low-cost housing for employees. It includes 23 buildings, each three storeys in height, with a mixture of two-bedroom, one-bedroom and studio apartments, as well as a central service area.

Emirates Disabled Rehabilitation Centre

- Completed in 1999
- Cost 9.8 million dirhams
- Located in next to Al-Wafi City

This Centre is next to Al-Wafi City. It is designed to provide all necessary care for the disabled, including treatment facilities for those with impaired vision or movement ability, mental disability and other handicaps. The centre has a research wing, administrative offices, sections for health care, physiotherapy, occupational therapy and social care, as well as a sports hall, gardens and outdoor playing fields. There is also an ample supply of car-parking.

Renovation of the Heritage Residence

- Completed in 1999
- Cost 3.5 million dirhams
- Located in next to Al-Ra's

This building, in the Al-Ra's area and just north of the Al-Ahmadiyya School, was built in around 1890 and is in the traditional style. It has an area of 942 square metres.

The restoration project involved the rebuilding of parts of the building that had been destroyed and the removing of any recent additions.

The original architectural and decorative features were maintained while the wind-towers that formerly existed were reconstructed. Once the work had been completed, audio-visual display screens and other elements were installed and the building was opened to the public in 1999 as a Heritage House and Museum.

Folklore Association building in Dubai

- Completed in 2000
- Cost 500,000 dirhams
- Located in Al-Beda'a

This project involved a renovation and expansion of the headquarters of the Folklore Association in the Al-Beda'a area, so as to help the organisation carry out its important task of preserving the traditional folklore of Dubai.

Dubai Club for the Disabled

- Completed in 2000
- Cost 10 million dirhams
- Located in Al-Qusais

This project, includes a football pitch and a running track as well as administrative offices, multi-purpose halls and a cafeteria, with accommodation for employees.

A study on sources of marine sand

- Completed in 2001
- Cost 1.3 million dirhams
- Located in Al-Qusais

This study, carried out as part of detailed and comprehensive studies of Dubai's coastline involved a detailed examination of the sand on the seabed off Jumeirah, and identified substantial quantities of sand that can be used for future replenishment of eroded beaches.

Veterinary Quarantine in Al-Hamriyyah Port

- Completed in 2001
- Cost 2.5 million dirhams
- Located in Al-Hamriyyah Port

This project involved the establishment of a quarantine centre for animals in Al-Hamriyyah Port, to check livestock being imported by sea. The centre has ten enclosures, each of 20 metres by 20 metres, along with associated offices and facilities.

Floodlighting for playing fields in Dubai Clubs

- Completed in 2001
- Cost 15 million dirhams
- Located in Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl

This project involved the upgrading of floodlighting at the Al-Ahli, Al-Shabab, Al-Nasr and Al-Wasl Club to international (FIFA) standards. Back-up supply systems were also installed.

As a result of this work, the football stadiums of these clubs were upgraded to a standard that permitted them to host matches in the 2003 World Youth Soccer tournament. Secondary pitches were also prepared, for use in other games.

Union House Flag Pole

- Completed in 2001
- Cost 7 million dirhams
- Located in Union House

120 metres high, it was locally manufactured of steel that was specially treated to protect it against corrosion, and has aircraft warning lights because of its height. The flag, which is 40 metres by 25 metres in size, is raised and lowered automatically. The flagpole has become a well-known landmark in Dubai, and can be seen from a considerable distance.



Union House Flagpole

Children's City

- Completed in 2002
- Al-Khor (Creek) Park
- Cost77 million dirhams

The Children's City, full details of which are found on Page 470, is part of the Al-Khor (Creek) Park.

Models of Projects

Since 1992, the Section has made or has supervised the making of a number of models used by the Municipality for exhibition purposes. Among subjects of the models have been:

– Dubai City in 1950 – The City Centre – Dubai Museum – The popular squares – Dubai in 1822 – An expanded City Centre model – Al-Mamzar area – Al-Wasl area – Al-Khor area – The parks of Jumeirah – Landmarks – A programming of the City Centre Housing – Models of various Municipality projects – The sewage treatment plant – The Al-Shandagha area

Projects for Recreational Activities and the Protection of the Marine Environment

The Department has been active in designing projects for recreational activities so as to contribute to the transformation of the activities available, while, at the same time seeking to protect the coastal and marine environment. Together, these are intended to help to develop the tourist industry while, at the same time, ensuring that a policy of environmental sustainability is followed.

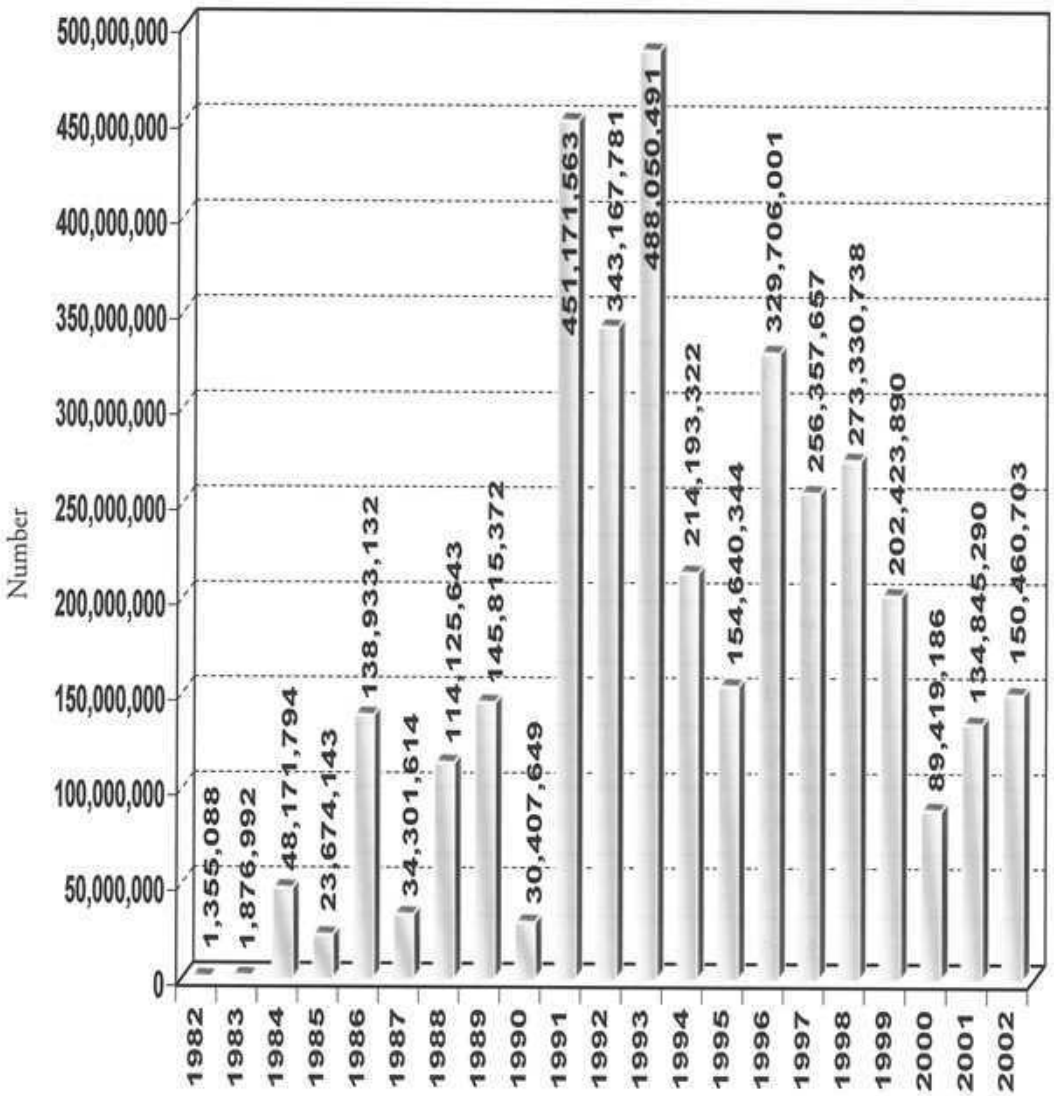


Aerial photograph of Dubai's open beach

Value of projects carried out between 1982 – 2002

Year	Value (in UAE dirhams)
1982	1,355,088
1983	1,876,992
1984	48,171,794
1985	23,674,143
1986	138,933,132
1987	34,301,614
1988	114,125,643
1989	145,815,372
1990	30,407,649
1991	451,171,563
1992	343,167,781
1993	488,050,491
1994	214,193,322
1995	154,640,344
1996	329,706,001
1997	256,357,657
1998	273,330,738
1999	202,423,890
2000	89,419,186
2001	134,845,290
2002	150,460,703
Total	3,626,428,393

Value of projects carried out between 1982 – 2002



Children's City



H. H. Sheikh Hamdan bin Rashid Al-Maktoum cutting the ribbon at the opening of the Children's City

The Children's City is one of the major achievements of the Municipality's Projects Department, and is the first facility of its type in the Middle East. Located in the Creekside Park, and costing 77 million dirhams, it was completed on 15th February 2002 and was inaugurated on 5th March 2002 by H.H. Sheikh Hamdan bin Rashid Al-Maktoum, Deputy Ruler of Dubai, UAE Minister of Finance and Industry and Head of the Dubai Municipality.

It offers educational, cultural and recreational activities for children between 2 and 15 years old and for their parents. These are offered through permanent exhibitions, special programmes of events and a range of activities designed to stimulate the children, all in a three-floor building.

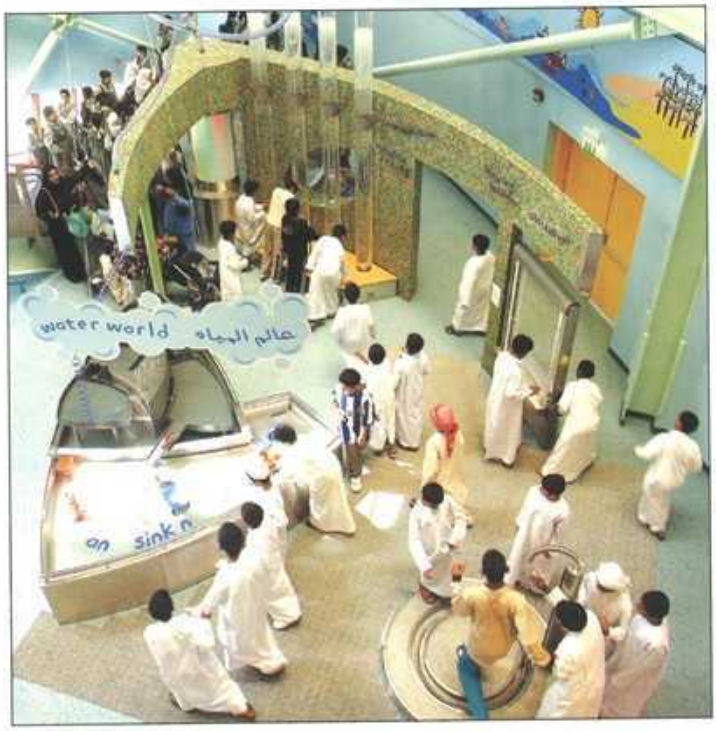
The design of the building was inspired by children's building blocks. The various sections are devoted to topics such as communications, computers, aviation and space as well as educational displays dealing with Dubai's economy and global cultures, as well as a nature centre and a state-of-the-art planetarium. It also includes features designed to educate children about the UAE and the Arab world, such as displays on leading Arab figures from history who have contributed to the culture of today.

The Children's City also includes a theatre with a seating capacity of around 300 people, as well as associated service facilities.



An aerial view of Children's City

The Children's City is a member of the UNESCO International Council of Museums (UNESCO-ICOM). The Municipality is the first government body in the UAE to have become a member of this organisation. The City is also a member of the American Association of Children's Museums. A number of publications on the Children's City and its activities have been produced.



Children having fun in their city



The Recreational Activities Section in Children's City



One of the games in the City

Establishment and Development of the Public Transport Department

The Public Transport sector is a vital component of transport in any city, permitting movement at low cost and alleviating the traffic congestion caused by the use of private vehicles.Dubai's Public Transport system began in the early 1960s, with the introduction of the first bus service.

During the 1970s, the service was expanded, with a fleet of eleven buses, serving ten routes and operating from two main termini, the Al-Sabkha Station in Deira and the Al-Ghabiba Station in Bur Dubai. The routes covered Al Qusais, Al Rashidiya, Deira to Dhbai, Al-Satwa, Al-Safa, Jumeirah, Al-Jafiliya and Mushrif.

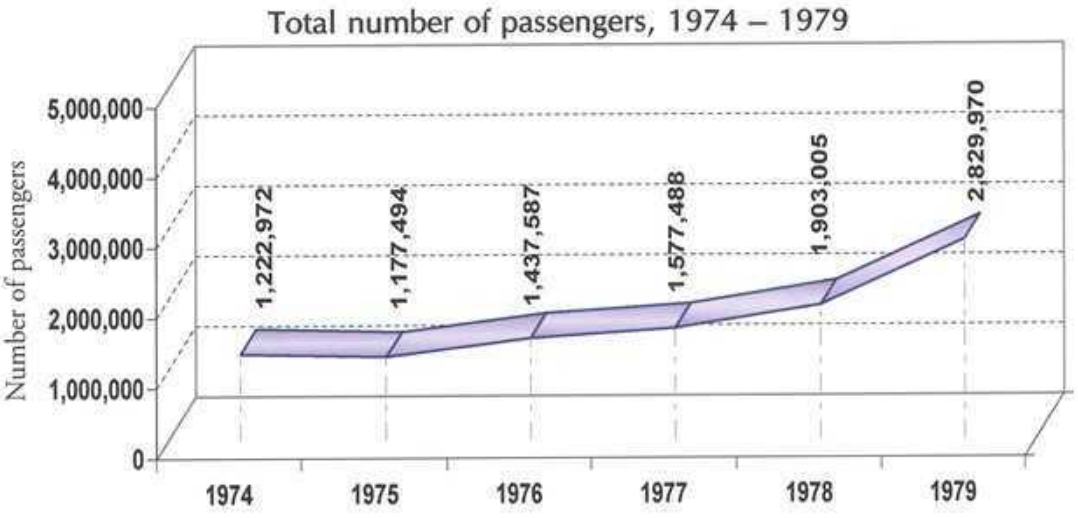
The service was administered and organised by a Section directly affiliated to the office of the Municipality's Director, as shown in Chart No. 1.

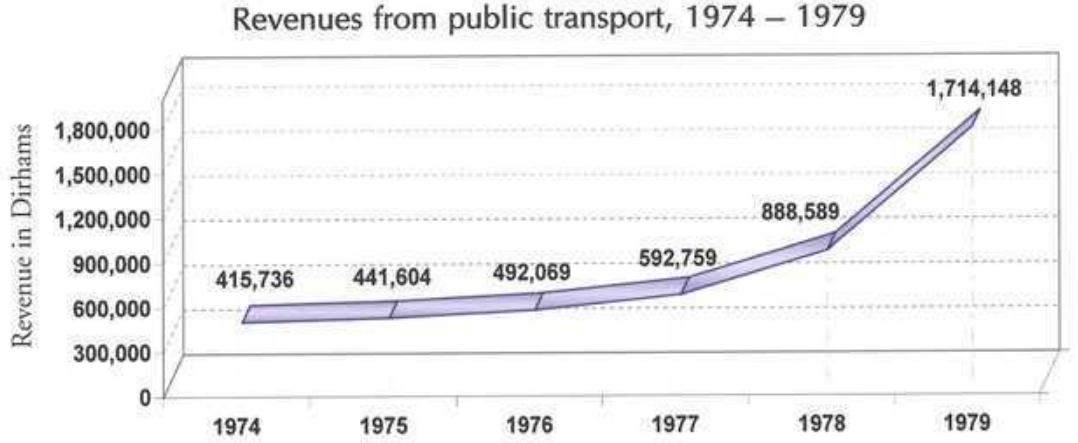
Chart No. 1. Organisation Chart for the Transport Section in the 1970s



Revenue and public transport passengers, 1974 – 1979

Year	1974	1975	1976	1977	1978	1979
Total number of passengers	1,222,972	1,177,494	1,437,587	1,577,488	1,903,005	2,829,970
Total Revenue in Dirhams	415,736	441,604	492,069	592,759	888,589	1,714,148

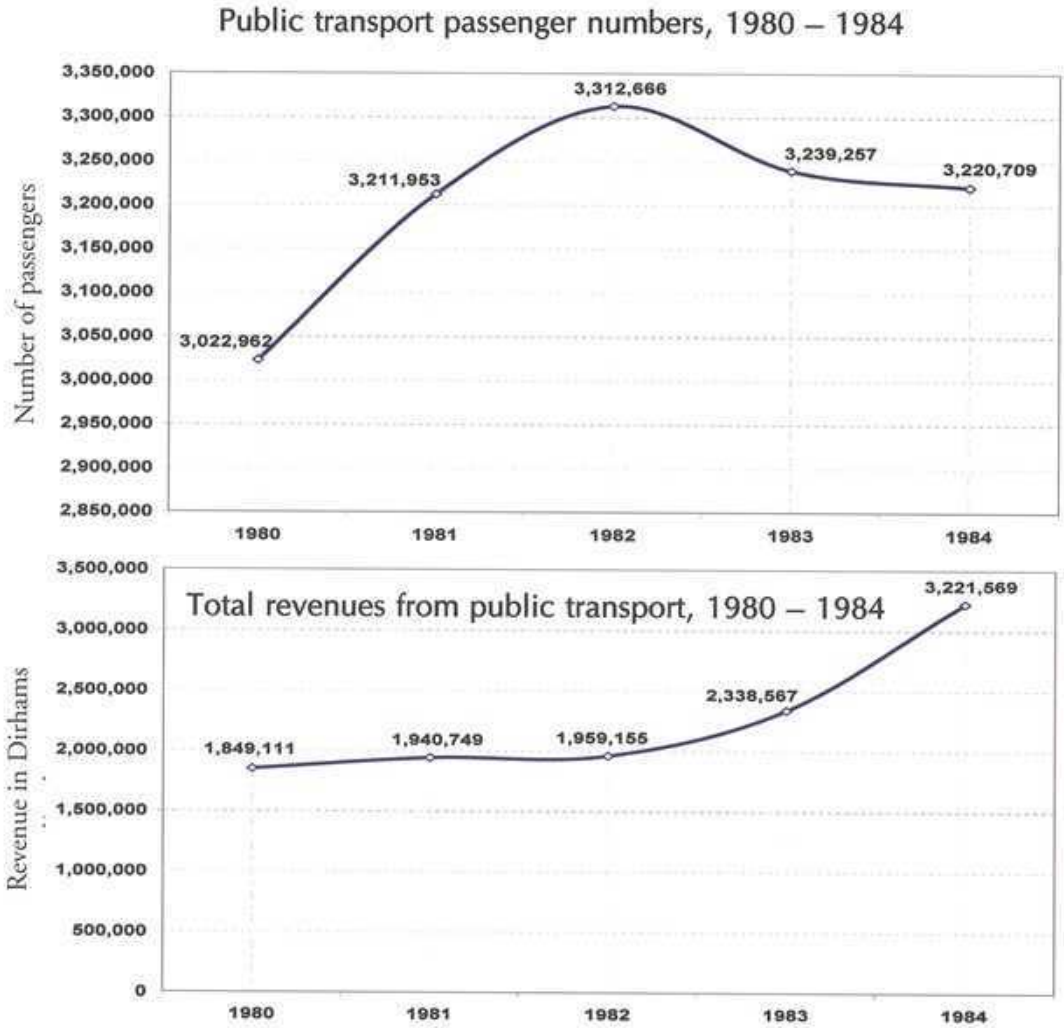




At the beginning of the 1980s, the public transport service was expanded to cover new areas. Planning for this was undertaken by recruiting specialist consultants to lay down the requirements for operating a transport fleet to cover as much as possible of Dubai. This focussed on three main aspects – the need to provide services to the public, Particularly to those of low income, to reduce traffic congestion and to reduce pollution, especially in the centre of the city

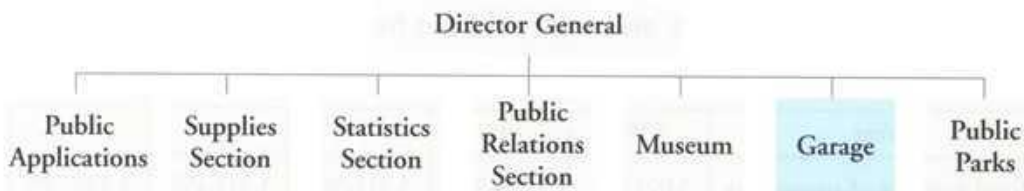
Number of passengers and total revenue from public transport, 1980 – 1984

Year	1980	1981	1982	1983	1984
Total number of passengers	3,022,962	3,211,953	3,312,666	3,239,257	3,220,709
Total revenue in Dirhams	1,849,111	1,940,749	1,959,155	2,338,567	3,221,569



In the mid-1980s, the structure relating to the running of public transport within the Municipality was amended, with the responsibility for public transport being transferred to the Garage Section, which came under the Municipality Deputy Director, as shown in Chart No. 2.

Chart No. 2. General Organisation Chart for Dubai Municipality in 1986

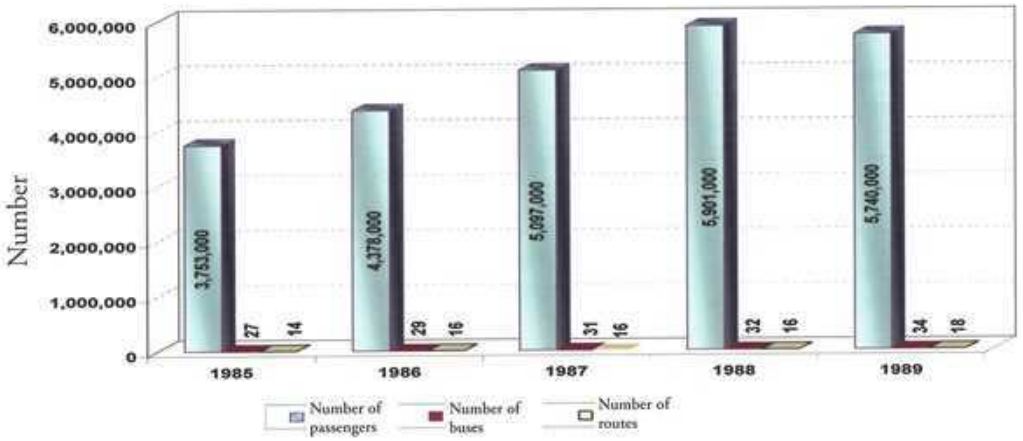


In 1985, consultants were appointed to undertake a detailed study on the planning, construction and operation of a public transport network.

Public transport passengers, buses and routes, 1985 – 1989

Item	1985	1986	1987	1988	1989
Number of passengers	3,753,000	4,378,000	5,097,000	5,901,000	5,740,000
Number of buses	27	29	31	32	34
Number of routes	14	16	16	16	18

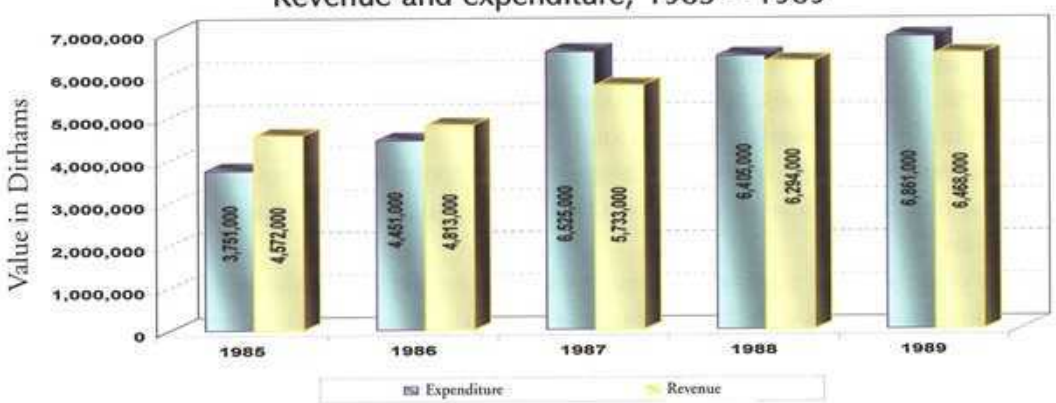
Public transport passengers, buses and routes, 1985 – 1989



Revenue and expenditure, 1985 – 1989, in dirhams

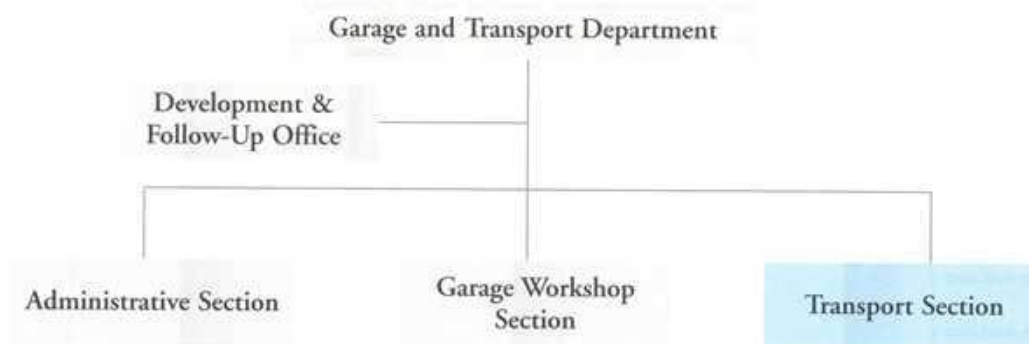
Item	1985	1986	1987	1988	1989
Revenue	3,751,000	4,451,000	6,525,000	6,405,000	6,861,000
Expenditure	4,572,000	4,813,000	5,733,000	6,294,000	5,468,000

Revenue and expenditure, 1985 – 1989



During the 1990s, the public transport network was rapidly expanded, to meet growing demand. In preparation for this, Administrative Order No. 31 was issued in 1990, changing the Garage Section into the Garage and Transport Department, while a dedicated Transport Section was created, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Garage and Transport Department in 1990



In 1995, Administrative Decree No. 632 was issued to amend the organisation chart and job description for the Garage and Transport Department, affiliating the Department to the Administrative Affairs and Public Services Sector. Under the terms of this decree, the Transport Section was divided into:

1– The Planning and Marketing Services Unit

2– The Operations Unit

3– The External Transport Unit

4– The Accounts and Public Services Unit

5– The Abra Service Unit.

In the same year,16 more buses were added to the fleet and a new route, No,. 90, was opened to Jebel Ali. The new buses, built to the top international specifications, were purchased from suppliers in Germany, Sweden, Holland and Britain.

Employees specialising in public transport were appointed to posts in planning, operations and training, with an emphasis on the need to appoint specialist personnel to train the bus drivers.

Other objectives were to ensure the comfort of the travelling public through the introduction of air-conditioned buses with electronic screens to give the name of the next stop, as well as ticketing machines that printed out the names and numbers of the routes.

Transport Network

In order to ensure that proper planning was carried out, the Public Transport Section worked closely with both the Planning and the Roads Departments in investigating the requirements for public transport. Among various studies undertaken were the R400 study in 1992 and the R700 study in 1997, which determined the need for transport and identified the routes for which there was most demand.

Stations

The Municipality built a number of main bus terminals in Dubai, equipping these with basic information such as timetables and route maps. A number of other bus stations were also built, with the result that a total of eight were in operation, the Gold Market Bus terminal and others at Al-Ghabiba, Al-Sabkha, Al-Qusais, Al-Satwa, Hor Al-Anz, Al-Rashidiya and Jebel Ali.

The Section also worked with the Roads Department on the building of bus shelters at the main stops, with the appropriate signs showing the route numbers and bus timetables.

Workshop

Maintaining the effective operation of the bus fleet and dealing with occasional breakdowns meant, of course, that a properly-equipped workshop was established, meeting international standards and the appropriate health and safety requirements.

This workshop was given the responsibility for carrying out repairs and routine corrective and preventative maintenance and for keeping stocks of spare parts, as well as that of purchasing new vehicles and scrapping of old ones.

Properly-trained technical staff were recruited to staff the workshop, these being sent overseas, as appropriate, to gain experience.

Marketing

The Section markets its services to the public through educational programmes in both Arabic and English for television and through printing brochures and booklets, maps showing routes and printed timetables for distribution to the public.

In order to diversify the Section's sources of income, marketing duties also include the sale of space on buses and bus shelters for advertising.

Research and studies

Regular studies are carried out, usually every three to five years, to assess public transport. These are undertaken by the Planning and Road Departments and the Census Centre, while the Transport Section itself carried out studies to determine the needs for each area of the city. Questionnaires are also distributed to the travelling public to obtain their views on the quality of the services provided.

In 1998, Organisational Directive No. 9 was issued, transferring the Transport Section from the Garage and Transport Department to become an independent administrative unit, retaining the same name, under the supervision of the Assistant Director-General for Administrative and General Services Affairs as shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Administrative and General Services Department in 1998



In 1999, the process of issuing licences for abras was instituted, while insurance cover was also provided. Courses in fire-fighting and first aid were provided to abra operators.

In 2000, Municipal Ordinance No. 8 was issued to organise the public transport network in the Emirate, with Administrative Directive No. 300 being issued to lay down the regulations for implementation of the terms of the Ordinance. This included:

1– This Specifying public transport routes, lanes, bus terminal and bus stops and all regulations

2– Technical specifications necessary to ensure safe operation of the network

3– Providing for the issuing of tickets of a specific value for each route

4– Allocating special seating for women.

5– Drivers, inspectors and supervisors were also given the status of law enforcement personnel insofar as this was related to their duties.

Achievements of the section during 2000

Section took delivery of 30 new buses, all of which went into operation, and started six new routes., while computers were installed in the main terminals.

In the same year, the Internal Transport Unit was moved from the Public Transport Section to the Personnel Department, to allow the Section to concentrate on operating public transport. At this time, the Section had 587 employees, including 15 UAE nationals.

Achievements of the section during 2001

17 more new buses went into operation and signs were erected in each of the bus stations providing information on legal regulations, how to board and to alight from buses and similar topics. Electronic programmes to help operation of the network were introduced into the control rooms while a maintenance programme for abras was also started.

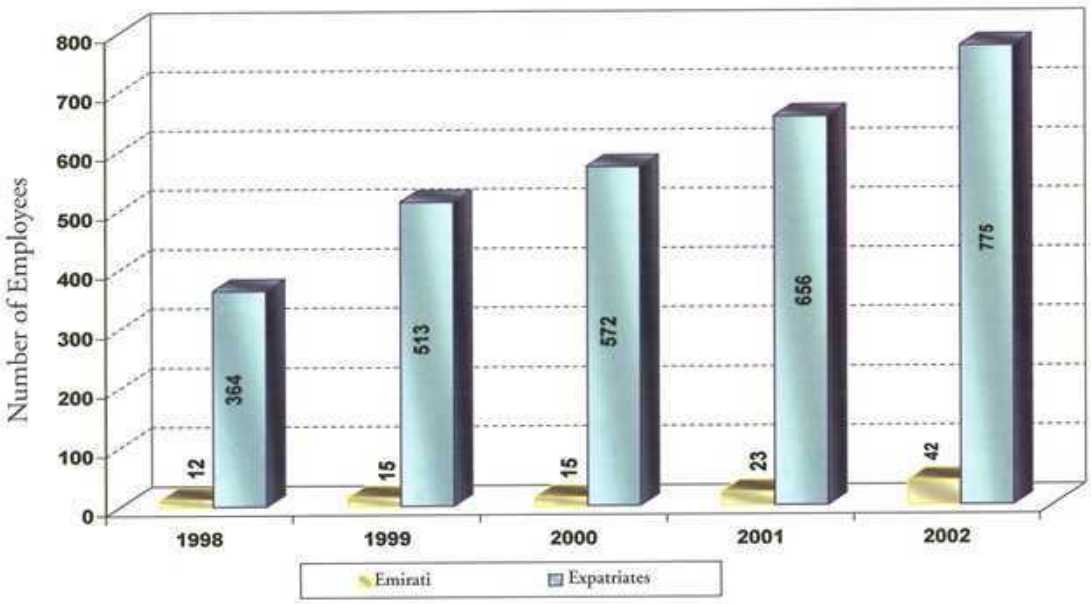
Other developments during 2001 relating to the operation of abras included the introduction of a system for the issuing of licences electronically, getting these licences approved by the Ministry of Labour and the Naturalisation and Residency Department, approving plans for new locations for abra stations and setting a fixed rate for both rowing and motorised abras for tourist voyages in the Creek.

The Section also took part in the activities of the 2001 Dubai Festival.

Number of employees in the Transport Section, 1998 – 2002

Year	Number of Employees		
	Emiratis	Expatriates	Total
1998	12	364	376
1999	15	513	528
2000	15	572	587
2001	23	656	679
2002	42	775	817

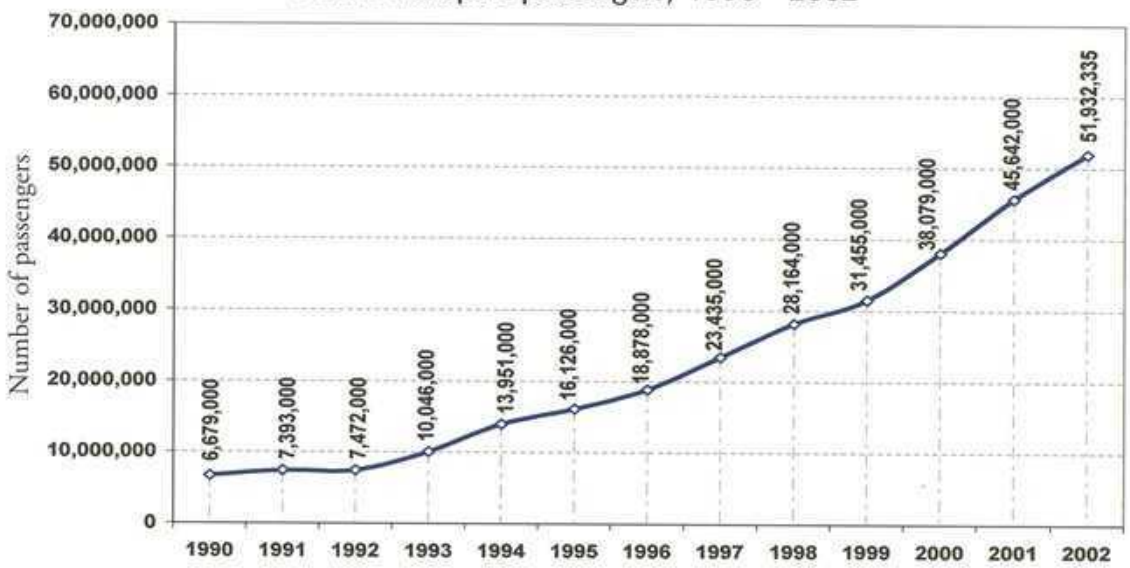
Employees in the Transport Section, 1998 – 2002



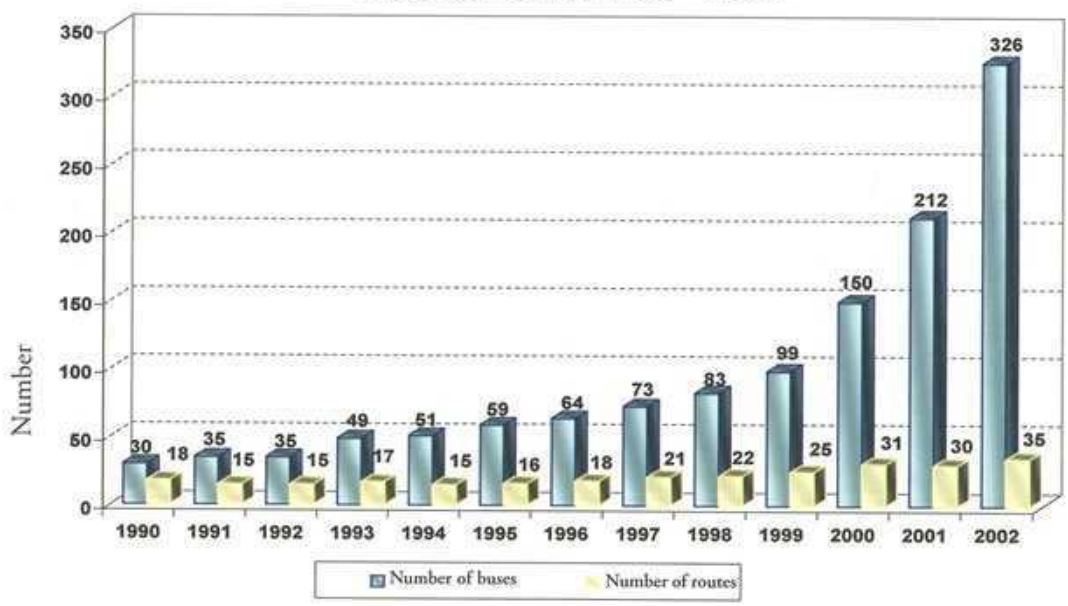
Number of public transport passengers, buses and routes, 1990 – 2002

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
No. of Passengers	6,679,000	7,393,000	7,472,000	10,046,000	13,951,000	16,126,000	18,878,000	23,435,000	28,164,000	31,455,000	38,079,000	45,642,000	51,932,335
Number of Buses	30	35	35	49	51	59	64	73	83	99	150	212	326
No. of Routes	18	15	15	17	15	16	18	21	22	25	31	30	35

Public transport passengers, 1990 - 2002



Buses and routes, 1990 - 2002





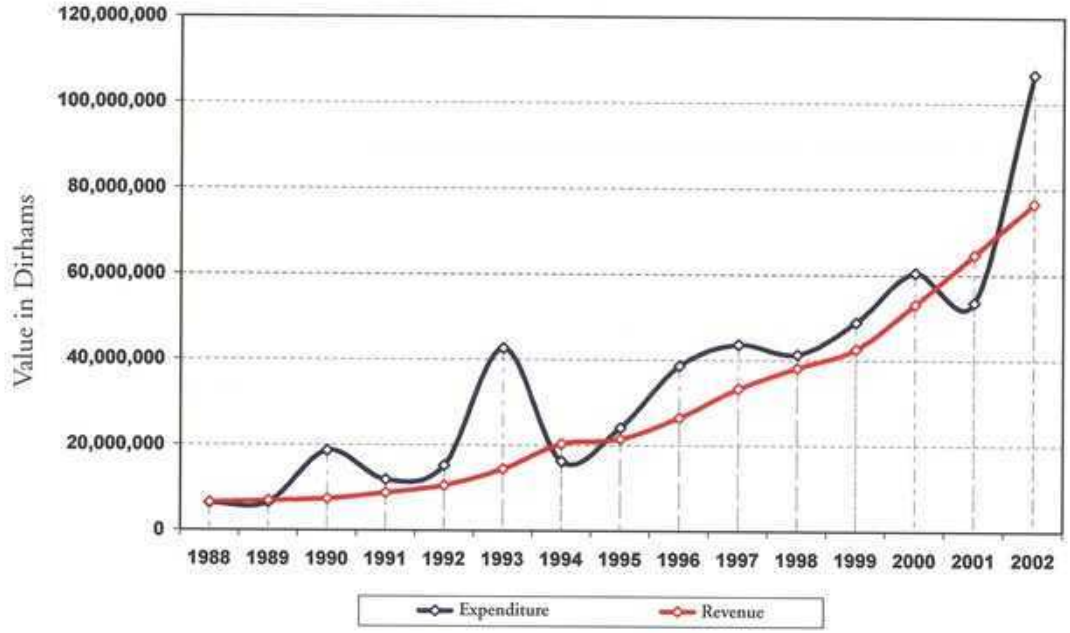
Public Transport Buses

Expenditure and Revenue of the Transport Section, 1988 – 2002, in dirhams

(Note: the Section became the Public Transport Department in 2001)

Year	Total Expenditure	Total Revenue
1988	6,293,611	6,405,273
1989	6,467,693	6,861,385
1990	18,554,546	7,282,524
1991	11,815,286	8,730,025
1992	15,170,675	10,451,453
1993	42,540,065	14,353,081
1994	16,203,538	20,213,000
1995	24,045,638	21,467,277
1996	38,596,010	26,425,701
1997	43,563,027	33,259,728
1998	41,280,616	38,102,038
1999	48,855,402	42,557,649
2000	60,416,188	53,064,968
2001	53,528,328	64,634,135
2002	106,682,974	76,590,473
Total	438,013,597	430,398,710

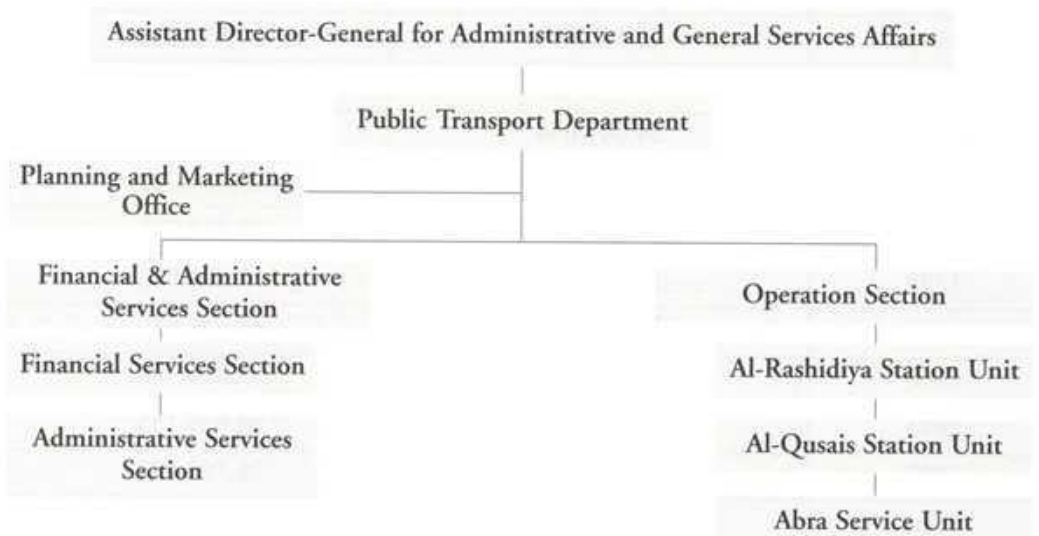
Transport Section revenue and expenditure, 1998 – 2002



Establishing the Public Transport Department

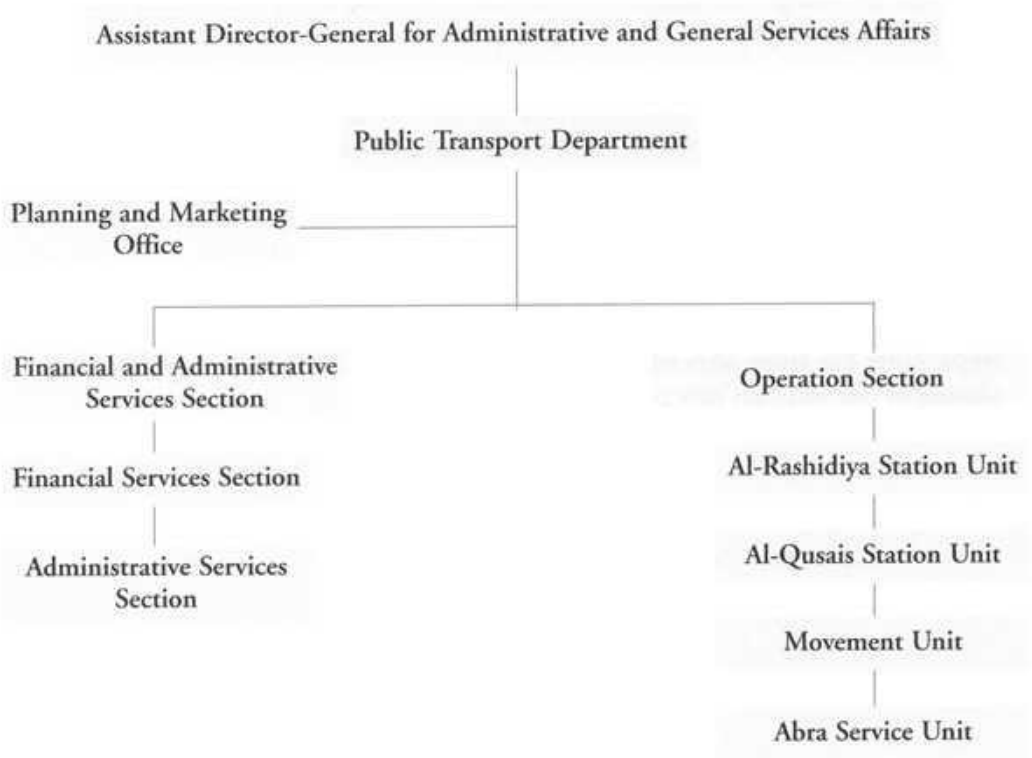
In 2001, Organisational Directive No. 12 was issued to raise the Transport Section to the status of a Department, named the Public Transport Department. Directive No 168 laid down its organisational structure, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Public Transport Department in 2001



In 2002 the organisation chart for the Department was amended, as shown in Chart No. 6

Chart No. 6. Organisation Chart for the Public Transport Department in 2002



The main duties and responsibilities of the Public Transport Department and affiliated Sections are as follows:

1– To implement the instructions approved by the Director-General in respect to policies, legislation, directives and Municipality procedures relating to public transport.

2– To prepare and implement plans, budgets and annual departmental work schedules according to the relevant directives.

3– To provide efficient and reliable transport for the public through effective administration of bus services, time tables, maintenance requirements and personnel affairs as well as selling of and accounting for tickets.

4– To monitor demand for bus and abra routes in order to plan for the expansion of those routes and the opening of new routes, to change the numbers of buses or abras to meet demand and to work to increase the use made of the public transport system.

5– To monitor the movement and time-keeping of buses during each shift and to take the necessary measures to limit any interruption of services due to breakdowns, as well as taking prompt action to undertaken repairs to buses, where necessary.

6– To check timetables and departure times for buses and abras and to deal with complaints from passengers.

7– To ensure that an adequate number of inspectors are on public transport routes to monitor the behaviour of drivers and other staff, taking into account the need for accuracy, reliability and correct accounting for ticket sales as well as the need to ensure the comfort and safety of passengers.

8– To co-ordinate with other departments and sections dealing with planning, surveying and road management, as appropriate, when carrying out studies on sheltered bus stops, other bus stops, abra stations and the like, and to liaise with consultants on the placing of bus stops on new parts of the road network.

The Abra Service (Water Taxi)

The Abra Service (Water Taxi)

The movement of the Abras, (wooden water-taxis) to and fro across Dubai Creek represents an important part of traditional life in the city, and is seen by residents of and visitors to the City, especially if the location of their work or residence is close to the Creek, the heart of Dubai.

In the past, the abras were the main form of transport across the Creek, and the preservation of this tradition is considered to be an important link with the past. It remains important today, as well, with around 15 million passengers a year still crossing the Creek by abra.

Recognising the important role that abras play in the transport network in Dubai, an Abra Services Division was created within the Municipality's Transport Section in 1995, under the terms of Administrative Directive No. 632 for 1995, and was given responsibility for organising abra services. One early move was the building of new modern landing stages for abras in both Bur Dubai and Bur Deira.

Abras are of two types, those that are rowed and those that are equipped with motors.

• Rowing Abras

Rowing Abras are probably the earliest forms of transport across the Creek. They formerly operated between Bur Dubai and Deira from a main landing stage in front of Captain's Stores in Bur Dubai and another main landing stage in Al-Ra's, in front of the public library in Deira. There was also another landing stage that was used occasionally at Bandar Talib, also in Deira.

Due to limited space in front of Captain's Stores, the Bur Dubai landing stage was then moved to another location adjacent to the offices of the British Bank of the Middle East (now HSBC). There were also a number of smaller landing stages dispersed along both sides of the Creek.

The first proper study of the abras was carried out in 1993 by the Municipality's Census Centre. This showed that there were then 13 abras in operation, each between 30 and 40 years old. Each abra had the capacity to carry four or five passengers, and the oarsman worked, on average, for twelve hours a day, the fee for the crossing was then two dirhams.

In 1997, the Municipality bought five new rowing abras, and employed five boatmen to operate them at Municipality expense. These abras were based at the:

1– Public library landing stage

2– At Al-Khor Park

The fee remained at two dirhams per person, later reduced to one dirham, with a Dh 30 charge for a one-hour tour.

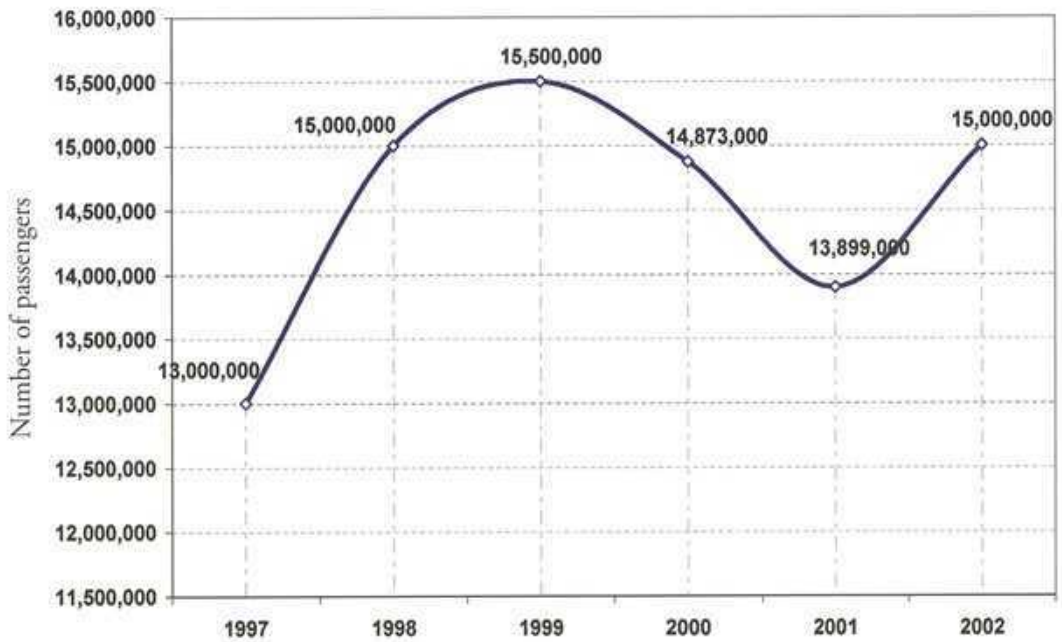
• Motorised Abras

As Dubai developed and there was an increase in the movement of traffic between Bur Dubai and Bur Deira, motorised abras were introduced. These operated from the Old Market landing stage in Bur Dubai and the Garage Landing Stage in Beni Yas Street in Bur Deira. A maximum of 20 passengers per voyage was set, with a cost of 25 fils per passenger, increased to 50 fils in 1995.

Number of Abras in operation and the number of passengers, 1997 - 2002

Year	Number of Registered Abras	Average number of Abras in operation	Number of passengers
1997	140	100	13,000,000
1998	148	100	15,000,000
1999	149	113	15,500,000
2000	149	128	14,873,000
2001	149	135	13,899,000
2002	148	100	15,000,000

Abra passengers, 1997 - 2002





The Abra is one of the main methods of transport between Deira and Bur Dubai

In 1998, Municipal Ordinance No. 6 was issued to regulate the organisation of abra movement on the Creek – the first such ordinance ever issued. It provided the Municipality with the responsibility for supervising the activity, and gave it the power to determine landing stations and the routes to be used across the Creek. It also laid down daily working hours, set the maximum loads and specified that the fee charged should be 50 fils (half a dirham).

In the same year, Administrative Directive No. 299 was issued to lay down the relevant regulations and rules related to Ordinance No. 6. These included specifications of abras and provisions for the testing of them, the issuing of operating permits, specifying the landing stages to be used, working hours, (from 5 am until midnight), and the maximum number of passengers (20), as well as laying down penalties for the breach of any regulation.

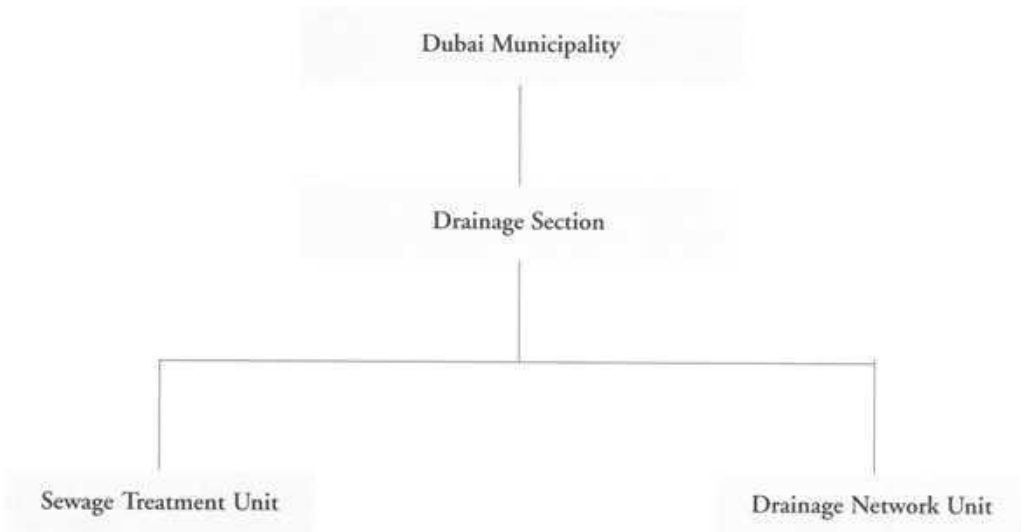
Drainage and Irrigation Department

Until 1965, there was no drainage and sewerage system in Dubai, residents depending, at best, on septic tanks. In that year, however, on the instructions of H.H. the late Sheikh Rashid bin Saeed Al Maktoum, the first plans were drawn up for a drainage system, designed to serve a population of up to 60,000 people. The construction of the network was carried out under the supervision of the Ruler's Office.

In 1971, the first sewage treatment plant was opened, and some of the old residential and commercial areas were linked to the system. The plant had a daily capacity of 3,500 cubic metres, and was located on the shore of the Creek in Bur Dubai, at a considerable distance from all residential areas.

In 1974, HH Sheikh Rashid issued a decree instructing the Dubai Municipality to draw up plans for the overall development of Dubai, these to include plans for the infrastructure of the expanding city. For this to be done, it was necessary for a technical body to be established that could be placed in charge of planning and implementation of the drainage and sewerage aspects of the work, and the Drainage Section was established, as shown in Chart No. 1.

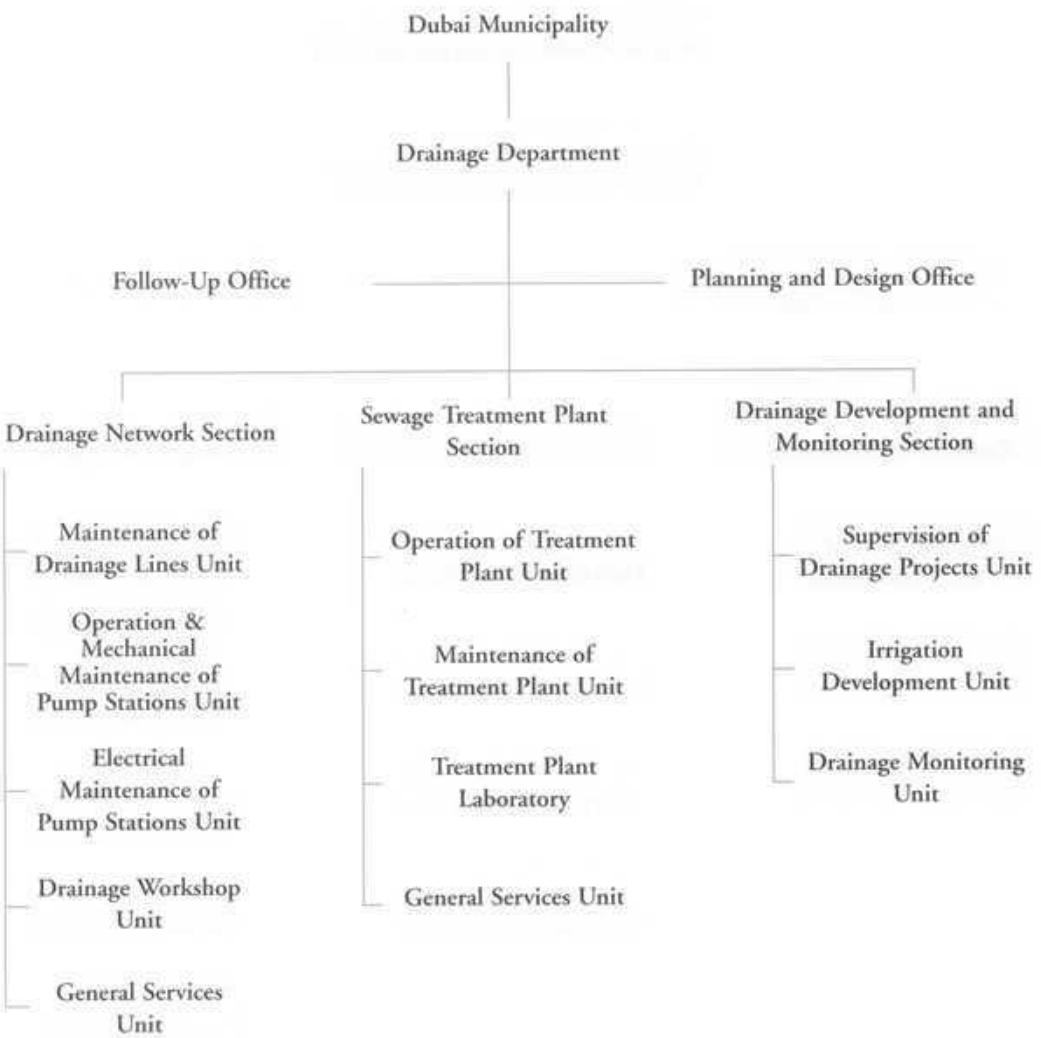
Chart No. 1. Organisation Chart for the Drainage Section in 1974



Over the course of the following decade and a half, the rapid expansion of Dubai meant that there was also a very substantial increase not only in the number of size of drainage and sewerage projects built, and then requiring operating and maintenance, but also in the workforce of the Section, which grew by the end of the 1990s to over 600.

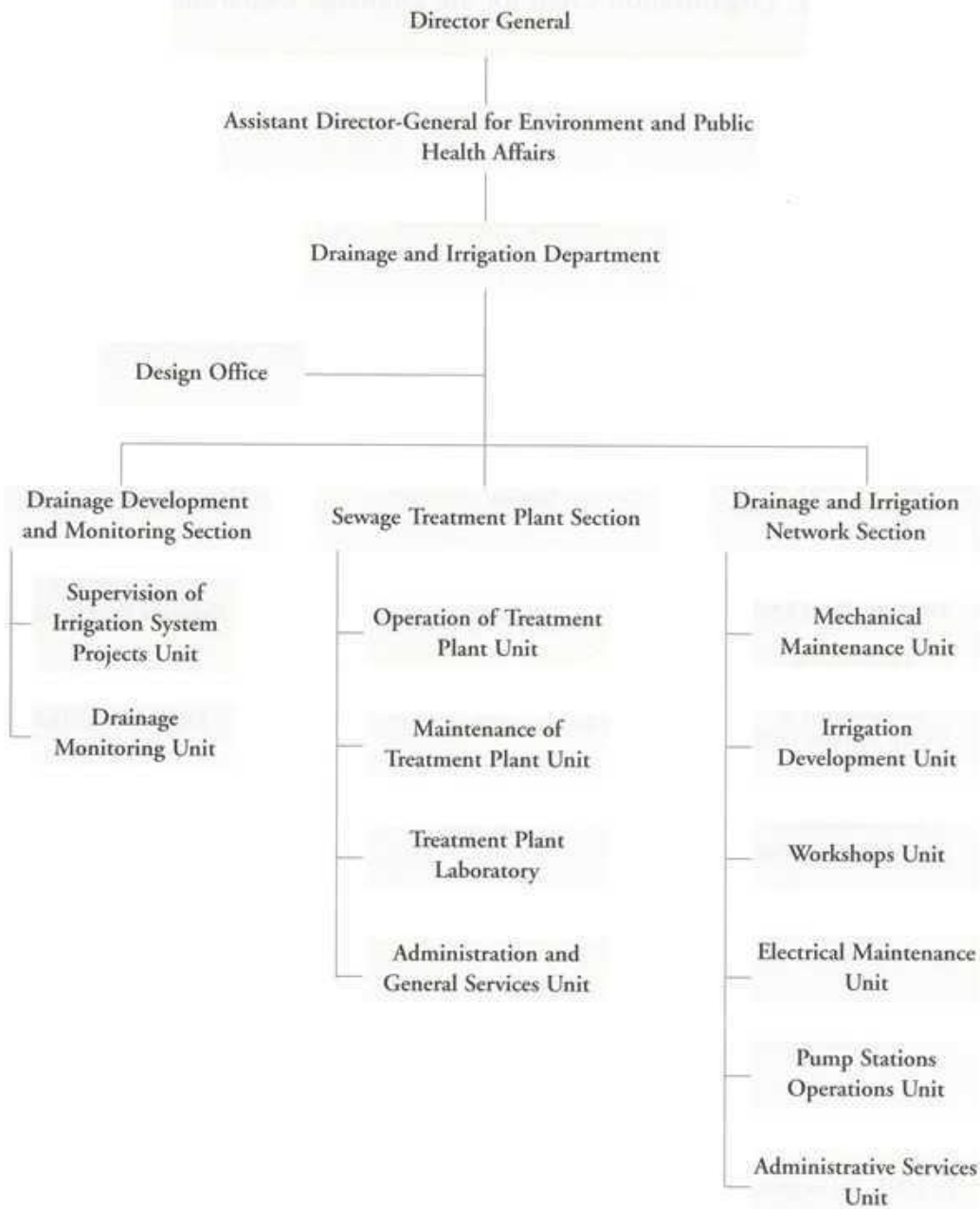
In recognition of this, the Section was raised to the level of a Department, as shown in Chart No. 2.

Chart No. 2. Organisation Chart for the Drainage Department in 1990



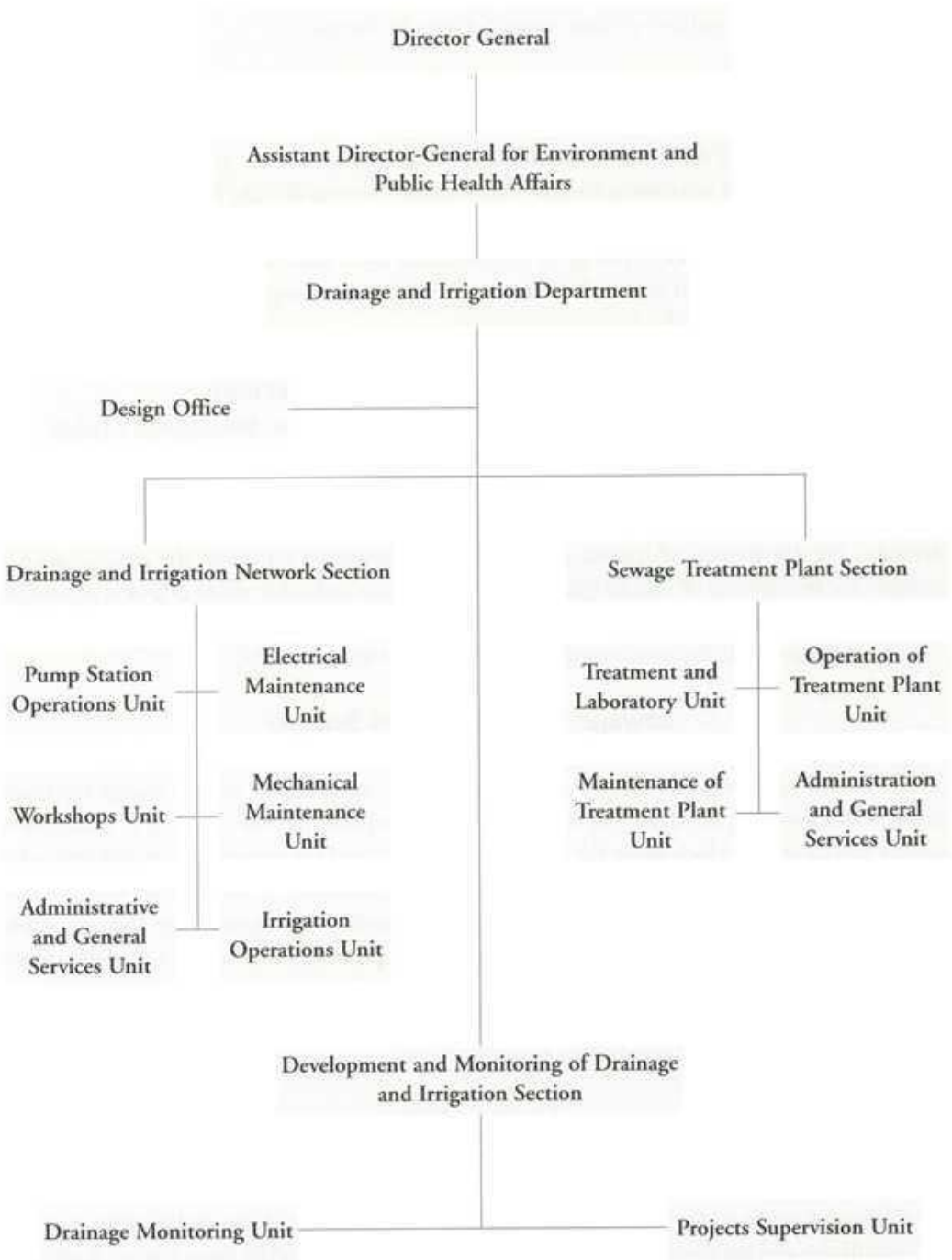
In 1995, the organisation chart was amended and the Department was re-named the Drainage and Irrigation Department, this being placed directly under the Assistant Director General for Environment and Public Health Affairs. At this time, there were three main sections in the Department, as well as a design office, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Drainage and Irrigation Department in 1995



The continued expansion of the responsibilities of the Department led to a further increase in its employees, who numbered 741 by 2002.

Chart No. 4. Organisation Chart for the Drainage and Irrigation Department in 2001



The Main Duties of the Drainage and Irrigation Department

As noted above, the original Drainage Section was formed in 1974, with the Drainage and Irrigation Department being established in 1995. The duties and responsibilities of the original Section and then of the much-enlarged Department were continually updated as the growth of Dubai continued. An outline of these duties follows, by Section.

Drainage and Irrigation Development and Control Section

This section take up the responsibility of proposing and implementing policies, rules, directives and procedures of the Municipality related to implementation and control of drainage, irrigation and rain water network projects. This include the monitoring the implementation of these projects as per the conditions and specifications laid out by the Municipality for them such as the design, execution map, quality of the materials used, and the implementation time. In addition to that the section also undertakes the effective monitoring of different kinds of industrial waste disposed off in the drainage networks.

Drainage and Irrigation Network Section

This section is responsible for suggesting and implementing the Municipality's policy, laws and procedures relating to the effective operation and maintenance of all drainage, irrigation and rainwater drainage networks, including the supervision of operating and maintenance of all pump stations, the carrying out of preventative and programmed maintenance work, rainwater drainage, the distribution of treated sewage water for irrigation purposes, the maintenance of pumps, the monitoring of various types of industrial waste and other waste disposed of into the drainage network and other tasks.

It is also responsible for monitoring the implementation of projects.

Sewage Treatment Plant Section

This Section is responsible for suggesting and implementing the Municipality's policy, laws, directives and procedures relating to the operation and maintenance of the sewage treatment plant, for monitoring the quality of water treated in the plant and for ensuring it conforms to quality specifications which allow the treated water to be used for irrigation purposes and other useful requirements, without health or environmental hazards. It also carries out physical, chemical and microbiological tests on drainage water samples entering the plant and on samples of water leaving the plant, to ensure that the treatment process is efficient and that the treated water is not contaminated.

The plant also has a unit for handling the sludge resulting from the treatment process, turning it into organic fertiliser suitable for agricultural use.

Design Office

This Office is responsible for suggesting and implementing the Municipality's policy, laws, directives and procedures relating to the planning and design of drainage, irrigation and rainwater drainage projects, the preparation of documentation relating to the qualifications required for consultants and the study of designs and cost estimates submitted by consultants. It also puts forward medium and long-term plans for the development of drainage and irrigation.

Development of drainage and irrigation projects

The years from 1970 to 1976 saw a major expansion to the existing network, with the Al-Riqqa West, the Musala in Bur Dubai, parts of Al-Maktoum Street, Al-Refa'a and Zabeel East being added.

Between 1976 and 1978, the network was expanded to cover Al-Baraha, more of Al-Maktoum Street, Al-Safiya, the Dubai Police headquarters, parts of Al-Qusais, Al-Hadhbiya, the area of the Armed Forces Central Command and the Al-Safa Park villas.

In 2001, another amendment was made to the organisation chart, as shown in Chart No. 4, to take account of the increasing number of projects being handled by the Department. The names and duties of some of the subsidiary organisational units were also amended.

In 1979, work on the expansion of the sewage treatment plant was completed. This involved the construction of aerating tanks to permit the production of treated water suitable for irrigation along roads in Bur Dubai, Al-Safa Park and the cement factory area.

In the same year and in 1980, further additions were made to the drainage network, including Al-Musala, Al-Mateina, Al-Riqqa East, Riqqa Al-Bateen, Al-Muraggabat, the Trade Centre area, Al-Satwa East and Al-Hadhbiya in Bur Dubai.

By the end of 1980, average flow of wastewater to the treatment plant reached 22,000 cubic metres a day, above the design capacity of 21,400 cubic metres. It was, therefore, decided to expand the plant, to bring capacity up to 38,000 cubic metres a day, suitable for a population



Aerial view of the Sewage Treatment Plant in Al-Aweer

Table No. 1. Employees working in the Drainage and Irrigation Department and its predecessor, the Drainage Section, 1961-2002

Year	1961*	1970*	1975*	1980	1985	1990	1995	2001	2002
Total Number of Expatriate employees	3	4	15	84	147	445	415	547	512
Number of Emiratis	-	-	1	1	3	31	46	48	62
Percentage of Emiratis	0	0	6.7%	1.2%	2.1%	7.0%	11.1%	8.8%	12.1%
Number of Labourers **	-	5	2	38	74	202	182	228	229
Total number of employees***	3	9	17	122	221	647	597	775	741

* The number of employees between 1961-1975 represents the labourers and tanker drivers working for the Section at the time.

** No Emiratis in this sector

*** Total number of personnel in the Department = Total number of employees + number of labourers.



Sludge Fermentation Tanks

of around 190,000. This work was completed in 1983, permitting the further extension of the network, to the remaining parts of Zabeel, Abu Hail, Port Saeed, Al-Khabaisi, part of Al-Mankhool, Umm Hurair, the Guest Palace complex, Jumeirah Mosque, parts of Al-Wasl Street and Al-Safa Street.

By the end of 1984, around 195,000 people, or about 60 per cent of Dubai's inhabitants, were connected to the network, with the amount of wastewater production being treated having risen to 42,000 cubic metres a day.

In 1989, with the population of Dubai continuing to grow rapidly, the Department carried out an extensive survey of the existing network, which showed that much of it, particularly that part laid down in the 1970s, had been affected by a variety of factors. These included the penetration of tree roots, the accumulation of and solidifying of fat and grease from kitchens, the collapse of some piping, the effect of nearby construction work and the rapid deterioration of the asbestos pipes that had been widely used.

It was apparent, therefore, that a major programme of rehabilitation and renewal was required. This task needed careful planning, since many of the older networks were in important commercial districts, such as Al-Sabkha, Al-Bateen, Al-Ra's, the large Market and Al-Fahidi Street, where work on the system could have an adverse effect on the flow of traffic.

A number of specialist companies were approached, and several were then awarded contracts to carry out maintenance. This work took place between 1991 and 1995 and included the relining of collapsed piping, the expansion or reduction of the diameters of pipes laid, depending of the volume of flow, and, wherever possible, the laying of new pipes to replace those which could not be repaired without the need for new excavations, so as to avoid the blocking of roads.

Through the laying of deep, new, large-diameter main pipes, it was also possible to remove some of the need for pumping stations.

The rainwater and surface water drainage networks

Prior to the recent development of Dubai, any rainwater used to be drained naturally into the Creek, or was absorbed by the highly-porous soil. The development of the city, however, including not only its buildings but also areas that are now roads and car parks, has not only reduced the amount of the surface area where a natural absorbing of rainwater used to take place but has also obstructed the natural flow of surface water towards the Creek.

This has been compounded by the fact that groundwater levels have also risen, as a result of irrigation and through the seepage of water from septic and treatment tanks.

As a result, rainwater began to collect in low-lying areas.

During the 1970s, special drainage pipes were laid to drain stagnant water from such areas to the Creek, while the Municipality also introduced a special groundwater drainage system in areas with relatively few buildings or other construction. As a result, standing water in low-lying areas was removed, reducing potential health hazards.

This was then followed by the construction of a new rainwater drainage system, operating both on the basis of natural flow and on the use of pumps, to collect the water and to discharge it into the sea, the Creek or into artificial "lakes" that were specially constructed for this purpose.

The following table provides details of these temporary "lakes".

A further six artificial lakes are due to be completed in various areas of the city by 2009, while

most of both Deira and Bur Dubai have now been connected to the rainwater drainage network.

In order to cope with the rising groundwater levels, methods of automatic control were introduced whereby water rising above a prescribed level was drawn off and discharged into the rainwater drainage networks.

This had the effect of improving the ability of the soil to absorb the remaining water, of ensuring that there was less stagnant water in low-lying areas and of improving the irrigation of trees. It also had the effect of generally protecting the basic infrastructure of the city.

In order to operate the rainwater drainage system, several pumping stations were built throughout the city:

- One in Hor Al-Anz, with a capacity of 2,000 litres per second (l/sec) was completed in 1984.
- One in Al-Garhoud with a capacity of 1,800 l/sec in 1985,
- One near the Port with a capacity of 3,200 l/sec in 1991
- One in Al-Satwa with a capacity of 3,200 l/sec, also in 1991.
- In 1995, stations in Al-Shandagha, with a capacity of 800 l/sec
- In Al-Karamah, with a capacity of 3,000 l/sec.

Rainwater drainage networks were also completed in 1990 in the Bur Dubai area, from Sheikh Zayed Road to the sea, and in Al-Garhoud, Al-Rashidiyah, Al-Quoz and Al-Aweer.

Further networks in residential and commercial areas of Deira, running from Al-Ittihad Street to the sea, were completed in 1993.

Number	Area	Date of Construction	Area, in sq. metres
1	Al-Qusais	May 1990	82,707
2	Al-Safa	August 1992	42,000
3	Al-Quoz	January 2001	27,353
4	Nad El Sheba	February 2002	20,000

Number	Area	Date of Construction	Area, in sq. metres
1	Al-Qusais	July 2003	55,000
2	Al-Qusais	June 2003	173,433
3	Nad Al-Sheba	January 2003	26,000
4	Nad Al-Sheba	January 2003	20,000
5	Al-Barsha	December 2003	57,000



Artificial lakes at Nad Al-Sheba



Artificial lakes in Al-Quoz

Construction of a new modern plant for treatment of Dubai City's wastewater

The expansion of the drainage and sewerage network meant that there was a need to expand sewage treatment facilities. The old plant, at the inner end of Dubai Creek, could no longer cope, and lacked the space to expand, while it was also a source of complaints from local residents. In 1984, therefore, plans were drawn up the for building of a new plant, with a treatment capacity of 130,000 cubic metres a day or 330 gallons per second, and allowing for an expansion to 250,000 cubic metres a day.

A site for the new plant was selected 15 km. outside Dubai on the road to Al-Aweer. This location, on a raised area, was selected because a contour survey showed that it would be possible to construct the plant in such a way that the wastewater would flow naturally through the various stages of treatment, as a result of gravity, so that no pumps would be needed. The plant was designed to use the Activated Sludge System. 14 Emirati engineers were trained to run the project.

The project for the new plant also included five main pumping stations on the drainage and sewerage network, to pump wastewater to the plant.

Overall, the project cost Dh 700 million, of which Dh 400 million was for the plant itself, (Project No. DS/51) and the remaining Dh 300 million for the pumping stations (Project No. S/52).

The new sewage treatment plant and the associated works on the drainage and sewerage network were designed with several objectives in mind. One was that of keeping pace with the population growth in Dubai, to allow for the linking of around 70 per cent of the area of greater Dubai to be linked to the network.

By doing this, it would then be possible to reduce health hazards and threats to the environment caused by the contamination of groundwater or beaches by liquid untreated waste.



Remote Control System

The plant was designed to ensure high quality treatment of the wastewater so that all of it could be safely used in sprinkler and drip-feed systems for agriculture and irrigation.

Thus providing water to help to meet the objective of having eight per cent of the overall area of Dubai planted with parks, gardens, trees and woodlands.

The remaining waste was then treated with heat to permit its use as organic fertiliser, free from germs, parasites or dangerous impurities.

Implementation of the Plant Project

Work on the computer-controlled plant, which covered an area of 420,000 sq. metres, began in 1985, with the cost of the first phase, as noted above, being Dh 400 million. Operational capacity was 130,000 sq. metres a day, with a maximum average hourly flow of 10,800 cubic metres an hour.

Wastewater first began arriving at the plant on 5th March 1989, and the Municipality took delivery of the plant from the contractors on 8th December 1991, then becoming fully responsible for its operation and maintenance.

Treatment System

As noted previously, the location of the plant was selected so that wastewater would flow naturally from stage to stage, without the need for pumps.

The three-stage system includes mechanical treatment, biological treatment and then filtration and sterilisation, the end result being treated water suitable for irrigation. A laboratory for carrying out tests is included in the plant, as well as workshops for maintenance.

Offices, accommodation for the workforce, a recreational building, playing fields and a mosque were built as part of the complex while back-up generators were also installed, to provide an alternative source of power in the event of a breakdown in supplies from the Dubai Electricity and Water Authority, DEWA.

With the plant in full operation, it registered an average daily flow in September 1994 of 116,000 cubic metres a day, or 89 per cent of designed capacity.

Plant Development

On 7th January 1995, in response to the continued projected increase in Dubai's population, the Municipality commissioned an initial study on the expansion of the plant to an overall capacity of 250,000 cubic metres a day, sufficient to meet the needs of around 1.2 million people.

Work on implementing the Phase Two expansion, (Project S/100), began on 31st August 1998 and was completed in March 2001, at a cost of Dh 295 million.

The Municipality has now prepared plans to take account of planned population growth and the consequent increase in demand for drainage, sewerage and irrigation projects up to the year 2020.

Remote Control System

The first Remote Control System in the Drainage and Irrigation Department was completed in 1992 at a cost of Dh 2.9 million, and was designed to control the flow of wastewater by alter-



Remote Control System

ing it automatically when main wastewater stations reach their installed capacity, it also identifies whether pumps are or are not working, and pinpoints blockages and electrical and mechanical malfunctions.

In 2002, the system was upgraded at a cost of Dh 5.8 million, to cover a total of 138 drainage and irrigation pumping systems, providing information on any malfunctions and on the status of all stations and their daily operations. It also permitted constant monitoring of the working of the system and planning of regular maintenance.

Treatment Efficiency

The treated wastewater has a high degree of purity, exceeding all international specifications for all biological, chemical and physical indicators approved for the measurement of quality level of water produced from wastewater treatment plants.

Re-cycling of Treated Water

By the end of 2002, the amount of treated wastewater being produced by the plant had reached an average of 230,000 cubic metres a day, while the annual production had risen from 3,650.000 cu. m. to 84 million cu.m. This water is used for irrigation throughout the city.

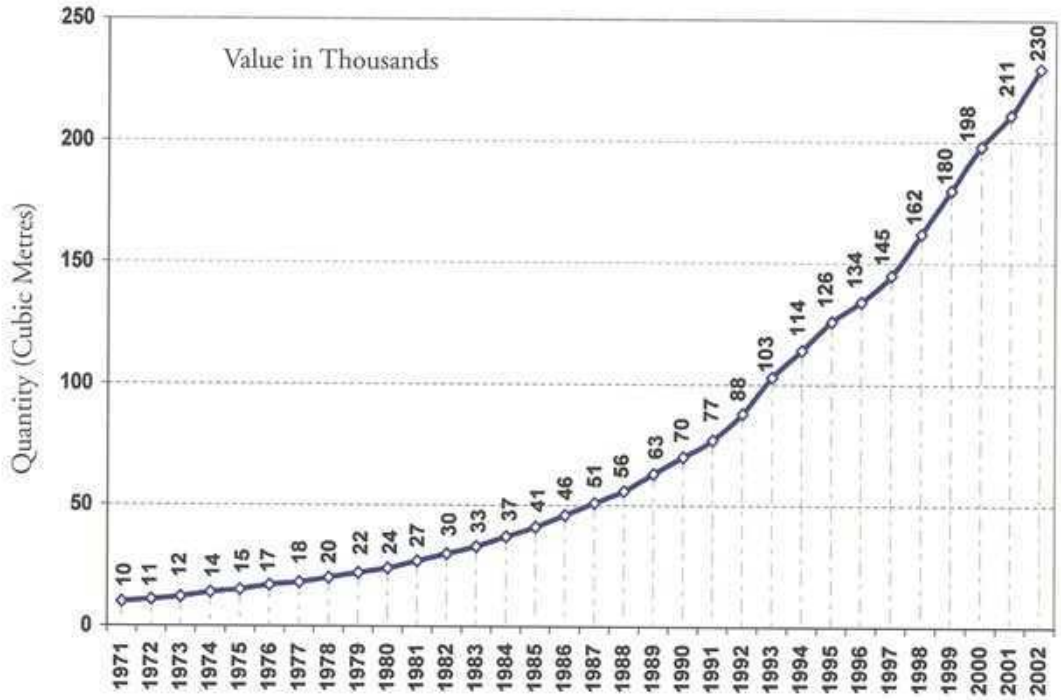
The increase in production over the last three decades is illustrated in Table No. 2.

Table No. 2. Treated water produced by the Wastewater Treatment Plant, 1971- 2002

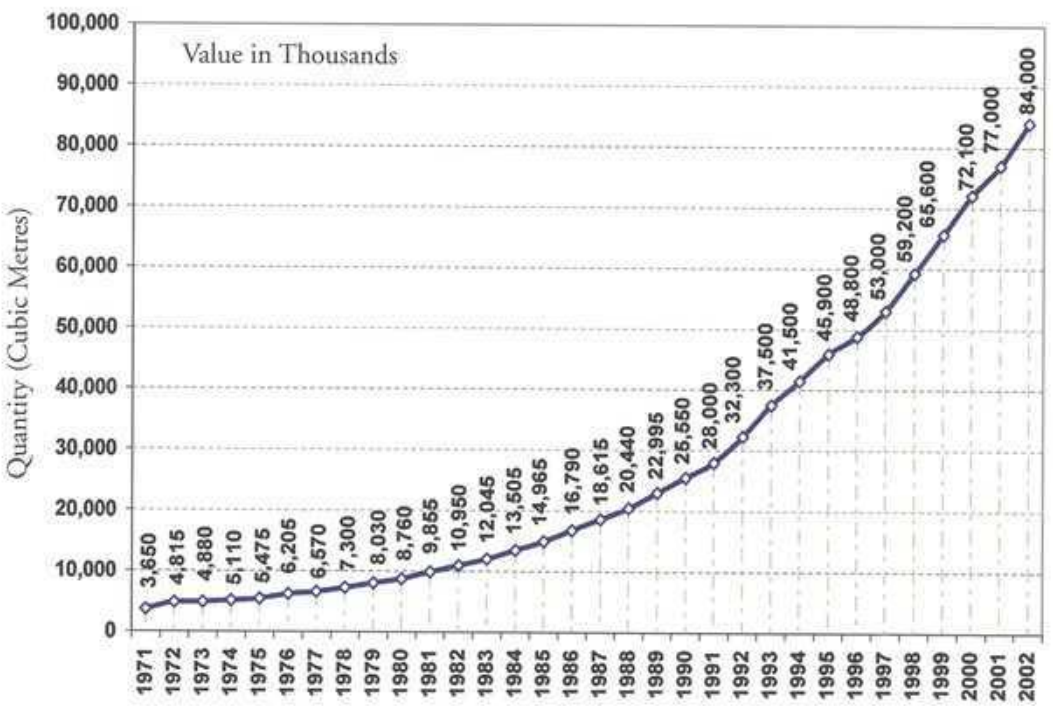
Year	Daily Average Cubic Metres *	Annual Quantity Cubic Metres *	Percentage of annual increase against the base year in 1971	Percentage of increase compared to the previous year
1971	10,000	3,650,000	-	-
1972	11,000	4,815,000	32%	32%
1973	12,000	4,880,000	33.7%	1.3%
1974	14,000	5,110,000	40%	4.7%
1975	15,000	5,475,000	50%	7%
1976	17,000	6,205,000	70%	13%
1977	18,000	6,570,000	80%	5.9%
1978	20,000	7,300,000	100%	11%
1979	22,000	8,030,000	120%	10%
1980	24,000	8,760,000	140%	9.1%
1981	27,000	9,855,000	170%	12.5%
1982	30,000	10,950,000	200%	11.1%
1983	33,000	12,045,000	230%	10%
1984	37,000	13,505,000	270%	12.1%
1985	41,000	14,965,000	310%	10.8%
1986	46,000	16,790,000	360%	12.2%
1987	51,000	18,615,000	410%	10.9%
1988	56,000	20,440,000	460%	9.8%
1989	63,000	22,995,000	530%	12.5%
1990	70,000	25,550,000	600%	11.1%
1991	77,000	28,000,000	667%	9.6%
1992	88,000	32,300,000	785%	15.4%
1993	103,000	37,500,000	927%	16.1%
1994	114,000	41,500,000	1,037%	10.7%
1995	126,000	45,900,000	1,158%	10.6%
1996	134,000	48,800,000	1,237%	6.3%
1997	145,000	53,000,000	1,352%	8.6%
1998	162,000	59,200,000	1,522%	11.7%
1999	180,000	65,600,00 (?)	1,697%	10.8%
2000	198,000	72,100,000	1,875%	9.9%
2001	211,000	77,000,000	2,109%	6.8%
2002	230,000	84,000,000	2,301%	9.1%

* 1 cubic metre = 220 gallons

Daily Average Treated Water in Cubic Metres, 1971 – 2002



Annual Average Treated Water in Cubic Metres, 1971 – 2002





Irrigation using wastewater

The Irrigation Network

The expansion of wastewater treatment facilities, and the fact that the treated water being produced is of high quality, without germs or parasites, made it possible for it to be used for irrigation without harming public health or the environment.

The Municipality was, therefore, able to lay extensive irrigation networks throughout the city, these being supplied with pumping stations to ensure regular and even distribution. The irrigation systems themselves use sprinklers and drip-feed techniques that require high quality treated water.

Development of the Irrigation System

During the 1970s,around 5,500 cubic metres of treated water a day were used for irrigating trees, along with around 4,000 cubic metres a day drawn from wells in the Al-Mizhar area. This cost approximately Dh 250,000 a year, and only hoses could be used, since it was not possible to introduce modern irrigation systems.

With the improvement of wastewater treatment, however, it became possible to lay modern electronically-controlled irrigation networks, with a consequent reduction in the number of manual labourers who formerly handled the process of watering. The new system also reduced

Table No. 3. Average Pollution Indicators in wastewater inside the Plant, before and after treatment, in 2002

Pollution Indicators	Concentration of incoming water milligram/	Concentration of Treated water milligram/ Litre	Actual percentage of removal	Percentage of removal according to the Plant design
Biochemical Oxygen Demand BOD5	Litre	2.1	99.2%	96%
Suspended Solids SS	251	2.3	99%	97%
Chemical Oxidation Demand COD	251	34.6	94%	94%
Ammonia NH3	571	6.9	80%	95%

wastage. By 2002, around 190,000 cubic metres a day of treated wastewater were being used, which would have been worth around Dh 345 million a year had it been necessary to use fresh water suitable for human consumption.

All of the parks in Dubai now have automated irrigation systems, with sprinklers for open, grassed areas, and drip-fed irrigation for trees and plants, all being controlled electronically and connected to a main monitoring centre:

This system allows for around 60 per of the watering to be done at night and 40 per cent during the day, thus balancing the demand on the system.

It also means that most watering at night can be done after midnight, when the parks are closed, permits watering to be undertaken in accordance with the needs of the plants, trees and grassed areas.

Electricity is also saved, by programming watering times while the automated system, means that all watering can be shut off in case of emergency or during periods of rainfall.

In order to ensure that the appropriate quality of treated water is produced and used, regularly laboratory analysis is carried out of liquid, solid and gaseous samples, collected throughout the day. Table No. 3 provides an indication of the efficiency of the wastewater treatment plant in terms of meeting international specifications.

In order to ensure that as much as possible of the treated wastewater is used, the Municipality has made use of it for public, as well as private projects. In 2002, it was estimated that there was a saving of around 69 million cubic metres of drinking water that would have been used if the treated wastewater had not been available, this representing a considerable contribution towards the Municipality's objectives of protecting the environment and of achieving sustainable development.

The Municipality also made use of the treated wastewater for other projects. Of these, one

was an 80-hectare farm using Rodus grass for fodder production. Using around 12,000 cubic metres of treated water a day, the farm produces approximately 50,000 bales of fodder a year for sale to consumers.

In the long term, the Municipality hopes to bring planting to around eight per cent of the total area of the Emirate of Dubai, including the cultivation of roadside verges and central reservations, parks, gardens and woodlands. The potential for the supply of treated water at a nominal price to projects such as the Dubai Internet City, the Dubai Investment complex and projects being built by Emaar is also being studied.

Production of Organic Fertiliser from Waste Residue (Sludge)

The sludge, or waste residue from the various stages of treatment in the plant, is used to produce around 35 tons a day of high quality organic fertilizer, particularly suitable for use in sandy soils. Chemical analysis shows that it contains a concentration of 5.2% of nitrogen compounds, 6.2% of phosphorous compounds and 60% organic matter. This heat-treated fertiliser is classed as a Grade A fertiliser by the relevant authority in the United States.



Hatta Dams Project

Hatta Dams

In line with the directives of H.H. the late Sheikh Rashid bin Saeed Al-Maktoum, UAE Vice President and Ruler of Dubai, plans were made to construct a number of small dams in Hatta during the 1970s and 1980s. Construction of these was planned and supervised by the Ruler's Office, at a cost of around Dh 7.8 million.

In 1997, the Drainage and Irrigation Department supervised the construction of a much larger damn, which cost Dh 58 million and was completed in February 1998.

The Municipality is now studying the possibility of building a further dam, which is estimated to cost Dh 36 million.

Expenditure on drainage and irrigation projects

The following tables provide data of expenditure on drainage and irrigation projects.

Table No. 4 shows expenditure on sewerage and rainwater projects, including those which were completed before 1970, sewerage and rainwater drainage projects. Allowing for an average of five per cent as costs for consultants, the total amount spent has been around Dh 4.192 billion.

Table No. 5 covers irrigation projects from 1980 – 2002, as well as projects carried out before 1980. Total cost was Dh 391,591,378.

Table No. 6 and the associated graph shows the total expenditure on sewerage, rainwater drainage and irrigation projects between 1970 and 2002, and also shows those projects completed before 1970.

Table No. 4. Sewerage and rainwater drainage projects, 1970 – 2002

No	Project No.	Project	Contract Value (in Dhs.)	Date of Completion
1	D1	Drainage Network for Dubai (Phase One)	37,856,551	April 1974
2	D2	Drainage Network for Dubai (Phase Two)	97,784,785	August 1976
3	D7 (1:6)	Treated Wastewater Lines	9,889,570	February 1978
4	D2A	Drainage Network for Dubai (Phase Two) Continuation	147,865,851	January 1979
5		Drainage Network for Dubai (Phase Three)	14,865,852	January 1979
6	D10	Drainage Lines for Al-Shabab and Al-Wasl Clubs	1,293,428	July 1979
7	D3 (1:9)	Additional Works – Expansion of Treatment Plant	15,420,000	April 1980
8	D4	Additional Works – Expansion of Treatment Plant	972,725	June 1980
9	D8	Drainage Network – Deira	48,686,522	September 1980
10	DM1	Development of Treatment Plant in Al-Garhoud	10,309,976	January 1981
11	DS13	Drainage Networks in Al-Ra's	1,710,120	March 1981
12	M01/80	Fermentation Tanks in the Treatment Plant	1,269,463	April 1981

Table No. 4.

No	Project No.	Project	Contract Value (in Dhs.)	Date of Completion
13	D12	Drainage Networks for Dubai	25,309,959	July 1981
14	D11	Drainage Networks for Dubai Zoo	128,370	September 1981
15	D3	Expansion of the Sewage Treatment Plant	50,406,908	November 1981
16	D11	Drainage Lines for Port Saeed and Al-Khebaisi areas	14,633,368	August 1982
17	DS14	Expansion of the drainage project in Deira	10,703,942	August 1982
18	DS	Additional works – expansion of the Treatment Plant	6,404,944	September 1982
19	DS19	Drainage line for Al-Garhoud Street showrooms	546,625	November 1982
20	DM2	Maintenance work for the Treatment Plant	9,029,326	February 1983
21	DS50	Soil Tests for the Sewage Treatment Plant Project	4,767,565	February 1983
22	DRI50	Rainwater Network in Al-Sabkha Market	2,790,729	March 1983
23	D8(1:38)	Pump Station for Deira	17,271,961	July 1983
24	DS22	Construction of crossing points for drainage lines	1,956,707	September 1983
25	DS16	Expansion of sewage treatment plant in Al-Garhoud	10,104,772	October 1983
26	DS15	Drainage Network for Zabeel	8,696,555	May 1984
27	DS9	Drainage lines for Al-Wasl and Al-Safa Streets	30,243,663	September 1984
28	D2AC	Drainage Network for Dubai	268,937,935	January 1985
29	DS18	Construction of a tank and pump station for treated water	10,957,795	March 1985
30	DS23	Drainage network for Dubai Police headquarters	1,432,859	April 1985
31	DS24	Drainage network for Al-Wasl Street	4,844,051	July 1985
32	DS30	Drainage network for Hor Al-Anz	66,000,000	July19 85
33	DS31	Drainage network for Hor Al-Anz	63,000,000	July 1985
34	DS26	Construction of crossing point in Al-Dhiyafa Street	274,909	September 1985
35	DS27	Drainage Network for Khaled Bin Al-Walid Street	1,062,044	September 1985
36	DS29	Settlement work for Al-Rashidiya	2,700,883	November 1985
37	DS25	Drainage network for Al-Wasl Hospital and Al-Wasl Club	3,405,932	December 1985
38	DS33	Labour Housing in Al-Qusais	517,251	January 1986
39	MO2/80	Repairs to units in the treatment plant	658,028	May 1986
40	DS34	Drainage network for Al-Dhiyafa Street	3,751,284	September 1986
41	DS42	Urgent drainage work	22,291,896	January 1987
42	DS32	Water pipelines for the Municipality building	342,422	April 1987

Table No. 4.

No	Project No.	Project	Contract Value (in Dhs.)	Date of Completion
43	DS43	Drainage point for groundwater and rainwater in Al-Quoz	1,566,641	July 1987
44	DS28	Connections to homes and small works	34,311,531	August 1987
45	DS36	Drainage point for rainwater in Al-Khor	5,160,272	November 1087
46	DS40	Pump station in Al-Murar district & a drainage point for rainwater	1,760,761	November 1987
47	DS52	Main pumping stations	301,310,990	February 1989
48	DS45	Residential connection and urgent works	23,266,020	May 1989
49	DS62	New (B) Pumping Station	1,918,311	June 1989
50	DS46	Rainwater drainage for Dubai Airport	5,842,596	September 1989
51	DS 48/3	Drainage networks for Al-Rashidiyah	7,500,000	October 1989
52	DS 41	Drainage network for Al-Kafaf	9,861,325	November 1989
53	DS 35/1	Maintenance of Municipality building	3,500,000	June 1990
54	DS39	Pump station and drainage network	7,812,992	June 1990
55	DS39/2	Development of treatment plant system	7,931,644	July 1990
56	DS 80	Residential connections and urgent works	25,551,029	November 1990
57	DS54	Rainwater drainage in Al-Karamah	43,085,531	March 1991
58	DS53	Drainage network in Al-Safa	41,000,000	June 1991
59	DS48/1	Drainage network in Al-Rashidiya	47,000,000	August 1991
60	DS49	Drainage network in Al-Tawar	27,000,000	October 1991
61	DS70	Sewage drainage line from Al-Sadiya roundabout to pump station (E)	30,058,424	October 1991
62	DS48/2	Drainage network in Al-Rashidiya	31,000,000	December 1991
63	DS51	Wastewater treatment plant in Al-Aweer	399,929,336	December 1991
64	DS69/1	Drainage network in Al-Satwa (first phase)	3,811,000	April 1992
65	DS72/1	Rainwater drainage in Al-Shandagha – first phase	12,450,092	August 1992
66	DS90	Residential connections and urgent works	15,929,378	July 1993
67	DS83/1/A	Maintenance and development of drainage networks in Bur Dubai	36,474,460	July 1993
68	DS 83/B	Maintenance & develop. of drainage network in Bur Dubai (second phase)	41,500,000	July 1993
69	DS85	Remote control system	2,780,638	November 1993
70	DS64/1	Drainage and rainwater network in Al-Mankhool	28,380,217	June 1994
71	DS95/2	Rainwater drainage line for the Government Garage	2,332,684	June 1994
72	DS61/1	Rainwater and Drainage network in Al-Zabeel – first phase	3,699,813	February 1995

Table No. 4.

No	Project No.	Project	Contract Value (in Dhs.)	Date of Completion
73	DS69/3/A	Main pumping station for rainwater drainage in Al-Satwa	22,164,682	May 1995
74	DS68/1	Rainwater drainage in Jumeirah and Al-Safa – first phase	31,270,941	July 1995
75	DS69/2	Drainage network in Al-Satwa (second phase)	114,687,400	December 1995
76	DS95	Residential connections and urgent works	18,754,534	March 1996
77	DS67	Drainage project for Al-Mamzar and Al-Wahida areas	32,251,780	June 1996
78	DS68/2	Sewage & rainwater drainage in Jumeirah & Al-Safa – second phase	38,405,000	February 1997
79	DS83/2A	Develop. & maintenance of drainage networks in Deira (second & third phase)	20,000,000	March 1997
70	DS71/1	Drainage of rainwater in Al-Riqqa and Al-Mateina areas	38,056,224	April 1997
81	DS71/2	Drainage networks in Al-Riqqa and Al-Mateina areas	37,500,000	April 1997
82	DS6/3	Sewage & rainwater drainage in Jumeirah and Al-Safa – phase three	43,998,854	May 1997
83	77DS77	Sewage and rainwater drainage in Al-Tawar – second phase	34,913,923	June 1997
84	DS87/3	Hydrological study for Dubai City, storage of irrigation water	1,700,000	July 1997
85	DS105	Residential connections and urgent works	13,499,240	August 1997
86	DS83/2-1	Develop. & maintenance of drainage networks – Deira section (B) first phase	15,877,440	October 1997
87	DS83/3-2&3	Develop. & maintenance of drainage networks – Deira sections 2&3	14,808,240	December 1997
88	DS87/1	Hydrological Study	1,794,888	December 1997
89	83/3-1	Develop. & maintenance of drainage networks – Deira, part 3/1	16,800,000	December 1997
90	DS105/1	Residential connections and urgent works	4,047,554	January 1998
91	DS96	General plan for drainage networks	2,000,000	January 1998
92	DS57	Sewage and rainwater drainage – Al-Garhoud	29,243,666	February 1998
93	DS75/3	Construction of dams in Hatta	54,890,047	June 1998
94	DS68	Sewage and rainwater drainage in Jumeirah and Al-Safa	50,000,000	July 1998
95	DS32/2	Development of drainage networks – second phase	30,000,000	July 1998
96	DS68/5	Sewage and rainwater drainage in Jumeirah and Al-Safa – fifth phase	54,634,956	October 1998
97	DS68/4	Sewage & rainwater drainage in Jumeirah & Al-Safa – fourth phase	50,000,000	March 1999
98	DS69/3A	Drainage networks in Al-Satwa – phase three A	21,678,217	June 1999
99	DS103	Sewage and drainwater project for Al-Quoz residential area	48,856,299	June 1999
100	DS69	Drainage for Al-Satwa	26,270,071	June 1999
101	DS107	Sewage and rainwater drainage project for Port Saeed	18,400,000	July 1999
102	DS110	Residential connections and urgent works	20,994,060	August 1999

Table No. 4.

No	Project No.	Project	Contract Value (in Dhs.)	Date of Completion
103	DS104	Sewage & rainwater drainage project for Nad Al-Sheba & Ra's Al-Khor	52,607,302	January 2000
104	DS68/6	Sewage & rainwater drainage project for Jumeirah & Al-Safa – sixth phase	54,172,244	May 2000
105	DS64/2B	Sewage and rainwater drainage project for Al-Mankhool B	35,503,247	June 2000
106	DS68/9	Sewage & rainwater drainage project for Jumeirah a& Al-Safa – ninth phase	25,700,000	June 2000
107	DS64/2A	Drainage of sewage and rainwater – Al-Mankhool 2	39,831,887	July 2000
108	DS68/1A	Sewage & rainwater drainage project for Jumeirah & Al-Safa – first phase A	19,440,000	July 2000
109	DS68/8	Sewage & rainwater drainage project for Jumeirah & Al-Safa – eighth phase	44,161,242	September 2000
110	DS68/7	Sewage & rainwater drainage project for Jumeirah & Al-Safa – seventh phase	87,333,858	January 2001
111	DS108	Rainwater drainage for Al-Ramool Industrial area	28,452,300	February 2001
112	DS100	Expansion of treatment plant in Al-Aweer	294,960,193	March 2001
113	DS68/12	Sewage & rainwater drainage project for Jumeirah & Al-Safa – twelfth phase	13,019,375	April 2001
114	DS61/2	Rainwater lakes at Camel Racetrack – Nad El-Sheba	40,140,000	June 2001
115	DS163	Drainage in Zabeel – second phase	4,741,000	September 2001
116	DS86	Main lift station for pump station E	48,570,465	September 2001
117	DS120	Residential connections and urgent works	19,800,000	October 2001
118	DS68/10	Sewage & rainwater drainage project for Jumeirah & Al-Safa – tenth phase	19,779,000	November 2001
119	DS109	Sewage and rainwater drainage project for Al-Qusais (232)	24,312,000	December 2001
120	DS111	Sewage and rainwater drainage project for Al-Qusais (232)	12,750,089	March 2002
121	DS106B	Sewage and rainwater drainage project for Nad Al-Sheba area B	41,757,043	May 2002
122	DS85/3/4	Development of drainage networks – third phase, part 4	34,856,480	June 2002
123	DS106	Sewage and rainwater drainage project for Nad Al-Sheba area A	55,163,121	October 2002
124	DS119	Expansion of remote control system	5,654,360	December 2002
125	DS172	Adjustments to pump lines	47,308,000	December 2002

Table No. 5. Irrigation Projects, 1980 – 2002

No	Project No.	Project Name	Contract Value	Date of Completion
1	Internal	Irrigation system for Maydan Al-Ittihad Park – Deira	1,440,000	November 1980
2	IR – 11	Irrigation water line – Zabeel	4,328,754	April 1981
3	Internal	Irrigation system for Mushrif Park	1,200,000	December 1984
4	Internal	Irrigation system for Naif Park	250,000	June 1985
5	Internal	Irrigation system for Zabeel Park	250,000	September 1985
6	IR – 5	Irrigation System for Port Rashid	800,000	June 1987
7	IR – 6	Irrigation system for Zabeel Street 2	2,124,152	October 1987
8	IR – 9	Irrigation system for Al-Wahida Street	2,500,000	November 1989
9	IR -11	Irrigation system for Oud Maitha Street	1,681,455	February 1990
10	IR -13	Drilling Wells on Al-Aweer Road	1,650,000	January 1990
11	IR -17	Irrigation system for Al-Mankhool Street	1,215,000	November 1990
12	IR -18/1	Irrigation system for Al Ain Road (first phase)	2,800,000	December 1990
13	IR -21	Irrigation system for Abu Hail Road	2,366,071	July 1991
14	SAFA P.	Development of Al-Safa Park	48,244,654	July 1992
15	IR -14/5	Irrigation system for Mushrif nature reserve (first phase)	2,313,308	October 1992
16	IR -10	Irrigation system for Al-Khaleej Street	2,356,398	December 1992
17	IR -28	Irrigation system for Oud Maitha Street (first phase)	1,463,000	October 1992
18	IR -18/2	Irrigation system for Al Ain Road (second phase)	2,415,587	November 1992
19	IR -12	Irrigation system for Al-Rashid Street	996,000	August 1993
20	IR -18/3	Irrigation system for Al Ain Road (third phase)	1,871,600	April 1994
21	IR -19	Irrigation system for Al-Aweer Street	2,897,000	April 1995
22	IR -26	Irrigation system for Al-Qusais Street	3,951,572	August 1995
23	IR -32	Irrigation system for Sheikh Zayed Road (first phase)	3,280,000	May 1996
24	IR -34	Irrigation system for Sheikh Zayed Road (second phase)	3,923,185	May 1996
25	DS81/1	General Plan for irrigation networks (first phase)	16,120,937	July 1996
26	IR -14/6	Irrigation system of Mushrif nature reserve (second phase)	2,639,382	November 1996
27	IR -37	Irrigation system for Jumeirah Street	3,255,824	January 1997
28	IR -30	Irrigation system for Al Ain Road	5,300,000	March 1997
29	DS20	Main irrigation network for Deira	27,709,802	March 1997
30	IR -35	Irrigation system for the Municipality's fodder farm in Al-Aweer	3,041,120	March 1997

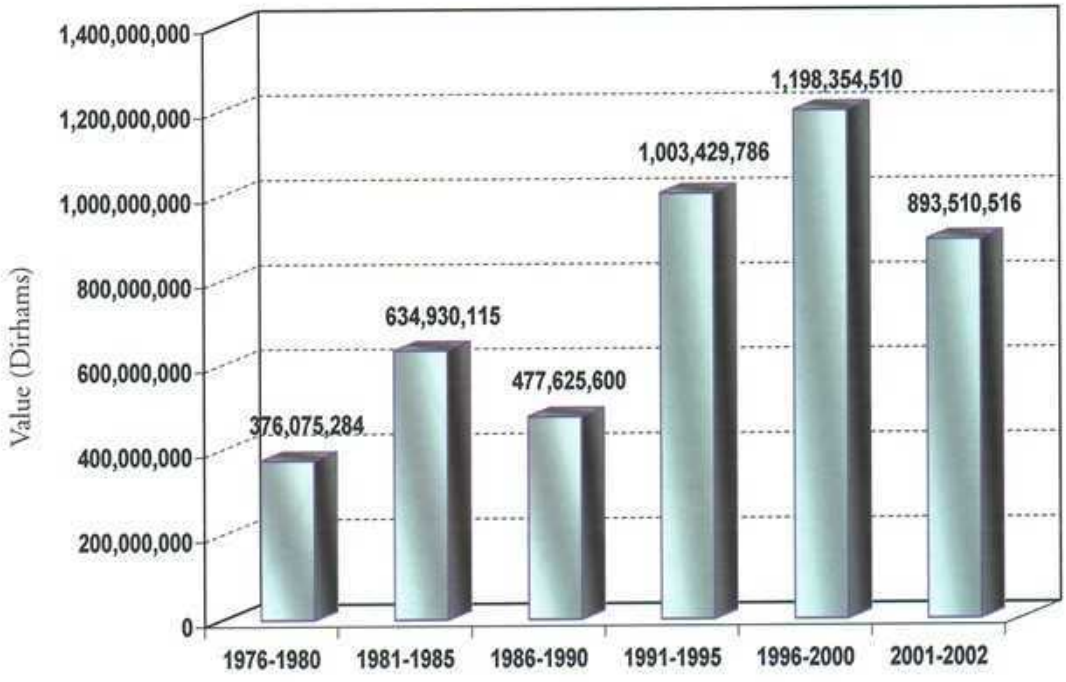
Table No. 5.

31	DS19	Main irrigation network in Bur Dubai	41,705,288	June 1997
32	IR -41	Irrigation system for Commercial Centre Street, between Burjuman interchange & Sana interchange	1,537,409	June 1997
33	IR-42	Irrigation system for Oud Maitha Street	1,639,852	July 1997
34	IR -43	Irrigation system for Street	1,779,057	July 1997
35	IR -45	Irrigation system for Sheikh Zayed Street between Trade Centre roundabout and Holiday Inn Hotel	2,118,320	June 1997
36	IR -33	Irrigation system for various areas in Dubai	4,372,035	August 1997
37	IR -38	Irrigation system for Al-Wasl Street	2,348,000	October 1998
38	IR -48	Irrigation system for entrance of Zabeel Palace	1,518,530	January 1999
39	IR -81/2	General Plan for irrigation networks (second phase)	45,492,632	January 1999
40	IR -46	Irrigation system for Al-Ramool Street	2,952,000	March 1999
41	IR -49	Irrigation system for Al-Qataiyat Street	4,141,400	October 1999
42	IR -50	Automatic irrigation system for Oud Maitha – Al-Qataiyat Street interchange	3,153,000	October 1999
43	IR -54	Irrigation system for Shooting Club	650,000	August 1999
44	IR -39	Main irrigation network for Zabeel Street 2	1,448,400	November 1999
45	IR -47	Irrigation system for Trade Centre Road between Burjuman interchange and Sana interchange	2,650,772	January 2000
46	IR -51	Irrigation system for various areas in Dubai (first phase)	4,786,650	November 2000
47	IR -62	Irrigation system for Airport Road	5,014,717	December 2001
48	IR -24	Irrigation system for Nad Al-Hamar Road – first phase	4,282,145	June 2001
49	IR -40	Irrigation system for Nad Al-Hamar Road – second phase	4,440,000	March 2001
50	IR -44	Irrigation system for Al-Abraj Street	4,831,092	July 2001
51	IR – 52	Irrigation system for Al-Ittihad Street	3,725,697	December 2001
52	IR -53	Irrigation system for Al-Qusais Street	4,359,100	March 2001
53	IR -59	Irrigation system for Sheikh Zayed University Street	1,862,214	January 2001
54	IR -61	Irrigation system for Zabeel streets	2,100,000	April 2001
55	IR -67	Irrigation system for nature reserves	1,060,000	November 2001
56	IR -149/1	Main irrigation system for Jebel Ali (1)	34,315,915	July 2002
57	IR -149/2	Main irrigation system for Jebel Ali (2)	41,389,680	July 2002
58	IR -55	Irrigation system for Dubai Ring Road	3,202,197	July 2002
59	IR -85	Irrigation system for Nad Al-Sheba Nursery	988,246	July 2002
60	IR -69	Irrigation system for the Emirates Road – phase 4	3,342,229	September 2002
Total Cost			391,591,378 Dirham	

Table No. 6. Expenditure on Irrigation and Sewage and Rainwater Drainage Projects

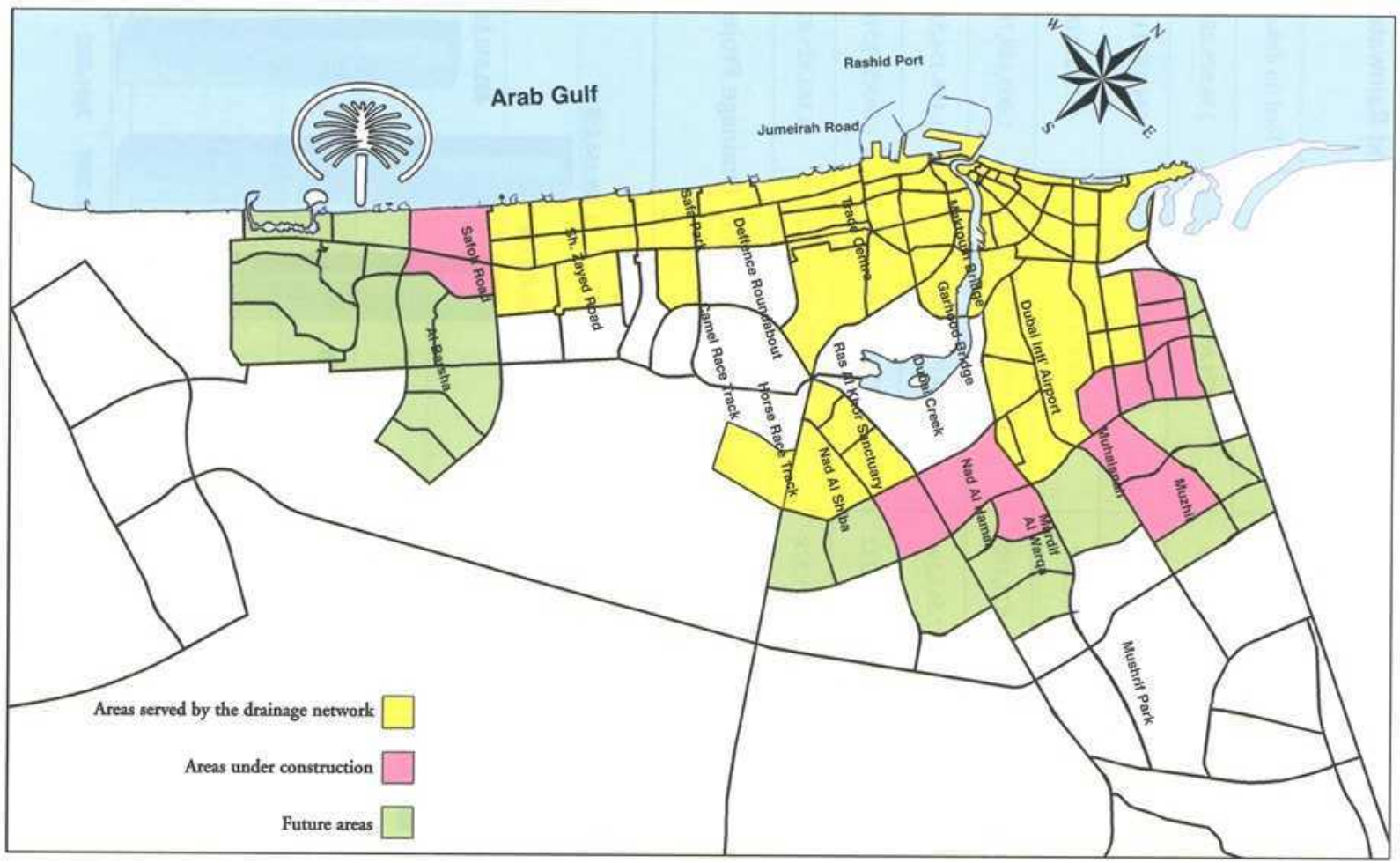
Year	Irrigation Projects	Sewage and Rainwater Drainage Projects	Total (in dirhams)
1976-1980	1,440,000	374,635,284	376,075,284
1981-1985	6,028,754	628,901,361	634,930,115
1986-1990	12,770,607	464,854,993	477,625,600
1991-1995	68,875,190	934,554,596	1,003,429,786
1996-2000	187,563,595	1,010,790,915	1,198,354,510
2001-2002	114,913,232	778,597,284	893,510,516
Total Expenditure	391,591,378	4,192,334,433	4,583,925,811

Expenditure on Irrigation and Sewage and Rainwater Drainage Projects, 1976 – 2002



Total expenditure up to 2002: 4,583,925,811 Dirhams.

Drainage Projects



Historical Development of the Public Parks and Horticulture Department

The Horticulture Section of the Dubai Municipality, as it was then known, was set up in 1972 to take responsibility for the management of afforestation and of maintaining and increasing other planted areas, in association with other units of the Municipality. Help was sought from an Iranian agronomist who advised the planting of roadside verges with trees that could survive both the harsh weather and a limited water supply.

Making use of the limited resources available, the department began a programme of planting, using imported seeds and irrigating with groundwater extracted from wells. Among the work undertaken was the planting of the first two large parks, Mushrif Park, planted in 1974 and Al-Safa Park, planted in 1975. Trees were also planted along some roadside verges.

At the beginning of the 1980s, the completion of the Sewage Treatment Plant provided ample supplies of treated wastewater that was suitable for sprinklers and drip-feed systems. This made it possible to increase the extent of planted areas substantially, while the organic fertiliser produced by the plant was also put to good use. More employees were taken on, dealing both with horticulture and landscaping, while in 1982 the Hor Al-Anz nursery was established to produce tree saplings, shrubs, succulents and flowering plants, these being selected for their adaptability to local climatic conditions.

In the same year, a dedicated Horticulture Section was established, which succeeded in completing 65 new projects over the subsequent five years, including landscaping of streets, cultivation of playing fields and roundabouts and establishment of gardens in residential areas.

1 - Landscaping of Streets and Roundabouts

Landscaping of streets and roundabouts included work in Al-Riqqa Street and Al-Muraggabat Street, and adjacent to traffic underpasses, while the Trade Centre roundabout was also planted at the time of the 1986 Chess Olympics.

2 - Parks

Two important parks were also completed, in Maydan Al-Ittihad (Al-Ittihad Square) in 1982 and Nayef Park in 1985.

3 - Playgrounds

At the beginning of February 1985, work also began on the cultivation of playing fields at the Al-Ahli, Al-Nasr and Al-Shabab Clubs.

The development of the Municipality's own nurseries played an important part in facilitating the work of the section.

4 - Nurseries

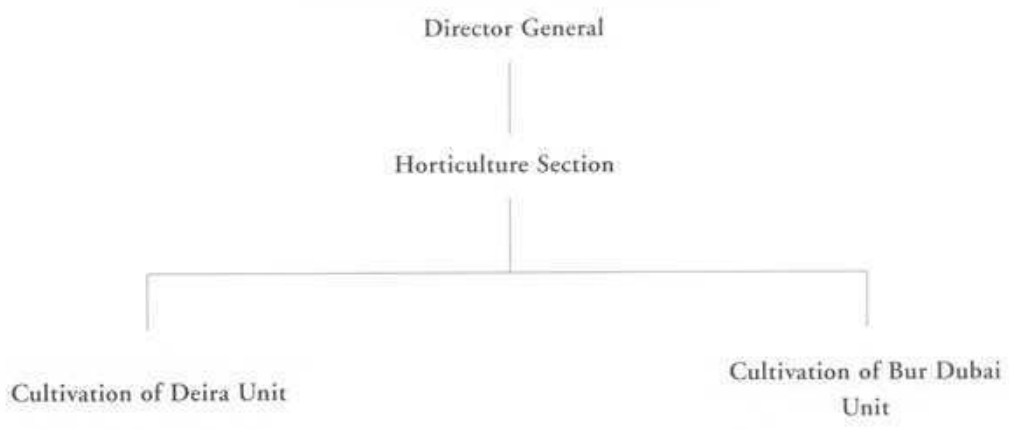
In 1985, approval was given for the setting up of a greenhouse while shaded areas for cultivation of plants were also increased.

By the end of this year, the planted area in Dubai had risen to 334,911 sq. metres, an increase of 42.6 per cent from over the figure at the end of 1982, while a total of 485,009 trees had been planted, an increase of 85.3 per cent over the December 1982 figure.

Administrative Development

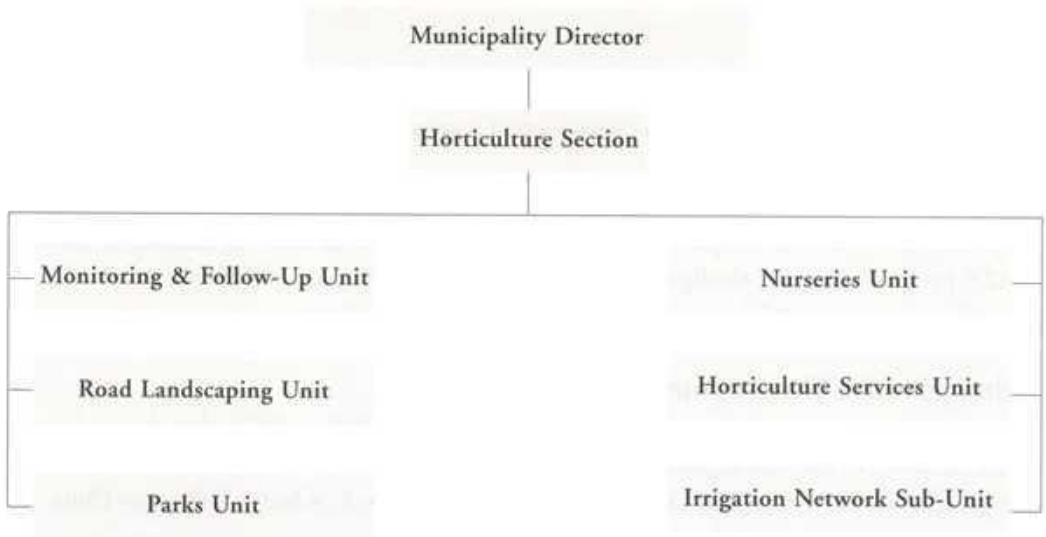
As noted above, the Horticulture Section was first established in 1972, then being directly under the office of the Municipality Director, and being given responsibility for horticulture and tree-planting in Bur Dubai and Deira. As shown in Chart No. 1, it had two separate Units.

Chart No. 1. Horticulture Section in 1972



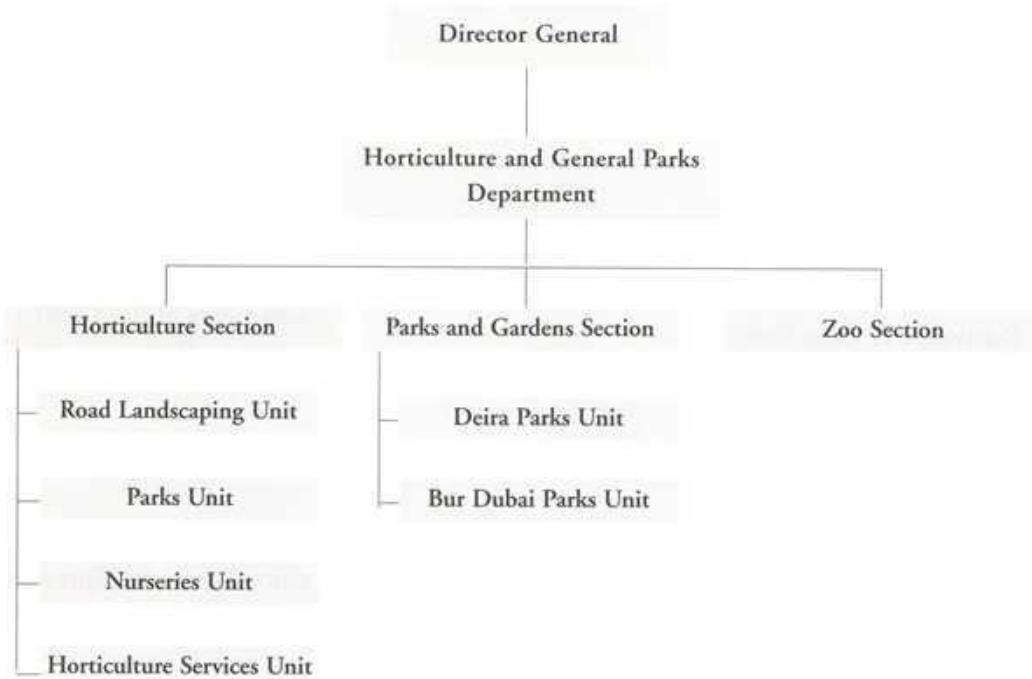
In 1987, the organisational chart was revised, with six separate units being established, although the Section remained directly affiliated to the Director's office. Five main Units were created as well as an Irrigation Network sub-unit, as shown in Chart No. 2.

Chart No. 2. Organisation Chart in 1987



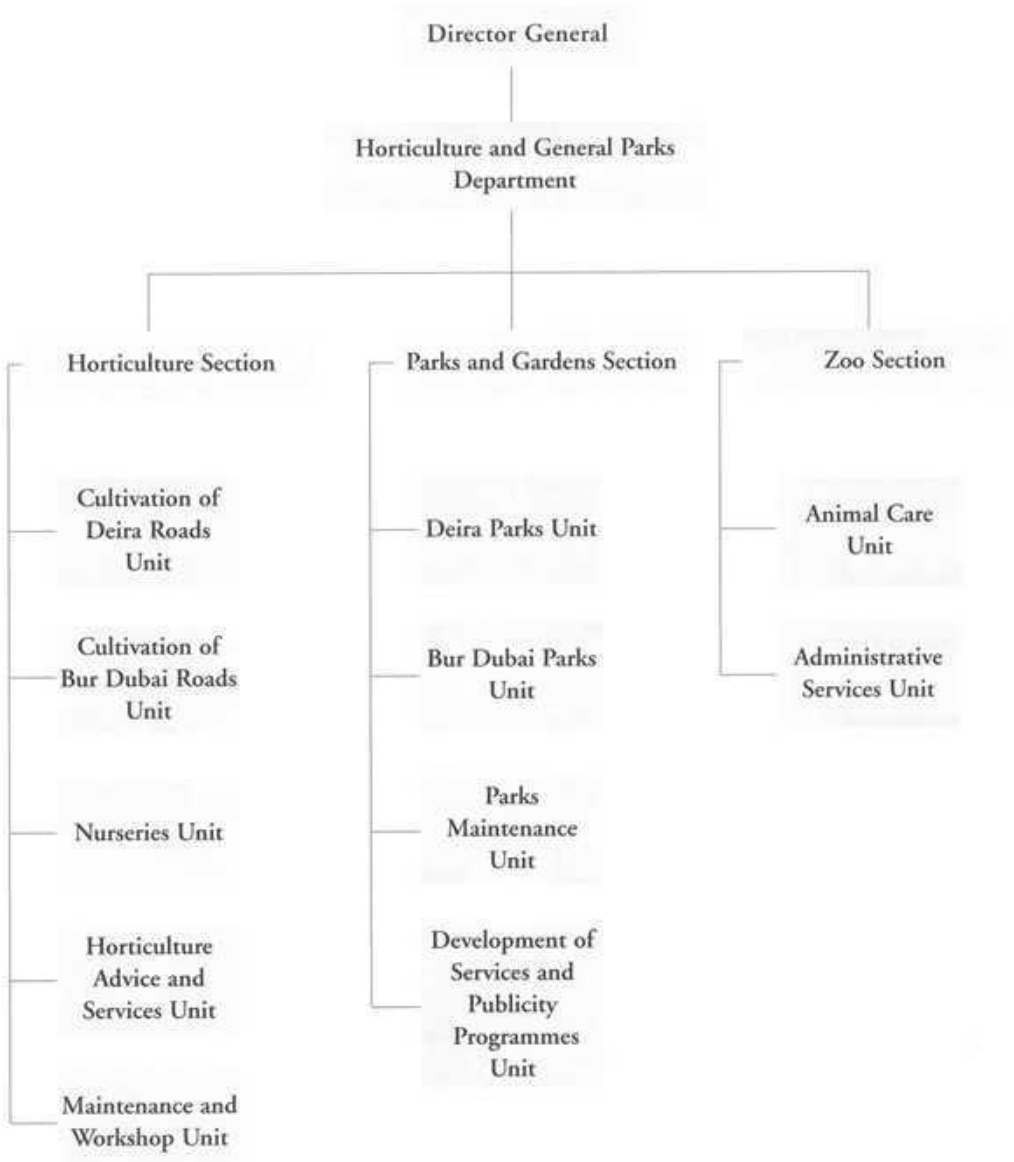
In 1991, there was a further revision to the structure, with the establishment of the Horticulture and General Parks Department, as shown in Chart No. 3.

Chart No. 3. Horticulture and General Parks Department in 1991



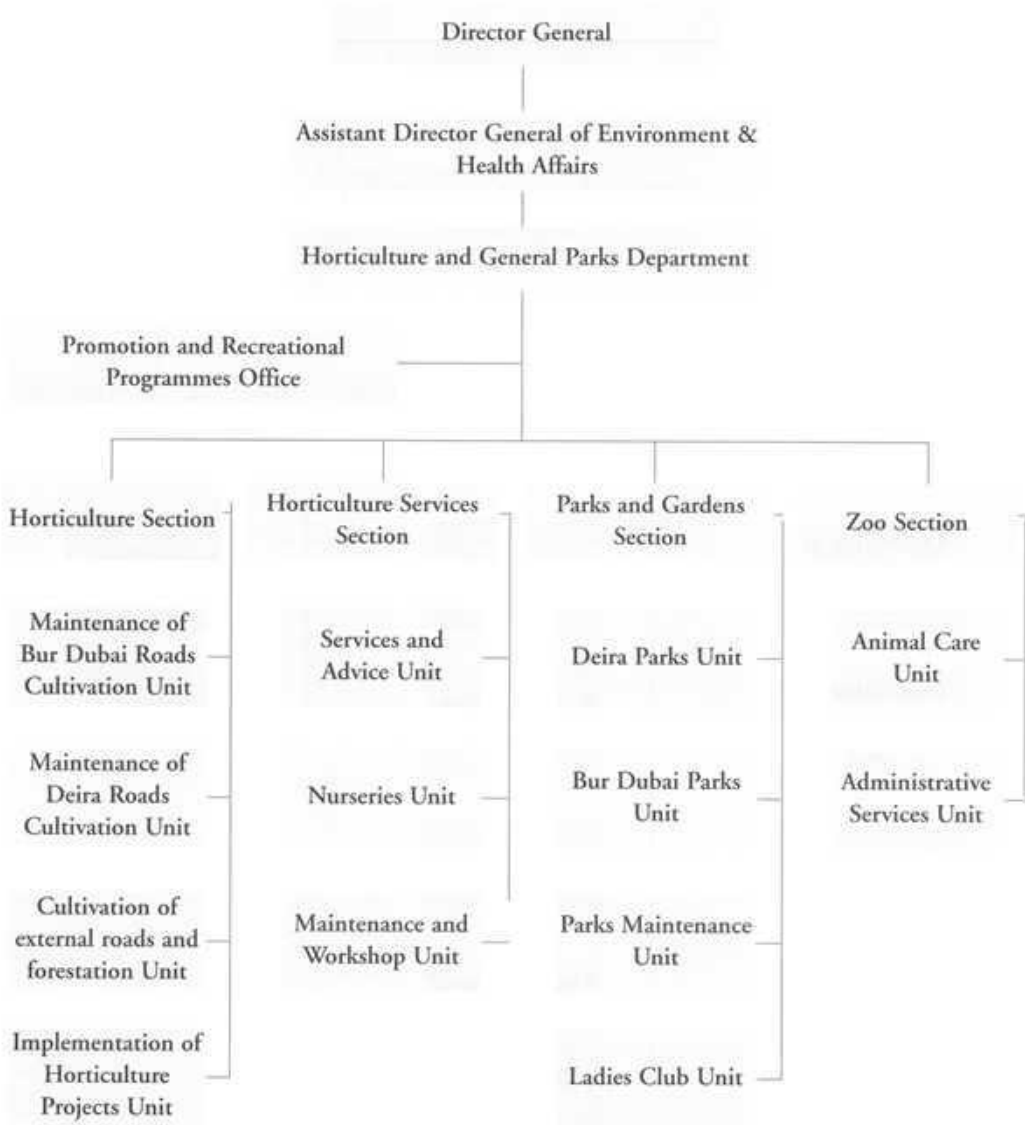
In 1993, new Units were added, and the organisation chart was revised, as shown in Chart No. 4.

Chart No. 4. Horticulture and General Parks Department in 1993



A further amendment to the Organisation Chart took place in 1997, with the addition of new units, as shown in Chart No. 5.

Chart No. 5. Horticulture and General Parks Department in 1997



In 1998, the Department's title was changed to the Public Parks and Horticulture Department.

In 2000, the Children's City was built in Dubai and was added as a separate Unit to the General Parks Section while in May 2002 the Ladies Club was made independent and was removed from the Section.

The main duties of the Public Parks and Horticulture Department:

The Public Parks and Horticulture Department is responsible for planning, planting, developing, operating and maintaining gardens, general parks, public parks, Children's City, recreational services and the Zoo. The responsibilities of the various sections and Unit are as follows.

Promotion and Recreational Programmes Office

This is responsible for promoting use of the public parks, the Children's City and the Zoo, through advertising, and through organisation of recreational events with the private sector. It also organises various events related to the department, and ensures that the necessary services are available for the public in all of these locations.

Horticulture Section

The Horticulture Section is responsible for all of the gardens programme in the Emirate and for tree-planting. It undertakes planting of areas which were formerly cultivated as well as tree plantations and nature reserves, making use of native tree species.

Horticulture Services Section

This Section propagates and raises the plants used in the gardens programme and provides the necessary top-soil and fertilisers, it also undertakes pest control and maintains horticultural tools and equipment and provides carpentry, welding and construction services for landscaping. it is also responsible for licensing and monitoring the work of horticultural companies in Dubai.

Parks and Gardens Section

The Parks and Gardens Section is in charge of administering, developing, operating and maintaining the parks and their recreational services, as well as of Children's City. Its duties with regards to the recreational services, such as children's play areas, include responsibility for health and safety and for ensuring that the facilities are used in an orderly manner.

Landscaping in Dubai

During the 1970s, tree-planting in Dubai was carried out in a somewhat erratic and unplanned way. In 1982, however, a new and scientifically-planned approach was adopted. This included:

1– Working with the Municipality Planning Section to prepare designs for new planting projects.
2– The careful selection of plants that were well-adapted for survival in the local environment.
3– Improvement of soil quality.

4– Upgrading of irrigation systems.
5– The introduction of new horticultural techniques.

By the end of the 1980s, the section had succeeded in transforming tree-planting and horticulture throughout the Emirate.

In 1987, following the decision to create the Horticulture Section, as well as the increased amount of treated wastewater available for irrigation, it was decided to establish a permanent committee to oversee plans to expand the amount of greenery throughout the Emirate. The committee was headed by the Director General with the head of the Planning Section, the head of the Drainage and Irrigation Section and the head of the Horticulture Section as members.

The committee drew up a plan to have a total of eight per cent of the urban areas of the emirate planted with trees, flowering plants, shrubs and grass.

Its tasks also included the studying of new planting projects, to choose designs and planting plans that were best suited to local conditions and would also improve the appearance of the streets and roads of Dubai, planning for the introduction of automatic irrigation systems in parks and gardens, to replace the manual watering that that previously been undertaken, the upgrading of existing gardens and parks and the approving of an annual plan for landscaping projects.

It was also charged with overseeing the appropriate horticultural research to select suitable plants and the development of links with local and foreign organisations in the field of horticulture and afforestation.

As part of this process, a research unit was set up as part of the Nurseries Section and a fully-equipped laboratory was established at the Al-Garhoud Nursery.

The Nursery was upgraded to become the first proper nursery in the UAE and the Gulf. Besides a building for the administration of the Nursery section, it was also provided with an air-conditioned greenhouse with an area of 1500 sq. metres, shaded areas, a workshop and stores. This helped the Section to attain self-sufficiency in terms of producing plants and saplings.

A programme was also put in place for the training and recruiting of personnel with the appropriate Bachelors and Masters degrees and with suitable work experience.

In order to ensure that the work of the Section was carried out in accordance with the best international practices, an arrangement was made with the United Nations Development Programme during 1988-1990 for the provision of the services of a qualified agronomist for periods of one to two months a year.

All of this planning yielded useful results.

Several major parks were established, including Al-Wasl Park in 1987, Al-Hamriyyah Park and Al-Rashidiya Park in 1988 and the Jumeirah Beach Park in 1989, while there was also a major programme of landscaping along the roads within the city as well as of the road from Dubai to Al Ain, this being carried out in three phases, in 1990, 1992 and 1997.

Automated irrigation systems were also installed in many areas, covering 31.4 per cent of the total planted area along the roads, 69 per cent of the roundabout and 87.5 per cent of the area of the parks.

As a result, it was possible for the Horticulture Section to reduce its labour force, since less

manual labourers were required for watering. The automated watering system also reduced water consumption, since it could be set to deliver only the amount of water actually required.

Further parks were established in the 1990s, including Al-Khor Park, covering 96 hectares, and Al-Mamzar Park, covering 99 hectares, both of these being completed in 1994.

In terms of afforestation and tree plantations, the Al-Qusais plantation was planted in 1991, the Mushrif plantation, covering 400 hectares, in 1992 and the Al-Rashidiya Hills plantation in 1997. In some cases, fruit trees were planted at part of the projects, although care was also taken

Period	Number of Projects	Grass Area*	Ground Covered*	Flowers*	Palm Trees **	Other Trees **
1981-1985	48	390,095	-	-	1,785	552,889
1986-1990	84	394,063	129,585	-	5,207	683,440
1991-1995	126	935,696	295,930	52,608	8,175	432,410
1996-2000	201	1,326,653	318,382	110,147	5,477	159,890
2001-2005	182	1,448,657	174,834	209,306	6,253	167,940
TOTAL	641	4,495,164	918,731	372,061	26,897	1,996,569

* Square Metre ** Number



Local production of seeds and saplings

to preserve existing native species such as Ghaf trees.

In 1995, Dubai was awarded the City Plantation Award of the Arab Towns' Organisation – the first year that this award was given.

By 2002, automated irrigation systems had been installed in all of the parks, in the Mushrif and Al-Rashidiya tree plantations and along the roads outside the city. 99 per cent of the city roads were also covered, as well as 2000 trees, of about half the total amount, in the Al-Qusais plantation.

Between 1981 and 2002, a total of 521 landscaping projects were completed, covering urban roads, private and public parks, public squares, tree plantations and nature reserves. The following table gives summary details of the projects completed as well as those due to be completed up to the end of 2005.

In 1999, the Department introduced the laying of turf lawns, making use of a special machine, ten of which are now in operation. Turves of 60 cm by 150 cm are prepared in advance and then laid, following which fertiliser is applied and the area is rolled, producing a ready-made, mature lawn.

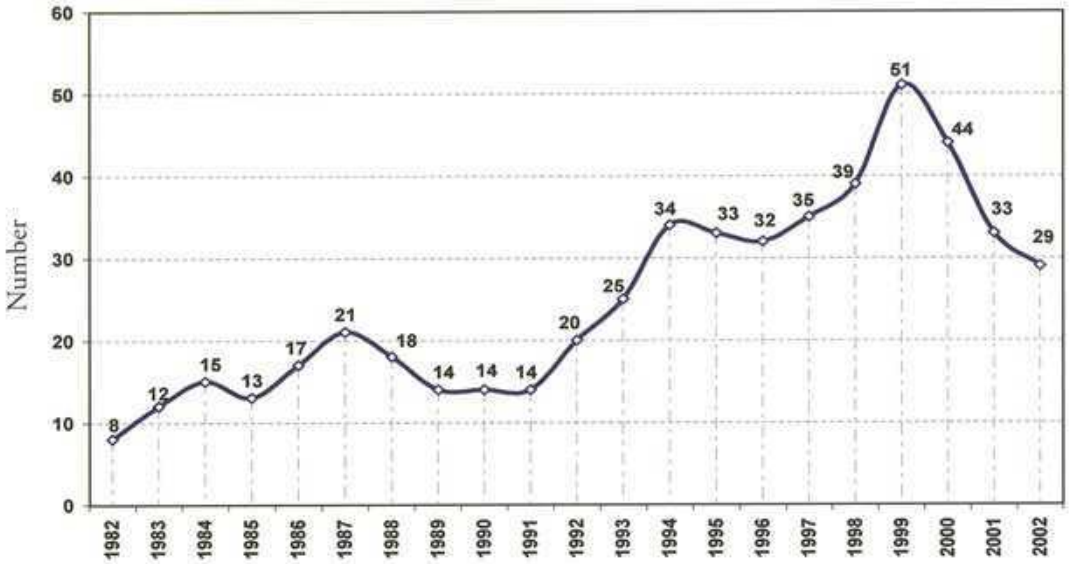
Lawns of this type were laid at Al-Saif Street, where the 2000 Dubai Shopping Festival was launched, at Gateway No. 4 to the Creek Park and outside the main entrance of the Creek Park, following the completion of the bridge linking the former site of Global Village to the Park, since the original planted area had been destroyed during the construction work. This last pro-

Number of horticultural projects, 1982 – 2002

No.	Year	Number of Projects completed
1	1982	8
2	1983	12
3	1984	15
4	1985	13
5	1986	17
6	1987	21
7	1988	18
8	1989	14
9	1990	14
10	1991	14
11	1992	20
12	1993	25
13	1994	34
14	1995	33
15	1996	32
16	1997	35
17	1998	39
18	1999	51
19	2000	44
20	2001	33
21	2002	29
TOTAL		521

ject was completed in three days – but the resulting lawn looked as though it had been established for years.

Overall, the amount of planted areas in Dubai increased from 620,367 sq. metres in 1981 to around 4 million sq. metres in 2002, the number of trees planted rose from 423,886 to 2,287,562 and the number of palm trees, counted separately, rose over the same period from 4,184 to 27,988. The following tables provide statistical data on this expansion.





Laying a turf lawn

Growth of planted areas, 1981 – 2002

Years	Green Areas (in square metres)				Number of Trees		Fences (metres)
	Grassed Area	Ground Cover	Flowering plants	Total	Palm Trees	Trees & Shrubs	
1981	620,367	-	-	620,367	-	423,886	-
1982	786,017	-	-	786,017	-	568,486	-
1983	856,412	-	-	856,412	4,184	672,927	-
1984	936,912	-	-	936,912	5,397	781,527	-
1985	985,462	-	-	985,462	5,969	926,775	-
1986	1,120,928	7,763	-	1,128,691	6,637	1,053,495	-
1987	1,162,497	43,779	-	1,206,276	7,583	1,175,494	-
1988	1,254,745	83,766	-	1,338,511	8,696	1,353,322	-
1989	1,348,975	113,821	-	1,462,796	9,659	1,514,527	-
1990	1,379,525	129,585	-	1,509,110	11,176	1,610,215	-
1991	1,397,150	151,334	52,632	1,601,116	12,311	1,682,835	-
1992	1,499,186	172,094	56,319	1,727,599	13,202	1,813,561	-
1993	1,915,093	308,137	64,120	2,287,350	16,690	1,983,916	153,925
1994	2,235,409	372,536	81,837	2,689,782	17,792	2,024,331	166,849
1995	2,315,221	425,515	102,870	2,843,606	19,351	2,042,625	173,145
1996	2,502,567	446,488	109,720	3,058,775	20,517	2,068,373	174,502
1997	2,829,846	525,561	130,795	3,486,202	21,519	2,136,438	193,717
1998	3,056,191	600,664	155,595	3,812,450	23,020	2,159,606	200,121
1999	3,321,611	704,966	179,548.7	4,206,125.7	24,236	2,186,798	205,586.5
2000	3,641,874	743,896.7	213,016.7	4,598,787.4	24,828	2,202,515	207,090.25
2001	3,999,232	793,849.4	262,839.5	5,055,920.9	25,794	2,257,744	216,867.8
2002	4,190,805	809,866.22	305,132.5	5,305,803.73	27,988	2,287,562	228,315.13

(1) Every six ground cover plants cover an area of one square metre

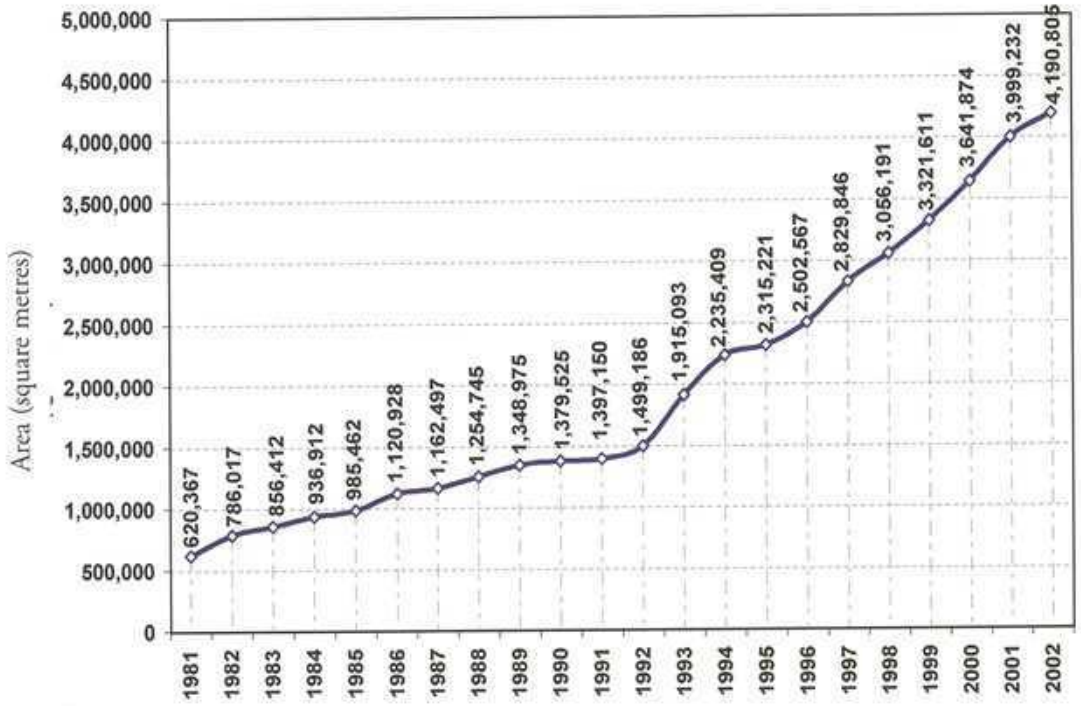
(2) Every 10 flowering plants cover an area of one square metre

• Total area planted in Dubai City in 2002 is 19,510,000 square metres

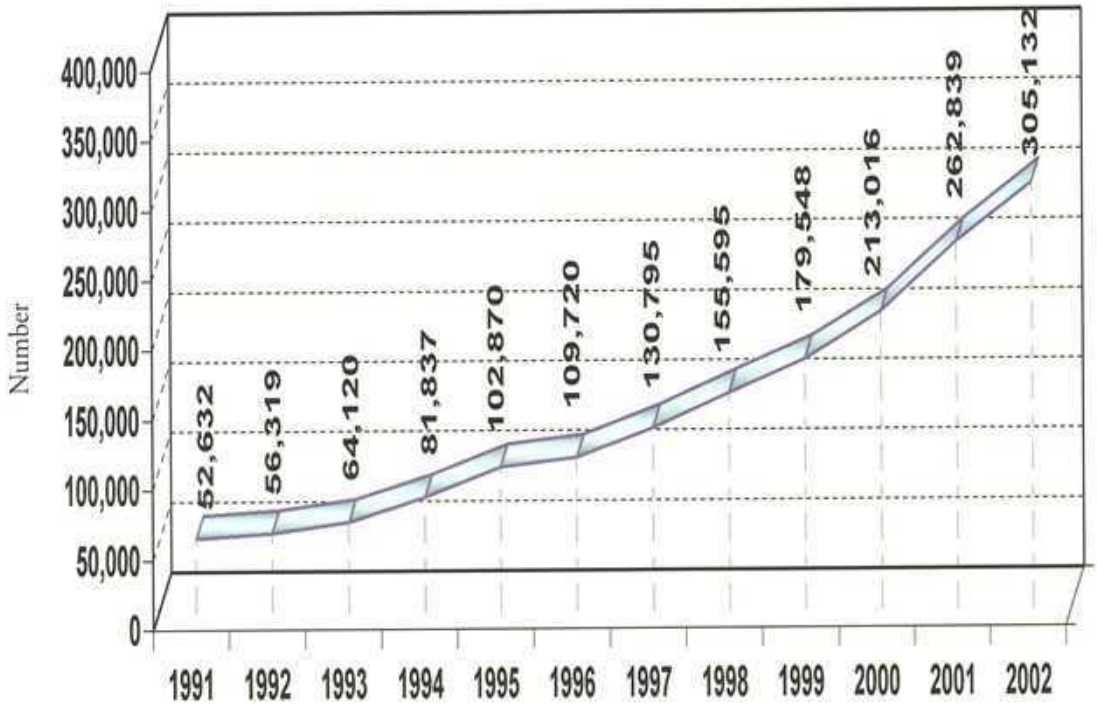
• The population of Dubai city in 2002 was 960,950 (Source: Census Centre)

• Cultivated area per capita is 19,510,000/ 960,950 = 20.3 square metres

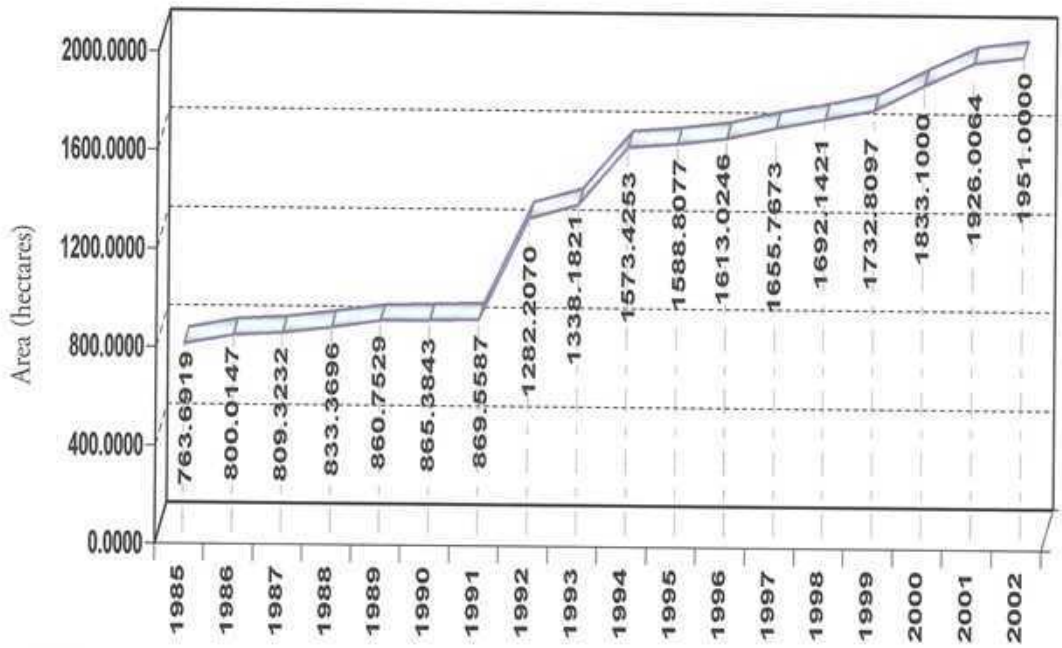
Increase in planted areas, 1981 – 2002



Flowers planted annually, 1991 – 2002



Increase in cultivated areas and annual increases between 1985 and 2002, showing progress towards the planned target of an 8 per cent total of planted land in urban areas in the Emirate of Dubai.





Creek Park

Horticultural maintenance

Horticultural maintenance is one of the most important tasks carried out by the Department, since it is essential in order to keep the grassed areas in top condition throughout the year, even during the hot summer months.

From the time that the first Horticultural Section was established until 1997, there was a single unit in charge both of maintaining gardens and of new projects.

In that year, however, the organisation chart was amended and two separate Units were created, the Road Cultivation Unit and the Parks Unit, permitting the production of separate reports on a daily, weekly and monthly basis both on maintenance and on the progress being made on new projects.

As noted above, the organisation chart for the Public Parks and Horticulture Department was amended in 1993 with the setting up of separate Units covering Bur Dubai and Deira. Another new Unit in the Horticulture Section to handle maintenance of areas already planted, including tree plantations and roads outside the city, was also established. In the same year, a Parks Maintenance Unit was set up as part of the Parks and Gardens Section. One result of this re-organisation was the promotion of competition between the different Units, this having a positive effect on the appearance of the parks and other areas.



Using machinery to maintain grassed areas

Introduction of modern machinery

The increasing mechanisation of horticulture in Dubai reflects the way in which the industry is developing and has also, of course, had a positive impact on labour costs. It has helped in the preparation of new areas and in the maintenance of already-established parks and gardens, while improved training and an increase in productivity has also reduced the need for labour. Between 1988 and 1989, the total workforce of labourers and gardeners fell from 1,047 to 709, a 32 per cent reduction.

Overall, the equipment introduced helped to save time and effort, allowed a reduction of manpower, and, therefore, cost, ensured that work could be completed more rapidly and also helped in the development of a preventative maintenance programme.

Over the years, the Department has worked hard to upgrade the quality of public horticulture in Dubai.

One result of this work has been a changing in the nature of planting. During the 1990s, as the expansion of parks and gardens got under way, the plants used were chosen on the basis of providing cover during winter and summer but without co-ordination in terms of the appearance of the floral displays. From 2000 onwards, however, flowering plants were chosen that, when matched, would present a co-ordinated and colourful display at selected locations. The use of other plants suitable for providing ground cover was also introduced, permitting the laying-out of displays that permitted geometric and other aesthetically-pleasing designs to be planted. Dubai was the first city in the United Arab Emirates and the Arabian Gulf to introduce plants of this kind.

Where possible, native species of plants, shrubs and trees were used for landscaping projects, such as Ghaf, Samar, Arak and Markh. These require less maintenance than introduced ornamental trees and bushes, thus reducing costs. A special booklet on the trees used for afforestation was issued in 2001.

Another major focus of the Department was a campaign to eradicate pests. This was undertaken using methods which posed no health hazards to humans and had no adverse impact on the environment. Insect light traps and pheromone traps were used to attract and trap pests while a natural pesticide derived from the seeds of the Neem tree, *Margosa* sp.was also used. The Department began in 1993 to produce its own pesticide from Neem, having considerable success in reducing numbers of Tervis worms, plant lice, spiders and nematodes. A small production plant for Neem extract was set up in 1995, at a cost of eleven thousand dirhams, while more Neem trees were planted to ensure an adequate supply of seeds.

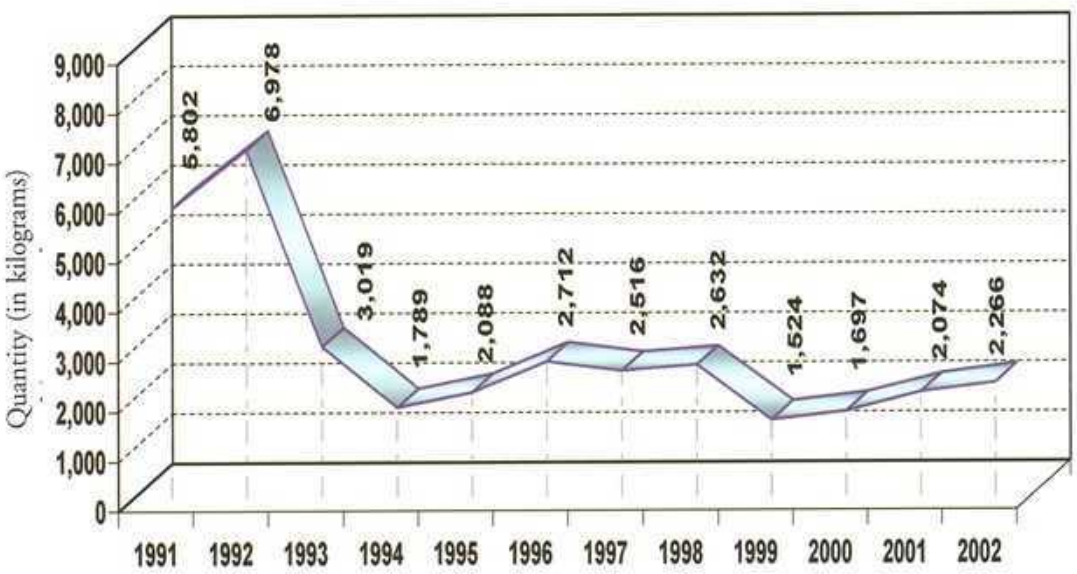
The results of this work were publicised during the 'Healthy Cities Conference' for the Arabian Gulf countries in 1995, with a leaflet being produced, in both Arabic and English, to explain the benefits of Neem-based pesticide.

This was followed by a joint project developed with the Federal Environmental Agency, FEA, on the establishment of a larger-scale plant to produce Neem extract to supply to the agricultural and horticultural sector throughout the country, as part of a drive to reduce the use of pesticides that could be harmful to people or to the environment.

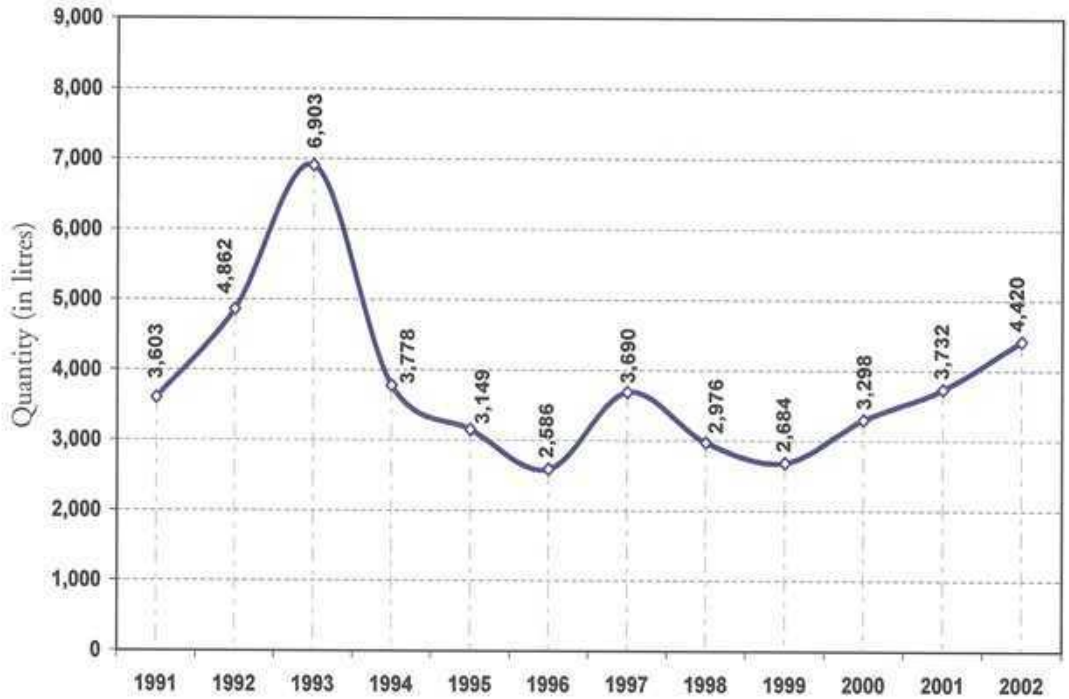
The following table gives the quantities of pesticides used against agricultural pests during the period from 1991 to 2002, illustrating the reduction in use achieved as a result of the success of the campaign, even though the area planted increased annually over the same period.

Year	Pesticides Used		NOTE
	Dry and Granular, in Kilograms	Liquid, in Litres	
1991	5,802	3,603	The table shows that despite the increase in the areas planted, the amount of pesticides being used has declined since 1993, owing to a well-planned campaign of pesticide application and also to the successful introduction of Neem extract.
1992	6,978	4,862	
1993	3,019	6,903	
1994	1,789	3,778	
1995	2,088	3,149	
1996	2,712	2,586	
1997	2,516	3,690	
1998	2,632	2,976	
1999	1,524	2,684	
2000	1,697	3,298	
2001	2,074	3,732	
2002	2,266	4,420	

Quantity of dry and granular pesticides, 1991 – 2002



Quantity of liquid pesticides used, 1991 – 2002



The use of *Margosa* sp., (Neem), seeds and the financial savings are shown in this table.

Year	Quantity of Margosa (Neem) seeds used, in kilograms	Value, in Dirhams	Notes
1996	707	17,675	The market price of one kilogram of Neem seeds is 25 dirhams. The amount of money saved annually represents the use of Neem powder as a pesticide against worms, plant lice, Tervis, spiders, white fly and nematodes. The powder is used at the rate of 1.5 to 2 grams per litre of water.
1997	3,287	82,175	
1998	6,308	157,700	
1999	7,961	199,025	
2000	5,482	137,050	
2001	13,438	335,950	
2002	7,099	177,475	



A sprinkler system in operation

Booklet on horticultural maintenance

This booklet, prepared in 1999, includes a description of how to maintain all kinds of garden plants, such as palm trees, trees, shrubs, plants for ground cover, flowers and climbing plants used on fences. It also provides advice on how to ration the use of water for irrigation and on machines used in horticulture, including routine maintenance, operating them and a guide to cost.

The booklet was distributed to Head of Units, Agronomists and Supervisors.

Automated Irrigation

The introduction of automated irrigation techniques has speeded up the completion of new projects and has reduced the amount of time needed for irrigation, thanks to the elimination of manual watering. Labour costs have also been reduced. The first automated watering systems were introduced in 1982, and by 2001 these had been extended to all parks, gardens and others areas needing irrigation.

Committees and Working Groups

In order to promote the development of team work and to improve performance, a number of special committees and working groups were established, as follows:

Committees

No.	Name of Committee	No.	Name of Committee
1	Agricultural Projects Committee	3	Agricultural Tools and Equipment Committee
2	Agricultural Research and Studies Committee	4	Quality and Excellence Committee

Working Groups

No.	Name of Working Group	No.	Name of Working Group
1	Quality and Excellence	8	Parks Marketing and Advertising
2	Development of Computer Systems and e-Government	9	Coordination of Agricultural and Irrigation Works
3	Agricultural Research and Studies	10	Creative Thinking
4	Agricultural Design	11	Suggestions System
5	Equipment and Tools	12	Customer Satisfaction
6	Supervision of Children's City	13	Performance Evaluation
7	City Landscaping		

Celebrations of Afforestation

Former UAE President His Highness Sheikh Zayed bin Sultan Al Nahyan was well known for his interest in afforestation, and frequently urged the various Municipalities throughout the country, as well as other bodies, to devote effort to planting more trees. He also gave instructions that an annual 'Tree Day' should be celebrated.

This later became 'Tree Week', which is marked annually under the aegis of the General Secretariat of the UAE Municipalities.

The Dubai Municipality marks the event with a series of workshops and other activities designed to promote participation by individuals, organisations, companies and schools. Tree-planting programmes are organised while trees, shrubs and flowers are distributed free to residents of the various areas of the Emirate.

During the week, staff of the Municipality also become involved in organising seminars, talk-



Al-Garhoud Nursery

ing to the media, preparing and distributing leaflets and supporting the organisation of horticultural shows.

The role of greenhouses

Greenhouses have played an important role in the propagation and supply of saplings and seedlings used for planting programmes.

In 1982, the Municipality had only one greenhouse, at the Hor Al-Anz Nursery.

In 1989, however, a 1,500 sq. metre greenhouse was completed at the Al-Garhoud Nursery,

Nurseries and other areas for plant propagation established between 1985 and 1997

No.	Name of Nursery	Year of Establishment	No.	Name of Nursery	Year of Establishment
1	Mushrif Nursery	1985	6	Propagation plot at Al-Garhoud Nursery	1992
2	Nad Al-Sheba Nursery	1986	7	Al-Khor Park Nursery	1994
3	Zabeel Nursery	1987	8	Al-Mamzar Park Nursery	1994
4	Al-Garhoud Nursery	1989	9	Palm Tree propagation plot in Al Mushrif Park	1995
5	Al-Safa Nursery	1992	10	Al-Rodis Farm, Al-Aweer	1997

along with a head office for the Horticulture Section, which moved to Al-Garhoud from the main Municipality building in 1990.

In the same year, other facilities were completed at the nursery, including a laboratory, a workshop for machines, stores for agricultural and horticultural materials, a cold store, shared areas and an open-door area for plant propagation.

By mid 1995, with the completion of a date-palm propagation plot in Mushrif Park, the department had a total of nine nurseries, while in 1997, the 80-hectare Al-Rodis Farms project in Al-Aweer was completed.

By 1995, the Department was producing around three and a half million saplings and seedlings a year.

Dubai Municipality nurseries, 1982 – 2001

No.	Year	Total Number	Comments
1	1982	1	Hor Al-Anz Nursery
2	1984	2	Al-Safa Nursery added
3	1985	3	Mushrif Park Nursery added
4	1986	6	Nad Al Sheba, Zabeel, Al-Garhoud and Al-Safa Nurseries added
5	1994	8	Al-Khor Park and Al-Mamzar Park Nursery added
6	1997	6	Hor Al-Anz Nursery becomes a park and Zabeel Nursery is grassed over
7	2001	6	Studies for a new 18-hectare nursery in the Al-Warsen area

In 1997, there was a re-organisation of the nurseries. The old Hor Al-Anz nursery was transformed to become a public park while the Zabeel Nursery was turned over to grass. Despite this reduction in the area being cultivated, however, the introduction of more efficient technology meant that the number of saplings and seedlings being produced continued to rise, reaching 17, 874, 374 in the year 2002, as shown in the following table. Production is projected to continue to increase and will contribute to meeting the target of having eight per cent of the total urban area of Dubai planted in various ways.

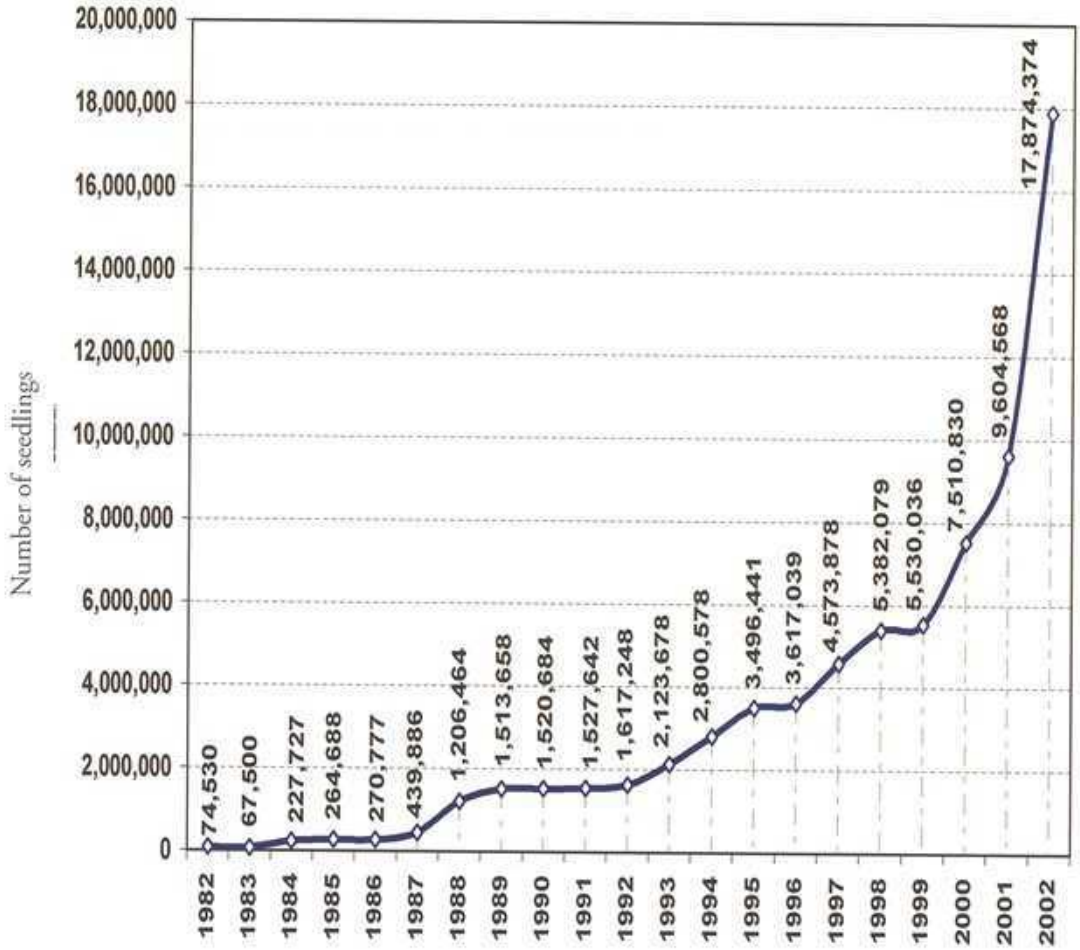
The increase in output from the nurseries, as well as the higher quality of seedlings produced, was due to a number of factors. Of particular importance was the increased professionalism of nursery work, made possible by the setting up of a trials station for new species and varieties of plants and of a laboratory. Tissue culture propagation was also introduced, while a highly-trained horticulturalist was appointed to oversee research.

This was complemented by other innovations, such as the careful selection of the proper envi-

Production of Nurseries, 1981 – 2002

Year	Production/ Seedlings	Comments and annual rates of increase
1981	Nil	All requirements purchased from the market
1982	74,530	First year of production from the Municipality greenhouse
1983	67,500	Production reduced by 9.44% due to lack of space
1984	227,727	Production increase of 237%, due to opening of Al-Safa Nursery
1985	264,688	Production increase of 16.23%
1986	270,777	Production increase of 2.3%
1987	439,886	Production increase of 62.45%, as new nurseries completed, bringing total to six
1988	1,206,464	Production increase of174.3% due to expansion of Al-Garhoud Nursery
1989	1,513,658	Production increase of 25.46% due to further expansion
1990	1,520,684	Production increase of 0.5%
1991	1,527,642	Al-Safa Park Nursery suspended activity, due to a re-planning of the whole park. Total production still increased slightly.
1992	1,617,248	Increase of 5.8%
1993	2,123,678	Increase of 31.3%
1994	2,800,578	Increase of 31.9%
1995	3,496,441	Increase of 24.8%
1996	3,617,039	Increase of 3.4%
1997	4,573,878	Increase of 26.5%
1998	5,382,079	Increase of 17.7%
1999	5,530,036	Increase of 27.5%
2000	7,510,830	Increase of 35.8%
2001	9,604,568	Increase of 27.9%
2002	17,874,374	Increase of 86.1%

Production of Nurseries, 1981 – 2002



Horticulture Laboratory

The Laboratory was established in 1990. Besides carrying out a variety of experiments, it also seeks solutions for problems encountered in the field during work by Department staff.

Amongst its work is the testing of seeds and germination patterns, the carrying out of chemical and physical tests on soils, including their salinity, pH and nutrient and calcium carbonate and analysis of samples of irrigation water to check salinity, pH content and concentration levels of soluble chemicals. Fertilisers are analysed to measure the presence of elements such as nitrogen, phosphorus, potassium, iron, copper and cobalt and to check humidity, the percentage of organic matter and the degree of electric conductivity. Plant samples are checked to measure the content of nutritious elements and chlorophyll.

Other duties include the preparation of special solutions for nurseries and inspections, by microscope, for diseases.

ronments for propagation and early stages of growth, sterilisation of cuttings, using growth regulators, providing effective fertilisation by supplying soluble fertilisers through tanks connected to the irrigation network in greenhouses, plant propagation plots and shaded areas and the provision of automated irrigation in the shaded areas of the Al-Garhoud and Nad Al-Sheba Nurseries.

The introduction of machinery to move plants around, rather than wheelbarrows, helped to protect the young plants, while modern machinery was also introduced for the packaging and bagging of plants.

A number of these innovations also proved to have a beneficial impact on costs, since increased mechanisation made it possible to reduce the amount of manpower required.

Introduction of new species

An important part of the work of the Horticulture Section has been the identification of species and varieties of plants which are suited to local conditions, so as to build up a database that would permit a wide range of plants to be used, thus varying the appearance of parks, gardens and other planted areas.

Plants identified as being suitable were kept as stock in the Al-Garhoud Nursery, so that they could be used for propagation, as and when required.

The increase in the number of nurseries made it easier to introduce new species and varieties while use of the latest propagation techniques helped to ensure that the required number of seedlings and cutting could be produced. In all, a total of 650 new species and varieties were introduced.

The annual horticultural shows in Dubai, in which other Municipalities as well as private companies also take part, also provides staff of the Horticultural Section with an opportunity to evaluate other plants that may be suitable for use.

The Nursery Unit was an important part of the Horticulture Section from the time that it was established.

In 1997, a restructuring of the Section saw it being divided into two, the Horticulture Section and the Horticultural Services Section and the Nursery Unit was placed in the Horticultural Services Section, as shown in the organisation chart for 1997 (above).

In 2001, studies began for the setting up of a modern nursery in the Al-Warsen area, near the sewage treatment plant. This was to include offices for the Unit, a showroom for the sale of plants, greenhouses, shaded areas, areas for propagation of seedlings and raising them, a soil and water laboratory, a tissue propagation laboratory, a workshop and cold stores.

Over the years, particularly since the establishment of its plant propagation and cultivation plots, the Al-Garhoud Nursery has become a popular place to visit for university and school students, with students at the Agriculture College at the Emirates University having gained particular benefit. Besides organising scientific fieldtrips, nursery staff have also run training courses for students studying agriculture production, landscaping and plant protection.

In December 1996, visiting scientists attended a conference on mangroves at the Emirates University made a special trip to the Nursery to look at its cultivation of young mangroves.

Plant species and varieties introduced, 1986 – 2002

Item	Year	Number of new species and varieties
1	1986	21
2	1989	57
3	1991	110
4	1992	34
5	1995	102
6	1996	119
7	1997	23
8	1999	41
9	2000	162
10	2001	201
11	2002	217
TOTAL		1,087



The Horticulture Laboratory

Tissue Propagation Laboratory

Tissue propagation is used in the nurseries with the objective of producing large numbers of plants with identical genes similar to the mother plant. Initially, a small laboratory was built in Mushrif Park Nursery in order to produce superior palm tree varieties, until the main Tissue Propagation Laboratory is completed as part of the new Municipality Nursery project in the Al-Warsen area. The production cycle lasts for five years starting from the planting of plant tissues in the laboratory until the seedlings are ready to plant.

Agricultural Services offered to the Public

Since 1976, Dubai Municipality has provided horticultural services to the public in order to encourage them to take an interest in planting and to take part in increasing the planted areas in the Emirate. The following table on page 552, illustrates the services provided to the public by the Horticulture Section and Horticulture Services Section during the period 1981 – 2002. Data for the period from 1976 – 1980 is not available.

The Laboratory's equipment at the end of 2002

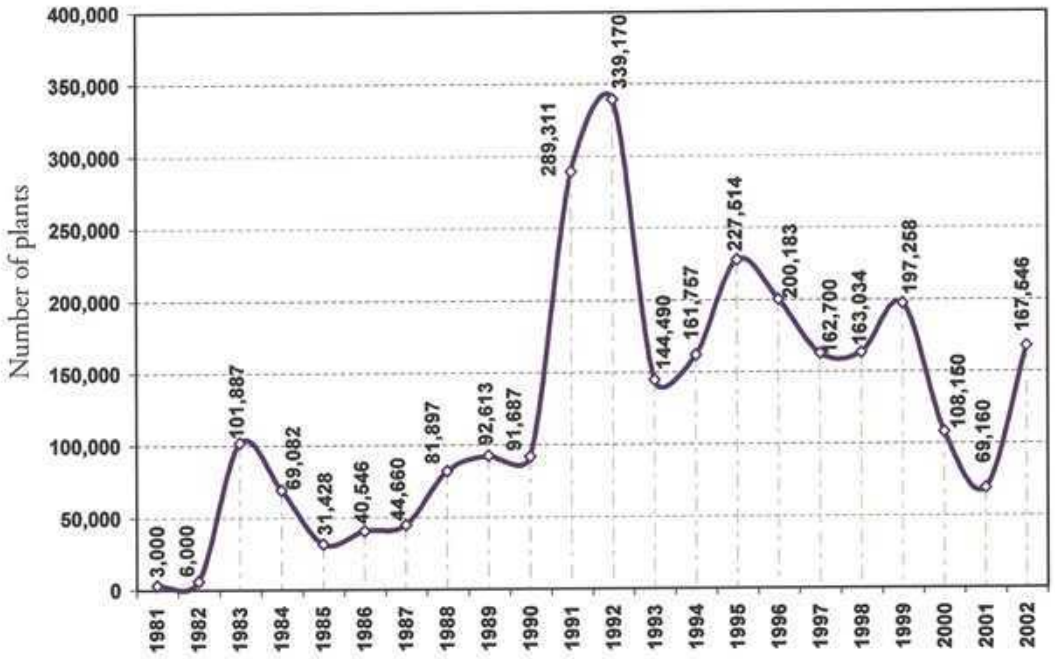
Item	Equipment and functions
1	Seed Germination Apparatus
2	Growth Chamber
3	Incinerator
4	Oven
5	Digestion Apparatus
6	Apparatus to measure elements of nutrition
7	Shaking Apparatus
8	Filtration Apparatus
9	pH Measuring Apparatus
10	Salinity Measuring
11	Water Bath Apparatus
12	Microscope
13	Programmed Apparatus to measure percentage of Seed Germination
14	Centrifuge
15	Magnetic Movement Apparatus
16	Filtration Apparatus
17	Gas Centrifuge
18	Scales
19	Grinder
20	Spectral Absorption Apparatus
21	Measurement of calcium carbonate
22	Measurement of Nitrogen
23	Atomic Absorption Apparatus
24	Ionisation Analysis
25	Preparation of saturated soil paste

Services provided to the public, 1981 – 2002

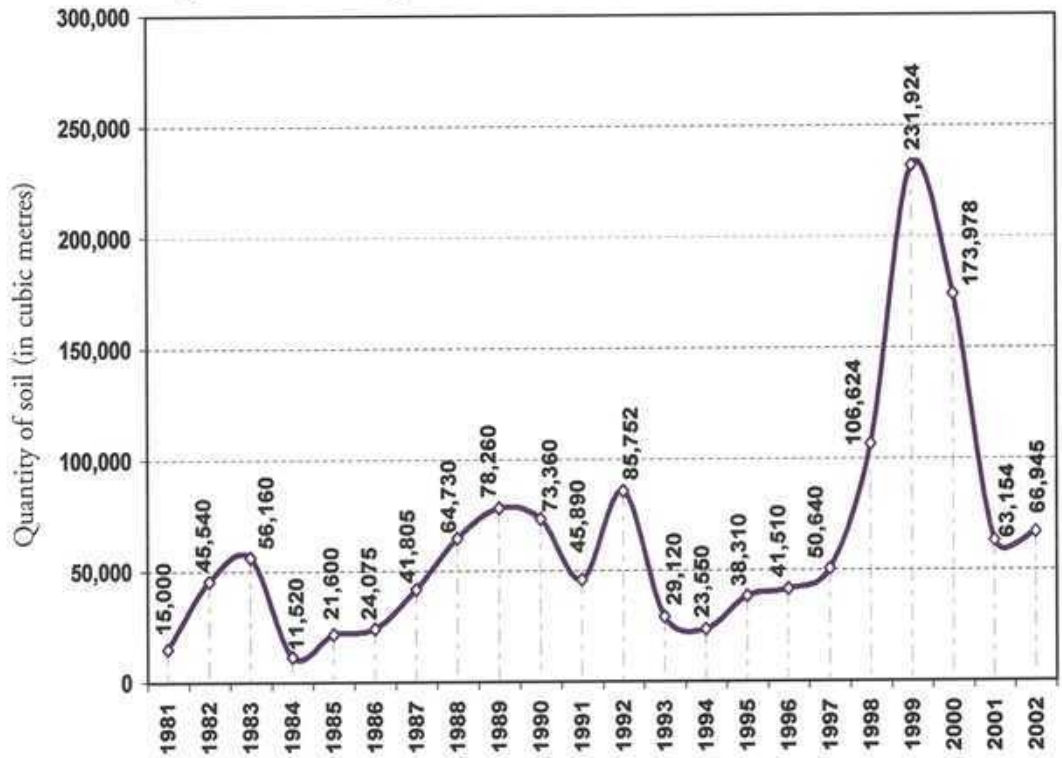
No.	Year	Number of Plants	Agricultural soil in Cubic Metres*
1	1981	3,000	15,000
2	1982	6,000	45,540
3	1983	101,887	56,160
4	1984	69,082	11,520
5	1985	31,428	21,600
6	1986	40,456	24,075
7	1987	44,660	41,805
8	1988	81,897	64,730
9	1989	92,613	78,260
10	1990	91,687	73,360
11	1991	289,311	45,890
12	1992	339,170	85,752
13	1993	144,490	29,120
14	1994	161,757	23,550
15	1995	227,514	38,310
16	1996	200,183	41,510
17	1997	162,700	50,640
18	1998	163,034	106,624
19	1999	197,258	231,924
20	2000	108,150	173,978
21	2001	69,160	63,154
22	2002	167,546	66,945
TOTAL		2,793,073	1,389,447

* During the period 1976-1981, agricultural soil and seedlings were provided according to availability .

Plants supplied to the public, 1981 – 2002



Agricultural soil provided to the public, 1981 – 2002



Agricultural soil transported from Al-Khawaneej area, 1988 – 2002, in cubic metres

Year	By the Section		By private companies, in cu. m	TOTAL in cu. m
	Section in cu. m	Assistance in cu. m		
1988	36,950	64,730	86,270	187,950
1989	62,350	78,260	56,210	196,820
1990	58,270	73,360	43,950	175,580
1991	65,730	45,890	248,472	360,092
1992	47,736	85,752	386,834	520,322
1993	40,940	29,120	143,280	213,340
1994	85,840	23,550	140,850	250,240
1995	74,490	38,310	245,140	357,940
1996	52,650	41,510	343,420	437,580
1997	25,780	50,640	608,300	684,720
1998	36,260	106,624	331,324	474,208
1999*	30,394	231,924	382,046	644,364
2000	37,632	173,978	356,257	567,867
2001	40,502	63,154	421,760	525,416
2002	79,830	66,945	391,752	538,527
TOTAL	775,354	1,173,747	4,185,865	6,134,966

* From 1999, the Environment Department was in charge of the transportation of soil for agricultural use.

Number of trees planted in residential areas

Item	Area	Number of Trees	Types of tree planted
1	Al-Rashidiya	2,447	Ghaf, *Margosa* (Neem) and Ficus
2	Al-Tawar	425	*Margosa* (Neem)
3	Al-Mamzar	125	*Margosa* (Neem)
4	Al-Jafliya	120	*Margosa* (Neem)
	TOTAL	3,117	

No.	Name of Booklet	Language	No.	Name of Book	Language
1	Mushrif Park	Ar. - Eng.	1	Dubai Parks	Ar. - Eng.
2	Al-Mamzar Park	Ar. - Eng.	2	Wild Cats in the Emirates	Ar. - Eng.
3	Al-Safa Park	Ar. - Eng.	3	Local Trees in the United Arab Emirates	Ar. - Eng.
4	Jumeirah Beach Park	Ar. - Eng.	4	Grass areas	Arabic
5	Al-Khor Park	Ar. - Eng.	5	Local Plants used in afforestation	Arabic
6	Dubai Ladies Club	Ar. - Eng.	6	Public Service Manual (prices of plants in the nurseries)	Arabic
7	Jet Skies	Ar. - Eng.	7	New decorative plants for landscaping projects	Arabic
8	Safety Manual for Visitors to the Beach	Ar. - Eng.	8	Children's City	Ar. - Eng.
9	Animal Colouring Booklet	Ar. - Eng.			
10	Zoo Animals Guide	Ar. - Eng.			
11	Miniature map of the Zoo	Ar. - Eng.			

Provision of Guidance

The guidance programme is intended to transfer knowledge of landscaping and gardening to the public living in the city as well as to farmers, of all nationalities, educational levels and age groups, so that they can use the knowledge in their gardens and farms. It also helps to encourage people to take care of public gardens.

The programme also provides a way in which staff of the Section can transfer their own experience to the public at large, and helps in promoting a greater awareness of the importance of parks, gardens and other open green spaces in terms of public health and protection of the environment.

The Section has made good use of the media to spread information and gives away plants to the public to encourage their participation in the general programming of trying to increase greenery in Dubai.

Another focus of activities has been involvement with schools. The Section has helped a number of schools to cultivate their own gardens and has carried out various other activities to introduce students to gardening. Schools have also been invited regularly to take part in the 'Tree Week' celebrations held over the course of the last 21 years.

Since 1987, the Section has issued 12 guidance leaflets, 11 booklets and 8 books, as shown in the following table.

Guidance Leaflets

Item	Name of Leaflet	Language
1	Fruit Fly	Arabic & English
2	Nematoda	Arabic
3	Annual and Perennial Flowers	Arabic & English
4	Maintenance of grass areas	Arabic & English
5	Indoor Plants	Arabic & English
6	Chrysanthemums	Arabic & English
7	Carnations	Arabic
8	Diseases and pests affecting grass areas	Arabic & English
9	Comprehensive eradication of horticultural pests	Arabic
10	Bougainvillea	Arabic
11	*Margosa* (Neem) Tree	Arabic
12	Citrus Leaves Tunnel Worms	Arabic & English

Development of Manpower

During the 1970s, the manpower used for horticulture was untrained and lacking in experience. From the beginning of the major planting campaign in 1982, however, the Section set out to attract new employees with both scientific training and practical experience.

For the first decade, the focus was on people with experience in planting orchards and decorative plants, and with a knowledge of safety procedures. Three of the newly-recruited employees were agronomists with Master's degrees and with practical experience who had previously held supervisory posts. All Agronomist posts were filled by people with experience in orchards or in agriculture. A special programme was devised to attract UAE citizens.

An extensive series of training courses for supervisors and gardeners was begun. Two month-long courses were held in 1989 and 1991 for supervisors and another, two-week, course for gardeners in 1989 while other courses were also held for engineers and for Unit Heads.

Seven graduates from the Agricultural College of the Emirates University were recruited, one eventually becoming the Head of the Section with the others holding posts of Heads of Unit and Agronomists. When recruited, these were given good training and their work was continually monitored, to encourage them to refine their skills. A process of over-rapid promotion was avoided.

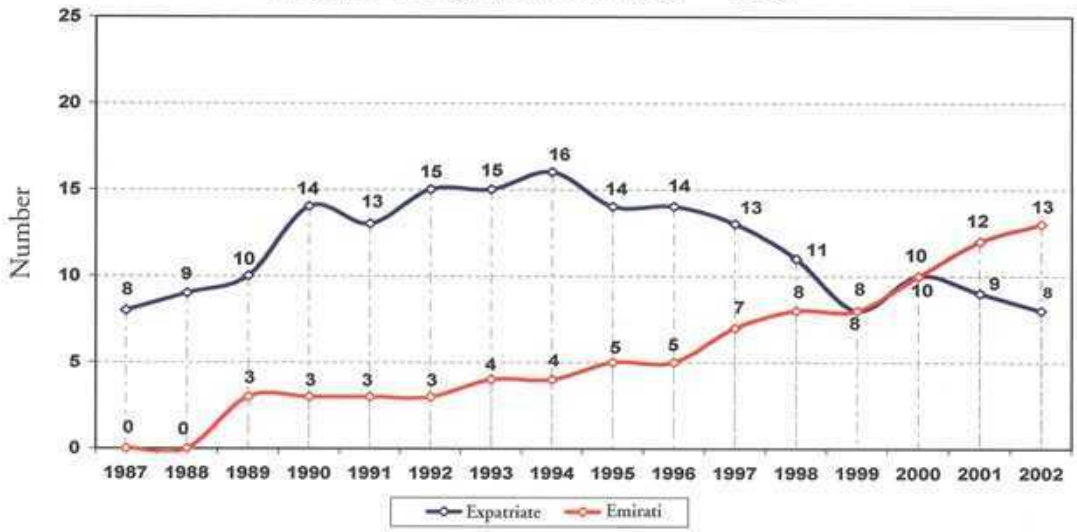


Training Course for Agriculture Graduates

Number of Agronomists in the Public Parks and Horticulture Department, 1987 – 2002

Year	Number of Agronomists				Comments
	Expatriate	Emirati	Total	Percentage of UAE citizens	
1987	8	-	8	0%	The increase in the level of Emiratisation, even though most posts require specialist training, shows the success of the programme. Section and Unit Head posts are only open to trained personnel.
1988	9	-	9	0%	
1989	10	3	13	23%	
1990	14	3	17	17.6%	
1991	13	3	16	18.7%	
1992	15	3	18	16.6%	
1993	15	4	19	21%	
1994	16	4	20	20%	
1995	14	5	19	26.3%	
1996	14	5	19	26.3%	
1997	13	7	20	35%	
1998	11	8	19	42%	
1999	8	8	16	50%	
2000	10	10	20	50%	
2001	9	12	21	57%	
2002	8	13	21	62%	

Number of Agronomists, 1987 – 2002

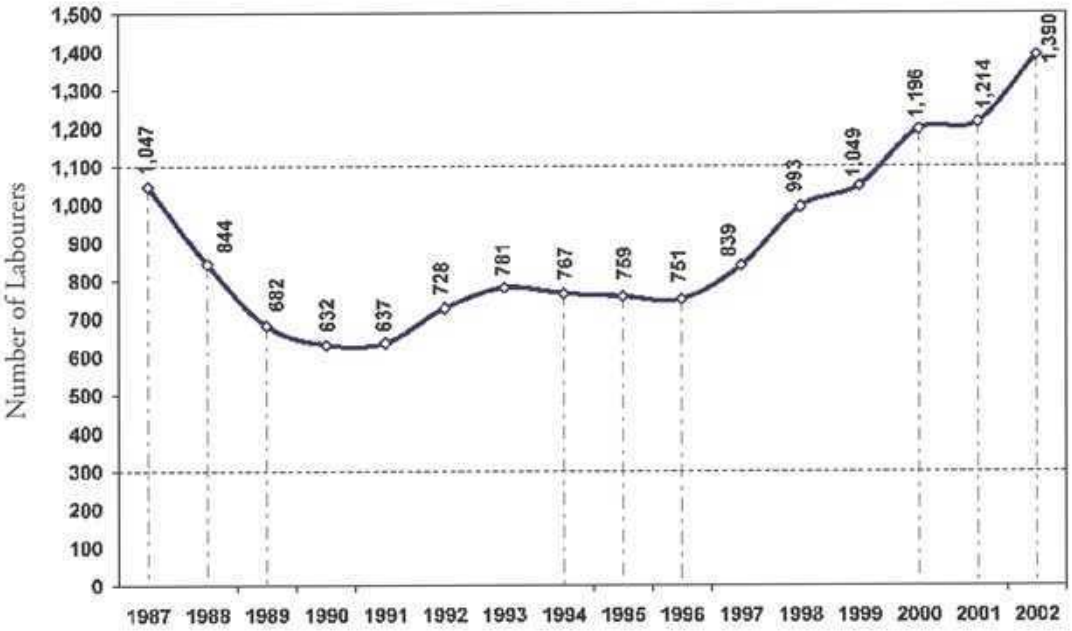


Following the introduction of an automated irrigation system, in the streets and parks of Dubai and the use of modern horticultural machinery, the Department was able to reduce the number of manual labourers from 1,047 in 1987 to 637 in 1991, a reduction of 39.2 per cent. This took place despite the rapid increase in the cultivated area over the same period, with the number of trees and shrubs increasing by 43 per cent, areas under grass by 20 per cent and the number of ground cover plants that had been planted by 245 per cent.

Manual labourers employed, 1987 – 2002

Year	Number of Labourers	Percentage of reduction compared to base year	Comments
1987	1,047	—	During this period the cultivated areas increased by 416.6%, palm trees increased by 274.4% and trees and shrubs increased by 192.1%.
1988	844	19.4%	
1989	682	34.9%	
1990	632	39.6%	
1991	637	38.2%	
1992	728	30.5%	
1993	781	25.4%	
1994	767	26.7%	
1995	759	27.5%	
1996	751	28.3%	
1997	839	19.9%	
1998	993	5.2%	
1999	1,049	Increase of 0.2%	
2000	1,196	Increase of 14.2%	
2001	1,214	Increase of 16%	
2002	1,390	Increase of 14.5%	

Manual Labourers employed, 1987 – 2002



This allowed the Section to make older manual labourers redundant, helping to increase productivity and, thence, the costs of maintenance.

Salaries and benefits paid by the Section fell from 17,017,822 dirhams in 1987 to 14,396,049 dirhams in 1990 despite the fact that in 1990 salaries were increased for employees in the Department and they were also provided with a housing allowance, at a rate of 60% of their basic salary as well as a transport allowance.

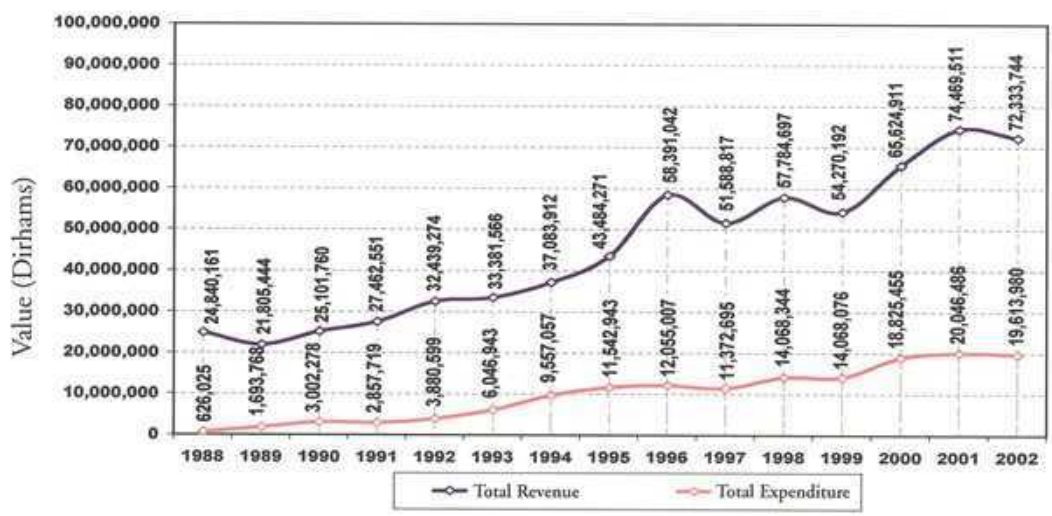
Vehicles and machinery in the Public Parks and Horticulture Department, 1992 – 2002

Item	Year	Number of Vehicles and other Machinery	Item	Year	Number of Vehicles and other Machinery
1	1992	29	7	1998	158
2	1993	31	8	1999	187
3	1994	50	9	2000	194
4	1995	63	10	2001	222
5	1996	89	11	2002	236
6	1997	127			

Public Parks and Horticulture Department Expenditure and Revenue, by Chapter, 1988 – 2002 (in dirhams)

Year	Salaries	Current Expenditure	Capital Expenditure	Total Expenditure	Total Revenue
1988	18,727,377	3,541,321	2,571,463	24,840,161	626,025
1989	16,735,668	4,348,955	720,821	21,805,444	1,693,768
1990	18,133,049	4,724,004	2,244,707	25,101,760	3,002,278
1991	20,846,831	5,653,449	962,271	27,462,551	2,857,719
1992	22,565,212	5,832,809	4,041,253	32,439,274	3,880,599
1993	26,104,564	6,832,703	444,299	33,381,566	6,046,943
1994	29,560,982	5,794,968	1,727,962	37,083,912	9,557,057
1995	32,014,666	8,261,793	3,207,812	43,484,271	11,542,943
1996	33,072,965	11,512,248	13,805,829	58,391,042	12,055,007
1997	35,480,985	10,550,571	5,557,261	51,588,817	11,372,694.72
1998	39,391,327.77	12,604,718.69	5,788,651.04	57,784,697.50	14,068,343.94
1999	39,488,261.68	11,635,163.10	3,146,767.52	54,270,192.30	14,068,076.49
2000	42,368,105.80	19,643,251.45	3,613,553.76	65,624,911.01	18,825,454.80
2001	47,005,678.00	18,453,724.94	9,010,108.22	74,469,511.38	20,046,486.03
2002	47,957,992.00	19,740,548.37	4,635,202.71	72,333,744.06	19,613,980.26
Total	469,453,665.45	149,130,227.55	61,477,961.25	680,061,854.25	149,257,375.24

Public Parks and Horticulture Department Expenditure and Revenue, 1988 – 2002



Vehicles and Machinery

The increasing workload of the Department was matched by an increase in the number of its vehicles and other machinery. These are used to transport Agronomists and Supervisors to and from locations as well as to transport labourers, agricultural tools, fertilisers, seedlings, agricultural soil and agricultural waste, as well as for other purposes. The following table, on page 560, illustrates the increase in number of vehicles and machinery used by the Department.

Revenue and Expenditure

The expenditure of the Public Parks and Horticulture Department includes the cost of manpower, including salaries, allowances, housing benefit and transportation. This amounts to around 75-80% of the total expenditure. The reduction in manpower after the introduction of modern horticultural techniques led to a significant reduction in the Department's total expenditure as illustrated in the table below, on page 561.

Sources of revenue derive from the implementation of a number of Municipal Ordinances covering, for example, payment of the value of damage resulting from traffic accidents, damage resulting from companies working in cultivated areas, revenue from sale of seedlings, revenue from sale of Rodus fodder and other revenues collected from companies violating Municipal Ordinances.

Total revenues are low in comparison to expenditure, but this is compensated for by the benefits to the community of the landscaping work carried out in the city and in public parks, the cultivation of roadsides and central reservations, the cultivation of forests and nature reserves. Some of the Horticulture Section's revenue from sale of seedlings and fodder from the Rodus farm was transferred to the Horticulture Services Section after this was established in 1997.

Number	Name of Park	Year of Inauguration	Year of Re-development	Total Area (in sq.m.)
1	Mushrif	1974	1989	1,250,000
2	Al-Safa	1975	1992	640,000
3	Jumeirah Beach	1989	-	131,370
4	Al-Mamzar	1994	-	990,000
5	Al-Khor	1994	-	960,000

Main Residential Parks and Squares in residential areas of Dubai, 1982 – 2002, showing year completed

No.	Name of Park	Year	No.	Name of Park	Year	No.	Name of Park	Year
1	Ittihad	1982	8	Hamriyyah	1988	15	Al-Tawar	1997
2	Sheraton	1983	9	Al-Rashidiya	1988	16	Oud Meitha	1998
3	Burger King	1983	10	The Memorial	1988	17	Hor Al-Anz	1998
4	Nayif	1985	11	Khazan	1989	18	Karamah	1999
5	Al-Jamal	1986	12	Burj Nahar	1993	19	Shu'la	2000
6	Al-Wasl	1987	13	Open Beach	1994	20	Nad Shema	2001
7	Airport	1987	14	Umm Suqeim	1996			

21 public squares were developed during 1987 and 2002, as illustrated in the following table:

No.	Name of Square	No.	Name of Square	No.	Name of Square
1	Khawaneej	8	Hamriyyah (1)	15	Al-Quoz (1)
2	Mehaisina	9	Hamriyyah (2)	16	Al-Quoz (2)
3	Rashidiya (1)	10	Umm Suqeim (1)	17	Jumeirah (1)
4	Rashidiya (2)	11	Umm Suqeim (2)	18	Jumeirah (2)
5	Rashidiya (3)	12	Bed'a	19	Jumeirah (3)
6	Al-Tawar	13	Jafliah	20	Hadhbiyah
7	Muraggabat	14	Al-Mankhool	21	Al-Safa

Development of Public Parks in Dubai

Over the past twenty years, there has been a lot of progress made in terms of public parks in Dubai. Prior to 1980, there were only two parks, Mushrif and Al-Safa, opened in 1974 and 1975 respectively. Since 1982, however, there has been considerable effort expended on identifying suitable locations for new parks, and then on establishing them, including some in the city centre, and squares.

Between 1982 and 2002, twenty new parks have been established as well as 21 new squares. Other work included a complete re-design of Al-Safa Park, with the construction of a hill and

new lakes.

The following table summarises details of the most important and largest public parks in the Emirate of Dubai.

There are still areas on the structural plan for the Emirate of Dubai that are allocated for parks and landscaping. By 2005 the number of parks is expected to increase from 21 to 29, with a further 21 squares. These have all contributed to the earning of a new title for Dubai of City of Parks, to add to those which it has already earned, such as Pearl the Gulf, Most Beautiful Arab City and City of Investment and Tourism.

The parks have a wide variety of attractions for the public. Excellently-located, some adjoining the Arabian Gulf or the Creek, they each have different designs, derived from their architectural, landscaping or natural features.

The plants are kept well-maintained, through a programme designed so that it is carried out when the parks are not open to the public, while the parks themselves and their facilities are regularly cleaned.

Another attraction is the wide diversity of planting, including trees, ornamental trees, fruit trees, shrubs, ground cover plants, ornamental bulbs, succulents, thorny plants, perennial and annual flowers. Good use has been made of the 900 local plant species found within the Municipality Nurseries.

The Khor Dubai Park (Creek Park) has a particularly innovative planting programme, with a total of 238 individual species, some of which have been introduced to the Arabian Gulf for the first time, like Royal Palm, African Oil Palm, Pento Palm and Sykes' Palm, in addition to many decorative trees such as *Spathodea, Araucaria, Adansonia, Chorisia* and many other plants. Particularly notable are the succulents and spine-bearing plants found in the rock garden.

Watering is done through automated systems, which also distribute fertilisers, a feature unique to Dubai.

The facilities available for visitors are also very varied, including children's play areas, lakes, beaches, swimming pools, barbeque areas, sports training areas (Al-Safa Park), sports fields (football, volleyball, basketball, tennis, 18-hole golf), electronic games halls, theatres, train tours within the parks, bikes for touring the parks, directional signs, internal radio broadcasts, toilets

Some of the permanent attractions in the various parks are detailed in this table.

Item	Name of Park	Permanent Activities
1	Al-Mushrif	Swimming pools (one for men, another for women and children), Global Village, recreational games, riding horses and camels, circular train, barbeque areas, date-palm plantation, flower garden, mosque, park nursery, lavatories for men and women, drinking water coolers, restaurants, cafeterias and canteens, seating areas, night-time lighting, facilities for the disabled, car parks inside and outside the park, direction signs and tennis court.

2	Al-Mamzar	Five beaches for swimming and walking, equipped with five lifeguard towers, changing rooms, umbrellas, swimming pools, including one large pool and three smaller pools, 15 chalets (10 large and 5 small), Park Tower, play area, cafeteria, canteens, traditional cafe', barbeque areas, circular train, lavatories for men and women, skating area, drinking water coolers, night-time lighting, directional signs, seating areas, facilities for the disabled, car parks inside and outside the park and bicycles.
3	Khor Dubai Park (Creek Park)	Theatre, cable cars, park train, bicycles, barbeque areas, lavatories for men and women, drinking water coolers, boats for sailing in Dubai Creek, hot air balloon, restaurants and canteens, Al-Aflaj Heritage Village, golf course and clubhouse, beach theatre, facilities for the disabled, night-time lighting, seating areas, car parks inside and outside the park, directional signs, Snow World and Children's City.
4	Al-Safa	A Sports Playground which includes a football pitch, volleyball, basketball, tennis courts, an area for track and field events, a waterfall and lakes area, fixed play equipment area, electronic games area, Traffic Village, circular train, iron train, bicycles for hire, restaurants and canteens, lavatories for men and women, facilities for the disabled, Park Nursery, seating areas, night-time lighting, car parks outside the park, directional signs, jogging & walking track outside the park fence, seating outside the park fence and a special ladies park.a
5	Jumeirah Beach	A swimming beach equipped with safety features and lifeguard towers, changing rooms, a theatre, fixed play equipment area, volleyball courts, restaurants and canteens, lavatories for men and women, drinking water coolers, facilities for the disabled, night-time lighting, seating areas, car parks inside and outside the park and directional signs.

and chalets that can be rented for use during daylight hours.

The needs of the disabled are also catered for, with special car-parks, access ramps, lavatories and recreational facilities.

The parks have been designed in such a way that not only can they be updated but also they have special areas that can be used for events staged as part of the Dubai Shopping Festival, like Snow City and the Spaceship. Such events are planned by a special office that has been given the responsibility for devising and organising them.

Events held in the parks during the 2000 and 2001 Shopping Festivals contributed in an important way to the success of the festivals while the Department was recognised for its achievements by winning the Excellence Award for three consecutive years between 2000 and 2002.

All of the parks have restaurants and cafeterias with mosques and praying areas in most, especially the public parks.

Recreational equipment available in the parks

One of the most important aspects when play equipment is chosen for the parks is that related to the health and safety of visitors, especially children. The equipment is also selected so as to provide a range of options for all age groups and family members.



Inside the Zoo



A Socotra Cormorant in the Zoo

The Zoo Section

Dubai Zoo has two units, the Animal Care Unit and the Administrative Services Unit. It is responsible for looking after the animals and for operating zoo facilities.

The origins of Dubai Zoo date back to 1967, when an Austrian expatriate, Otto J. Bulart, obtained permission from the late Ruler of Dubai, HH Sheikh Rashid bin Saeed Al Maktoum, to construct a special enclosure for the keeping of wild animals on a 2-hectare plot in Jumeirah. At the time, the area was still largely desert, with a few date palms and naturally-occurring trees, and only a few European expatriates then lived in the vicinity.

The first animals in the Zoo included some big cats and monkeys as well as a few ungulates (animals with hooves) and a small aquarium. Bulart and his son, along with a few friends, allowed visitors to come and see the collection, and continued to run the fledgling Zoo until 1971, when it was taken over by the Municipality.

Although the district of Jumeirah began to develop, the Municipality was able to enlarge and to re-design the Zoo between 1984 and 1989. From that time until 2002, although some further work was carried out, it was limited in scope because of plans for a new Zoo to be built in the Al Mushrif area. It is due to be built during the 2006-2010 Municipality Five Year Plan.



Siberian Leopard

The Zoo is one of the oldest in the whole of the Arabian Peninsula and was the first in the Arab world to successfully breed chimpanzees and Arabian wildcats. It is also among the few zoos in the world to have bred in captivity Socotra Cormorants, a near-endemic for the Emirates, the Yellow-legged Gull, the Great Black-headed Gull and the African Spoonbill.

The Zoo is now a Section within the Public Parks and Horticulture Department and is run by a specialist team headed by a leading zoologist, who has been able to establish a very diverse collection, despite the limitations imposed by the Zoo's size.

Covering an area of 1.76 hectares, the Zoo in 2001 had a collection of 157 species, with a total of 1001 animals, including 228 mammals, 415 birds, 338 reptiles and 20 aquatic species. At† present the zoo houses 141 species of vertebrates that included 48 species of mammals with 163 specimens, 65 species of birds with 416 specimens and 28 species of reptiles with 192 specimens.

The Zoo has an important collection of species from the Arabian region, including Arabian Gazelle, Sand Cat, Arabian Wildcat, Arabian and Rueppell's Fox, Arabian Wolf, Striped Hyaena, Greater and Lesser Flamingo, Black-headed, Sooty and Yellow-legged Gulls, Tawny and Bonelli's Eagles, Sand Boa, Hissing Sand Snake, Saw-scaled and Sand Vipers, Desert Monitor and Oscillated Skink.

Other animals, from other parts of the world, include Bengal Tiger, Siberian Tiger, Somali Leopard, Eastern Lowland Gorilla, Chimpanzee, Rhesus, Bonnet, Green and Dent's

Monkeys, Reticulated Giraffe, Indian and Reticulated Pythons, Australian Carpet Python, Ball Python, Common Iguana, African Spur-thighed, Greek, Leopard and Indian Star Tortoises and American Red-eared Terrapin.

In 1997, a special gorilla house, appropriately air-conditioned, was built to resemble their natural habitat, with tree trunks, branches and hanging ropes. A grassed enclosure was added in 2001, when air-conditioned units for housing snakes were also built.

The Zoo has its own small lecture theatre, capable of seating 50 people, and a small library, where lectures are given to visiting students and other visitors.

The Zoo has been able to develop close co-operation with a number of other Zoos, with whom it has exchanged animals, including those in Al Ain, Riyadh, Kuwait, Qatar, Damascus, Mashad in Iran, Dhaka Zoo in Bangladesh, Colombo Zoo in Sri Lanka and others in Singapore, Stuttgart in Germany and Amsterdam in Holland and has won recognition as an important centre of scientific research.

In 1993, it became the first Zoo in the Middle East to be a member of the World Association of Zoos and Aquariums, WAZA.

It also acts as a refuge and shelter for animals confiscated from people violating laws and local ordinances or which are confiscated when passing through the UAE in transit. These latter are kept at the zoo until the status is resolved.

The Zoo also frequently receives animals formerly kept as household pets when their owners are no longer able or willing to take care of them.

Legal Affairs Department

Laws and the legal system are among the most important tools in organising societies and in helping them to achieve comprehensive and sustainable development. They also help to make it possible to translate policies, plans and programmes into action.

The origins of the Legal Affairs Department of Dubai Municipality date back to 10th January 1982, when a legal consultant was appointed with the task of drafting the Municipal Ordinances and Administrative Directives issued by the Municipality in addition to providing legal opinions and advice, as illustrated in Chart No. 1.

Chart No. 1

Director - General

Legal Consultant

With the increase in the Municipality's work arising out of the growth of Dubai, it became necessary to establish a formal legal unit. On 24th November 1988, therefore, Administrative Directive No. 288/1988 established the Legal Affairs Office, which was directly linked to the office of the Director General, as shown in Chart No. 2.

Chart No. 2

Director - General

Legal Affairs Office

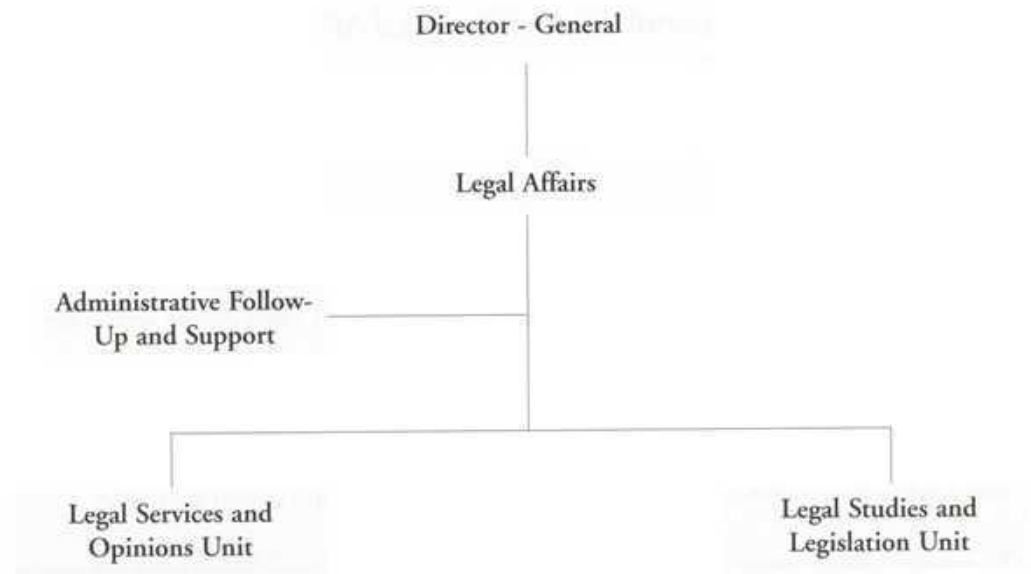
On 25th May 1991, Administrative Directive No. 146/1991 laid down the organisation chart for the Legal Affairs Office, bringing all legal work and duties of a similar kind under a single technical and administrative structure and providing a basis for the provision of comprehensive legal services for the Municipality, as shown in Chart No. 3.

Chart No. 3



On 22nd July 1997, the units in the Legal Affairs Office were merged in accordance with the terms of Administrative Directive No. 1000/1997, which established a new organisation chart and laid down the duties of the office, as shown in Chart No. 4.

Chart No. 4



Further expansion of the role of legal affairs within the Municipality followed, requiring the addition of more staff. On 5th November 1998, Administrative Directive No. 309/1998 raised the Office to the level of a Department, this being followed on 18th April 2000 by Administrative Directive No. 94/2000 which approved a new organisation chart and specified the duties of the new Department, as shown in Chart No. 5.

Chart No. 5



The main duties and responsibilities of the Legal Affairs Department and of its sections are as follows:

1- To provide consultation and legal services in an effective manner to all organisational units of the Municipality.

2- To suggest and implement the Municipality's policies, rules and directives relating to legislative, legal and judicial matters or other subjects relating to the Municipality.

3- To propose the annual budget, plans and work programmes for Legal Affairs and to implement them once they have been approved.

4- To study projects pertaining to laws, orders, directives and other legislation relating to the Municipality's fields of expertise such as technical, administrative and organisational and other fields, in accordance with existing laws and other local and federal legislation.

5- To suggest, prepare, draft and review projects pertaining to laws and Municipal Ordinances,

by-laws, new organisational and administrative directives designed to regulate various aspects of work within the Municipality in addition to developing and updating existing legislation.

6- To carry out specialised legal studies and research according to the needs of the Municipality, in response to instructions issued.

7- To receive enquiries and requests from organisational units of the Municipality on issues and problems they face with regard to their normal duties, as well as handling enquiries received from other offices, establishments and government organisations and to prepare the appropriate responses on legal aspects.

8- To receive complaints submitted by employees with respect to decisions made by discipline committees within the Municipality and to offer legal opinions of them, and to study complaints from employees and from clients of the Municipality and to offer a legal opinion on cases referred to the Department by the Director General or by another organisational unit, so that action may be taken, or in order to offer legal opinions.

9- To carry out investigations relating to staff discipline in the event of any violation of Municipality internal rules and regulations.

10- To carry out an administrative investigation of any incident relating to matters submitted to the Legal Affairs Department.

11- To assume responsibility for dealing with all legal cases in which the Municipality is either plaintiff or defendant, or those against any of its employees for actions which take place while they are carrying out their duties. This also includes studying the cases, preparation of reports and briefs in this respect as well as preparing the declarations and briefs which clarify the Municipality's opinion and position, as well as representing the Municipality before the judicial authorities and affiliated parties in all legal actions for or against the Municipality and carrying out all procedures and necessary legal steps to safeguard the rights and interests of the Municipality and its employees.

12- To prepare, draft and revise all contracts and agreements entered into by the Municipality with other parties, excluding standard contracts relating to Municipality projects, requirements and procurements.

13- To undertake the legal translation of legislation and rules issued by the Municipality, as well as legal correspondence which requires translation into other languages, in accordance with the relevant directives.

14- To supply other organisational units with federal and local legislation relating to their work, in coordination with the Administrative Affairs Department, and to post the Municipality's legislation on the internet through the Municipality's website as well as updating this information periodically, in coordination with the Information Technology Department.

15- To co-ordinate with legal units in other UAE government offices, organisations and establishments on all legal issues and matters relating to the Municipality's duties and responsibilities.

16- To take part in the work of committees, meetings and seminars, both at home and overseas, in accordance with instructions issued by the Director General.

17- To propose suitable training courses for employees in the Legal Affairs Department in subjects related to their duties.

18- To calculate the annual cost of the Legal Affairs Department according to the Municipality's rules, in coordination with the organisational unit in the Municipality responsible for cost calculations.

19- To implement approved performance indicators to measure the Legal Affairs Department's performance and to carry out an annual review of these indicators in coordination with the relevant specialised unit in the Municipality.

20- To prepare periodical reports on the work carried out by the Legal Affairs Department, these to identify achievements and problems as well as to suggest ways of improving performance, these reports to be submitted to the Director General according to Municipality rules.

21- To perform any other related duties.

Legislation and Legal Studies Section

The specific tasks of this Section include those of studying and preparing projects pertaining to laws, municipal ordinances, by-laws, administrative regulations and directives and other legislation or rules designed to organise all administrative and technical aspects of work in the Municipality.

It also carries out specialised legal studies and research related to the Municipality's activities and identifies any inadequacies or conflicts in legislation implemented by the Municipality.

Legal Services and Opinion Section

This Section provides consultancy advice and legal opinions on subjects referred to the Director General and to organisational units of the Municipality or to other Government offices and public bodies on matters related to the Municipality and its work.

It also receives written complaints from employees in respect of decisions issued by Municipality disciplinary committees and provides legal opinions on them, and also provides legal opinions or takes action on complaints from employees and Municipality customers.

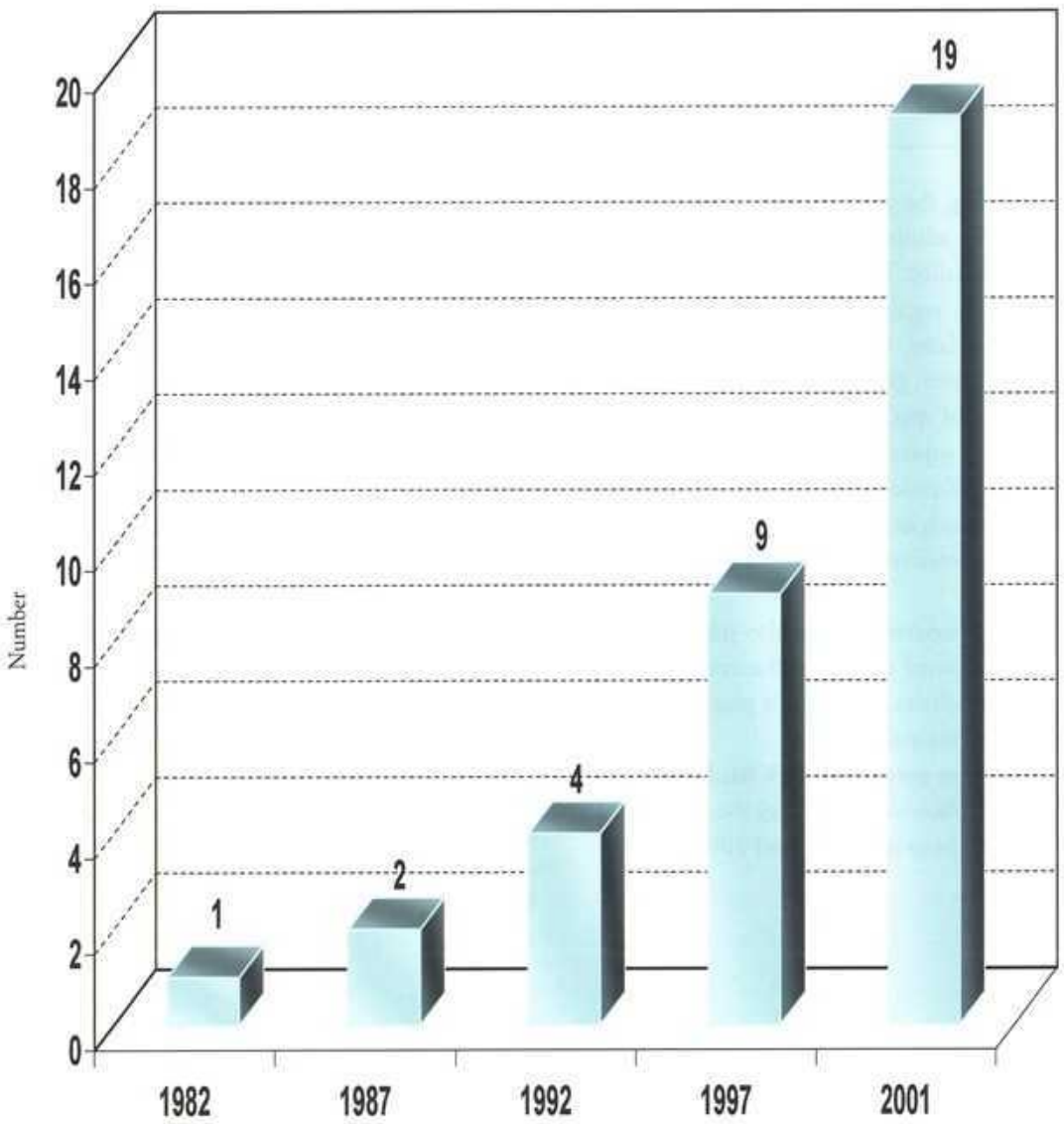
Lawsuits and Investigations Section

This Section represents the Municipality in the judicial system in all cases in which the Municipality is either plaintiff or defendant, attending court sessions and taking all necessary

procedures to safeguard the rights and interests of the Municipality and its employees. It also follows up on the implementation of judgements and directives issued in favour of the Municipality. It is, further, responsible for initiating and carrying out all internal investigations related to violation of rules and regulations by Municipality employees.

The growth in the complexity of the Department's organisation chart has been parallelled by an increase in its staff, in order to meet the growing demand for its services. By 2001, the Department had 27 employees, of whom 19 were specialist legal personnel.

Number of legal staff in the Department, 1982 – 2001



Achievements

Like many other organisational units in the Municipality, the Legal Affairs Department has achieved a considerable amount since it was established, and it has made a real contribution to the improvement of the Municipality's performance.

• Its formulation and drafting of laws, municipal ordinances, directives and by-laws, in particular those relating to external and internal customer services, has been of a standard in keeping with the development achieved by Dubai and the rest of the UAE in all fields.

By the end of 2000, the following work had been completed.

Type of Legislation	Municipal Ordinances	Administrative Directives
Number	140	2,097

Among the achievements of the Department has been the preparing and drafting of legislation to administer, organise and safeguard the utilities and public services run by the Municipality. This legislation has dealt with topics such as the classification and rationing of land use, regulation of construction activities, the protection of the infrastructure and of agricultural land, maintaining cleanliness of public areas, drainage networks, roads, bridges and underpasses, general public health issues, the monitoring of foodstuffs and fertilisers and the setting up of specialist census centres.

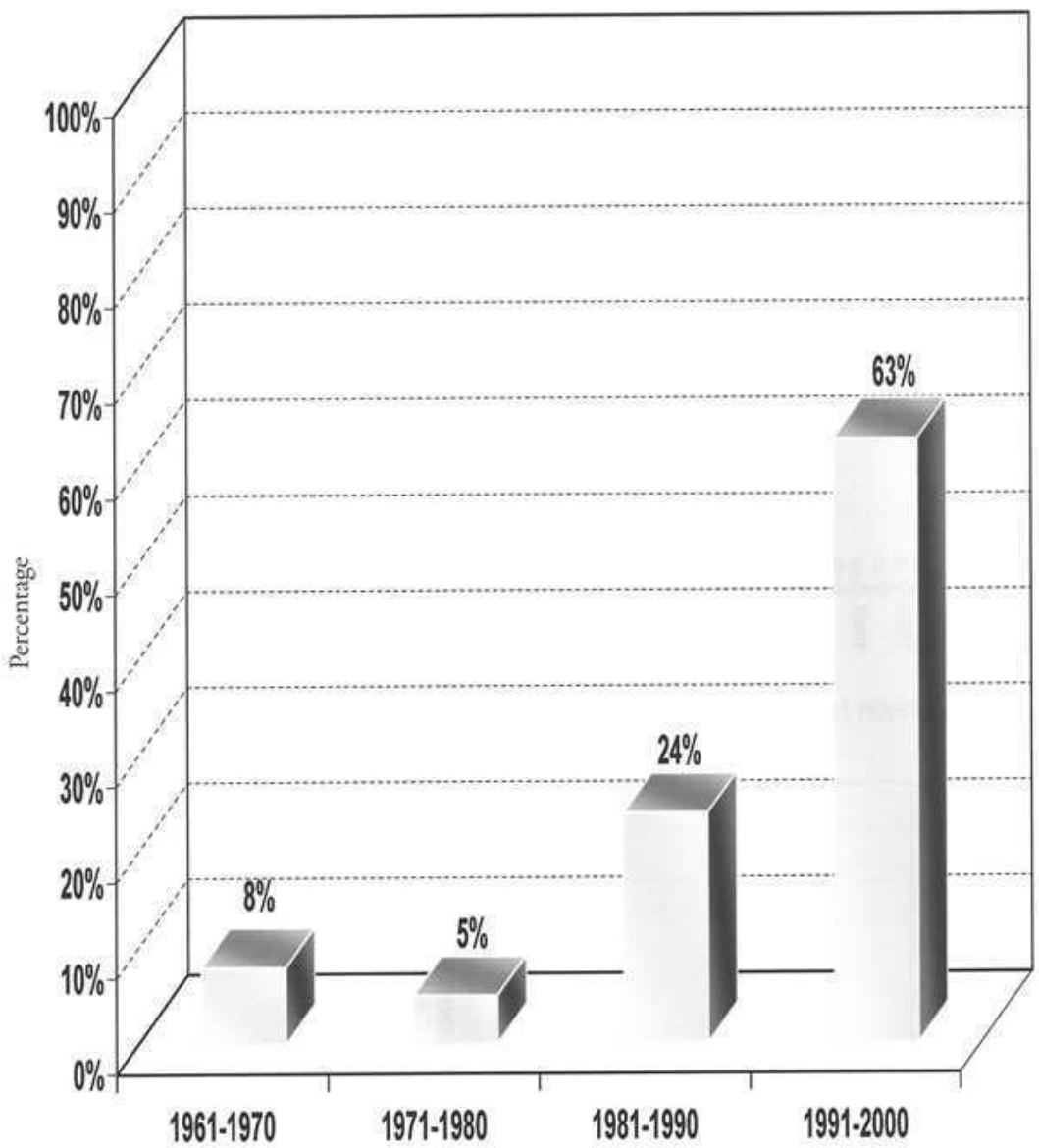
Other topics dealt with have included the organisation and maintenance of public transport, the classification of economic activities, licencing of professionals, craftsmen and specialised activities such as engineering consultancy and construction, hotel work, licencing and monitoring of co-operatives and cultural and charitable organisations and the organistion of the public markets.

The Department has also made suggestions for the amendment of various other legislation and proposed the establishment of the Legal Committee of the Secretariat-General of the UAE Municipalities, which now plays an important role in unifying legislation throughout the country's Municipalities.

Another part of its work has been the provision of advice to external private legal offices.

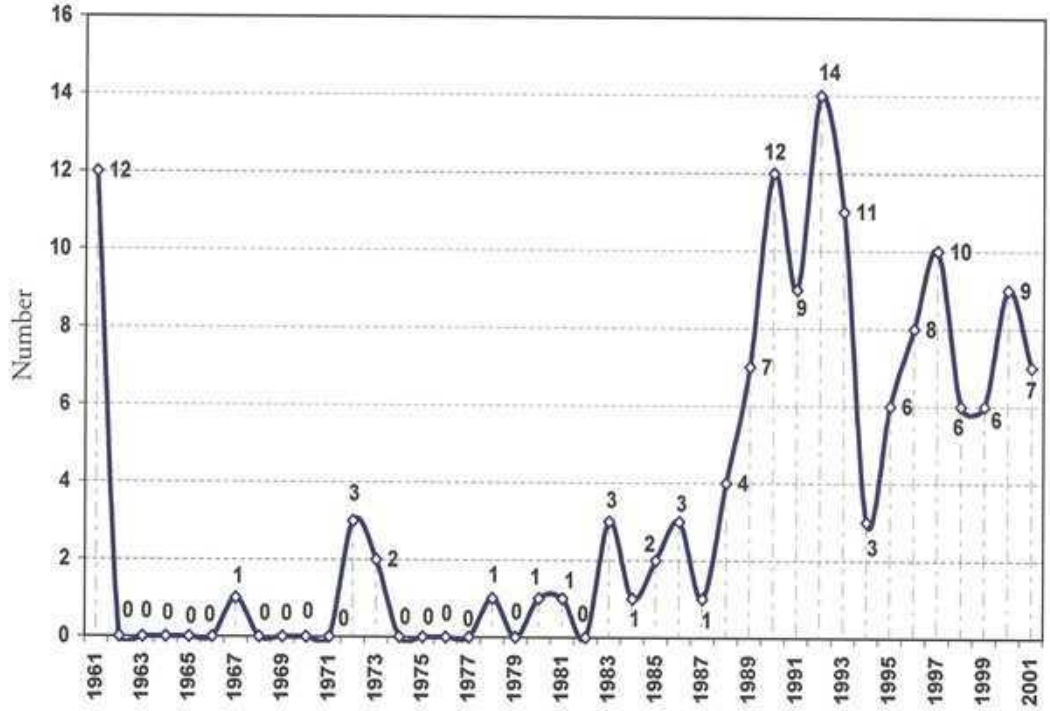
The following table gives the number of agreements, contracts, legal opinions and complaints handled between 1995 and 2001.

Municipal Ordinances, 1961 – 2000

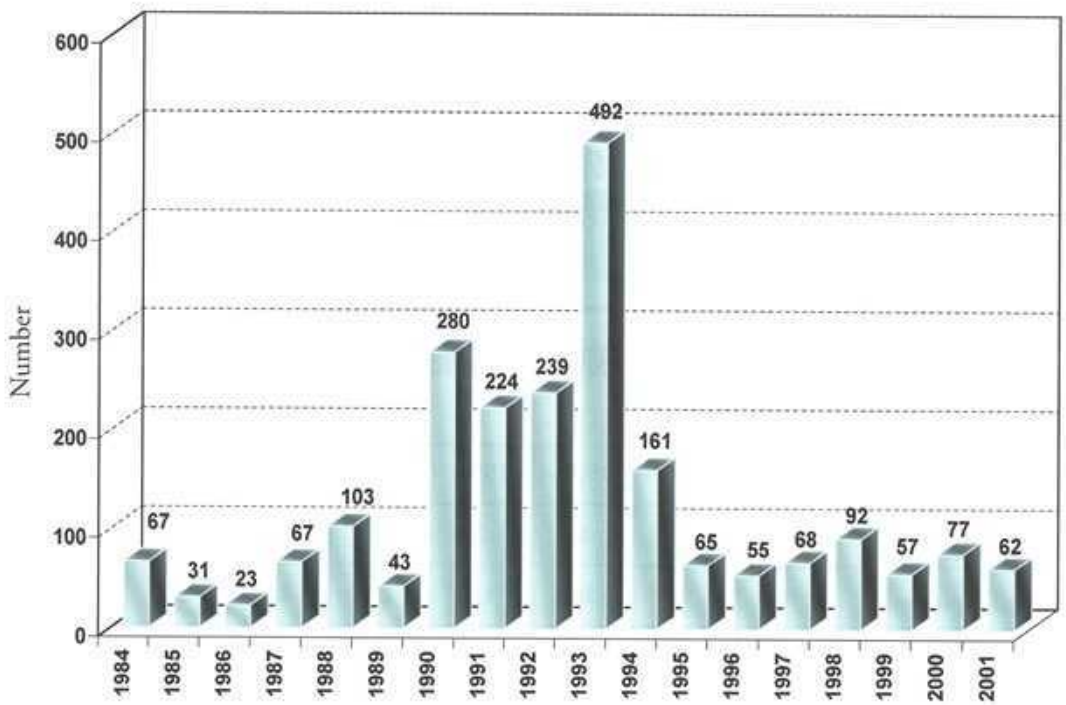


Subject	1995	1995	1997	1998	1999	2000	2001	Total
Agreements and Contracts	5	1	4	2	4	4	3	23
Legal Opinions	9	9	26	13	27	48	30	162
Complaints	1	-	2	5	5	4	2	19

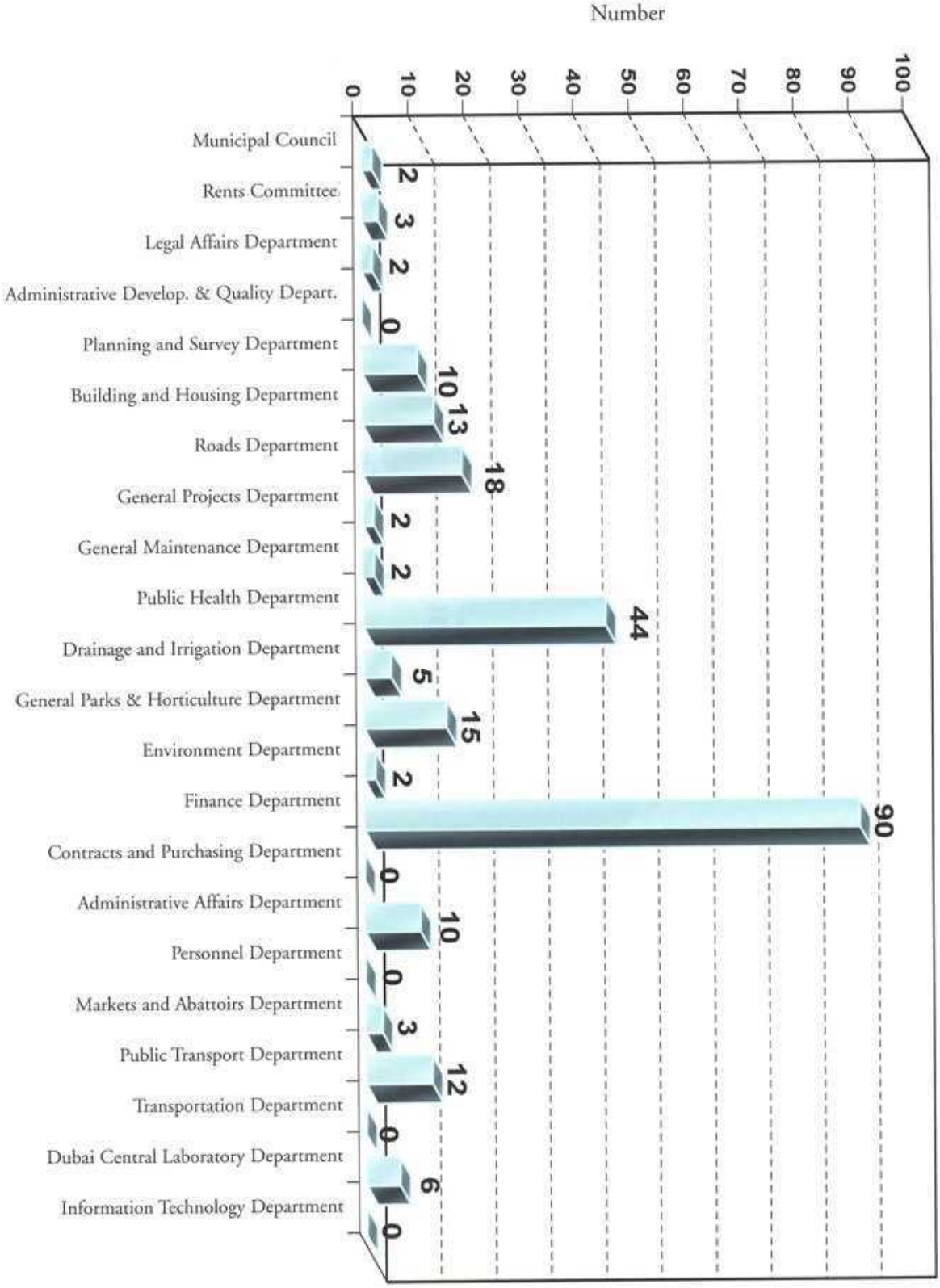
Comparison between the number of Municipal Ordinances according to year, 1961 – 2001



Comparison between the numbers of Administrative Directives according to year, 1984 – 2001



Comparison between the number of Municipal Ordinances according to Municipality Departments, 1961 – 2001




Comparison between the numbers of Administrative Directives according to Municipality Departments, 1961 – 2001
Number
0
50
100
150
200
250
300
350
Legal Affairs Department
85
Administrative Develop. & Quality Depart.
164
Planning and Survey Department
195
Building and Housing Department
162
Roads Department
151
General Maintenance Department
10
Public Health Department
217
Drainage and Irrigation Department
106
General Parks and Horticulture Depart.
86
Environment Department
10
Finance Department
210
Contracts and Purchasing Department
133
Administrative Affairs Department
169
Personnel Department
308
Markets and Abattoirs Department
11
Transportation Department
74
Dubai Central Laboratory Department
36
Information Technology Department
72

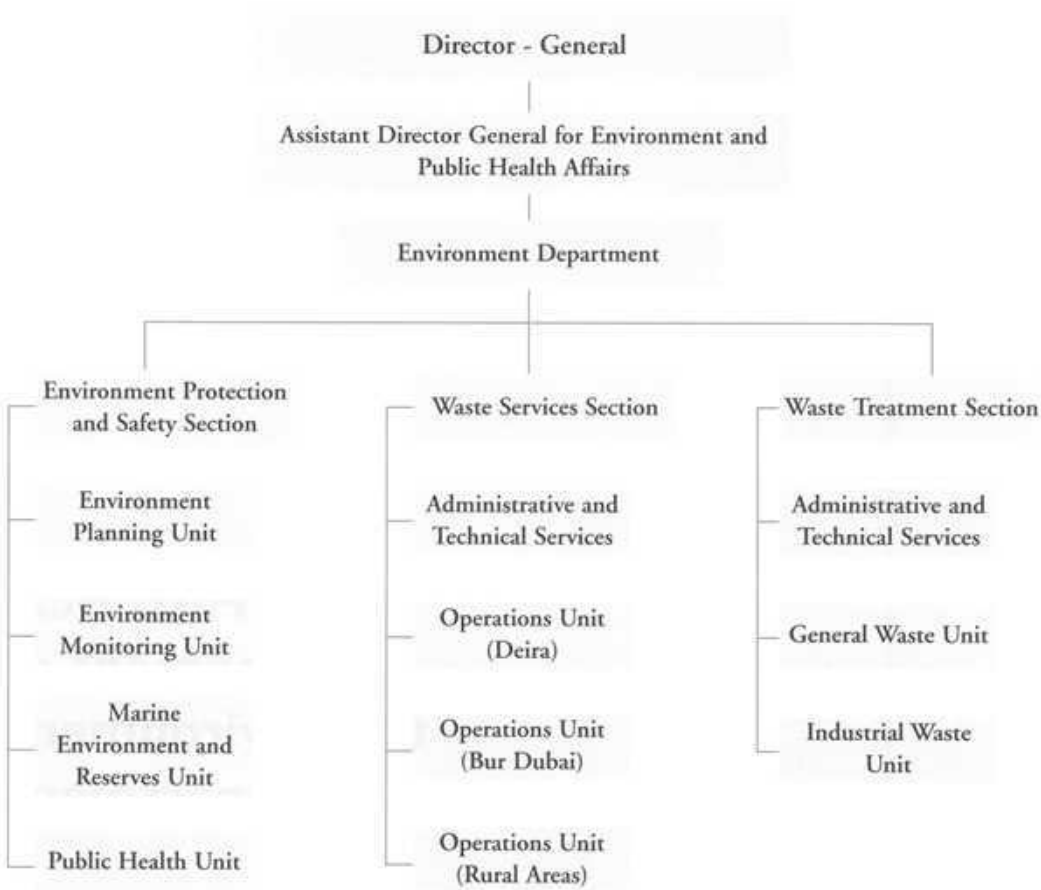
Historical Development of the Environment Department

The United Arab Emirates has paid special attention to the protection of its environment through the creation of a number of bodies, at both a federal and a local level. Among these are several units of the Dubai Municipality.

The Municipality has sought to develop programmes to monitor the state of the environment on a regular basis and to establish and implement by-laws and other regulations to limit any adverse impact on the environment of Dubai. Its objective is to identify ways in which, in contrast, environmental protection can be enhanced.

The Municipality's Environment Department was formally established in 1998, with the removal of the Environment Protection and Safety Section and the Waste Services Section from the Public Health Department. This step was undertaken so as to have a dedicated department dealing with environmental issues that could not only improve the services offered to the public but could also seek to bring about a change in existing practices where these had an adverse impact on the environment. The Department was also given the tasks of increasing public awareness and of being responsible for pollution control. The organisation chart for the Department, shown in Chart No. 1, was laid down in Administrative Directive No. 66 for 1999.

Chart No. 1. Organisation Chart of the Environment Department in 1999



To undertake its tasks of environmental protection, preventing pollution and ensuring sustainable exploitation of natural resources, the main Environment Centre, in Bani Yas Street, has a total of 22 branch offices throughout the Emirate. There are also five sites for back-filling with waste and a central compound for the treatment of all hazardous waste arising from industrial activities as well as of medical waste. The Department has a fleet of around 300 vehicles, primarily used for cleaning services and for the removal and transportation of waste.

One important component of the environment protection programme of the Municipality is, of course, those members of its workforce whose tasks involve the maintaining of general cleanliness. This workforce was initially part of the Waste Services Section, part of the Public Health Department, as was the Environment Protection and Safety Section until the Environment Department was established in 1998. The following table gives details of the development of the workforce involved in environmental duties over the course of the last three decades.

Environment-related workforce, 1970 – 2002

Year	1970*	1980*	1990*	1999	2000	2001	2002
Total employees (excluding manual labour)	40	317	724	516	558	542	598
Emiratis	6	10	42	39	56	67	58
Percentage of Emiratis	15%	3.2%	5.8%	7.6%	10.3%	12.4%	9.7%
Number of Labourers	38**	961	1,971	2,048	2,178	2,108	2,178
Total personnel	78***	1,278	2,695	2,564	2,736	2,650	2,776

Note:

* The figures for the period 1970 – 1990 relate to employees in the Public Health and Environment Sections of the Health Department, prior to the establishment of the Environment Department in 1998

** There are no Emiratis in this group

*** Total number of personnel in the Department = Total number of employees + number of manual labourers

The Main Duties and Responsibilities of the Environment Department and its subsidiary Sections are as follows:

- To ensure the highest standards of cleanliness in public areas of the Emirate through the carrying out of effective programmes to transport, remove and dispose of various types of waste.
- To monitor and protect the various elements of the environment in the Emirate of Dubai (water, air and soil) against pollution.
- To administer effectively general waste, hazardous waste and waste treatment facilities.
- To ensure that existing and new factories adhere to the appropriate environmental, health and safety requirements.
- To work for a reduction in the amount of general waste and industrial waste being generated.
- To protect the marine environment, wildlife and nature reserves.
- To carry out the appropriate studies and research on various environmental topics.
- To educate the public and industrialists on environmental issues and on ways of protecting the environment against the dangers of pollution.
- To carry out public safety programmes for all sectors, to follow up on the implementation of safety programmes in buildings and public establishments and to implement the appropriate health and safety procedures in industrial plants.
- To maintain a continuous review of environment monitoring and observation policies and procedures.

1. Environment Protection and Safety Section

The Environment Protection and Safety Section is responsible for the monitoring and observation of environmental pollution levels throughout the Emirate of Dubai, including pollution in water, air and soil, and for measuring factors which have an adverse impact on the human environment, such as noise and hazardous waste, as well as for health and safety. The section also carries out inspection and monitoring programmes in industrial areas to control gas emissions and waste resulting from industrial activities. It also monitors the handling and transport of hazardous waste and medical waste and oversees the procedures for its safe disposal, these being designed to limit the negative impact of such waste on the environment.

The Section is also responsible for monitoring the marine environment and all wildlife, with a view to protecting them from pollution and to guarding against the possibility of species of fauna and flora becoming extinct or endangered in the Emirate.

2. Waste Services Section

The Waste Services Section is one of the oldest parts of the Municipality, dating back to its

foundation in the 1950s. It plays a vital role in ensuring that the city of Dubai, in particular, and the rest of the Emirate, is kept clean.

It is responsible for all activities related to the administration of waste, including the collection of domestic waste, the cleaning of cleaning roads, streets, and public squares within the city and the cleaning of areas in the Emirate used by tourists. It also undertakes the cleaning of public lavatories, provides services to drain septic tanks for buildings in areas which do not have public drainage facilities and deals with the flow and collection of rainwater and unblocking of manholes.

3. Waste Treatment Section

This section was established at the time that the Environment Department itself was created, in 1998. Prior to that, the disposal and treatment of waste was the responsibility of the Waste Services Section.

The Section was set up to handle the disposal of all types of waste, including general, medical, industrial and hazardous waste. Special units were created to handle and to dispose safely of medical and hazardous waste, in accordance with approved international standards, while general waste was tackled through the introduction of programmes designed to reduce the amount produced and to implement re-cycling, where appropriate.

Development of Legislation and Environmental Regulations

The success of any environment department depends on the existence of the appropriate legislation and environmental regulations relating to the administration and protection of all components of the environment, such as air, water and soil, the handling of general and hazardous waste, and protection of the working environment, so as to protect natural resources and human health and to ensure sustainable development. In order to achieve this, the Municipality has introduced legislation and environment regulations, laying down rules and procedures to protect the environment and specifying of enforcement and the legal procedures and penalties for violations.

These include:

■ Environment Protection Policy

A document outlining the "Environment Department Policy Pertaining to Waste, Environment and Sustained Development" was prepared, based upon the principles and concepts relating to sustainable development and the work programmes which emerged as a result of the World Summit held in Rio de Janeiro, Brazil, in 1992, called to discuss and to prepare to face the challenges of the 21st century (these being known, collectively, as Agenda 21). The policies laid down in the document are used as planning instruments with the aim of achieving the specified objectives of the Environment and Public Health Departments.

General Cleaning Regulations

Municipal Ordinance No. 28 of 1985 deals with issues related to cleaning of public areas in the Emirate of Dubai, laying down the regulations and procedures to curb incorrect practices relating to cleaning and for the administration of waste and public health. A number of senior employees and those concerned with environmental issues in Dubai were granted the status of judicial officers in order to contribute to the implementation of this Municipal Ordinance and to safeguard Dubai's environment.

Environment Protection Regulations

Municipal Ordinance No. 61 of 1991 lays down environment protection and safety regulations for the Emirate of Dubai. Its 91 articles, divided into eight chapters, deal primarily with the protection of natural resources such as water, air and soil, and with the preservation of quality for all environmental sectors.

It also spells out the conditions and regulations required for industrial licences, for the sound administration of waste and for the conservation of the natural environment and wildlife in the Emirate.

Medical Waste Administration Regulations

Municipal Ordinance No. 115 of 1997 laid down rules for the administration and handling of medical waste in Dubai, from the moment of production until its final disposal at the special treatment plant, one of the Environment Department's facilities.

Development of Environmental Services

1. Treatment of Solid Waste

The processes for the treatment of solid waste in Dubai have developed along with other aspects of the Emirate's rapid development. Initially, during the 1960s, special areas were allocated for disposal of solid waste and methods for improving disposal techniques were introduced.

This was followed in the 1970s by the introduction of refuse trucks with the facility to compress the waste, while during the 1980s, the focus was on upgrading the methods used for storage of waste, such as the introduction of galvanised containers to replace the steel drums previously been in use. By this time, the amount of waste being produced had risen by more than five times compared to the 1960s. Road sweeping and sand removal were also introduced.

In the 1980s, more than 12,000 containers a day of waste were being removed, transported to disposal sites and emptied, along with over a million tons a year of general waste, while around 4.4 million tons of general, industrial and construction waste were being treated. Over 17,000 kilometres of paved roads and streets in the Emirate were also being

cleaned on a regular basis.

During the 1990s, new concepts of waste treatment were introduced, in line with the principles of a sustainable development programme. The Target 555 Programmes were implemented while recycling was adopted as an important way of dealing with waste, since statistical data suggested that there was likely to be a continued expansion in the amount of domestic solid waste being produced. Between 1987 and 2002, the amount of waste being produced rose from 270,000 tons to over 1.32 million tons per years.

This growth of activities required an internal re-organisation, so as to ensure that the efficiency and quality of the services being provided to the public were maintained. The re-organisation also involved a re-structuring of the allocation of supervisory staff, to introduce a system based upon geographical areas, such as Bur Dubai, Deira and the outlying areas. The use of vehicles and other machines was also revised to enhance productivity, taking into account factors such as the hours of work, the distances being covered and the amount of waste collected, to provide a basic gauge of performance and efficiency.

New services were introduced for the public, such as the free distribution of plastic sacks for refuse, these being handed out through the branch offices of the Municipality. Around one million sacks are distributed every month, with the objectives being both to help to ensure the safe disposal of waste and to increase awareness among the public of their responsibilities. It also helps to protect the machinery and containers used for refuse collection.

The specifications for all machinery and methods of storage were updated to further develop the service, in accordance with developments elsewhere, while the fleet of vehicles was upgraded. New machinery was introduced, including side-loading refuse trucks, which require less labour to operate, mechanical road sweepers and machines to improve procedures for the disposal of trees that have been removed, in line with the international developments in this field.



The Medical Waste Treatment Facility

New methods of storage were also introduced, such as plastic containers, while other waste disposal methods were designed in-house for use at public festivals and other events. New machinery for cleaning the ground, including the beaches, was also brought into use, to improve the services provided in areas of industrial activity or being used by tourists.

2. Treatment of hazardous and medical waste

The industrial development of Dubai has led to a rapid increase in the amount of hazardous waste being produced, particularly since 1994. The amount of such waste produced on an annual basis, including oil-based waste and other waste that is difficult to handle, increased from 9,740 tons in 1994 to 23,300 tons in 1995 and then to 34,800 tons in 1996. This increase necessitated planning to safeguard against the dangers of pollution or the destruction of natural resources in the Emirate, all part of the Municipality's efforts through the Environment Department to identify solutions that will permit Government to fulfil its commitments to its population and environment through a balanced approach which takes into account the development of Dubai.

It was, therefore, determined that an industrial waste treatment plant, in line with those in the industrialised nations, should be set up for the collection and treatment of such waste. The Hazardous Waste Treatment Complex was established in Jebel Ali, with facilities for the treatment of hazardous waste, for treatment of medical waste and for its incineration.



The Hazardous Waste Treatment Facility

▪ Hazardous Waste Treatment Facility

Prior to the opening of the Hazardous Waste Treatment Facility, in February 1999, such waste had been buried without treatment. The facility was officially inaugurated on 6th February 2000, on the occasion of the third UAE National Environment Day, and is designed to handle projected hazardous waste production up until the year 2015.

At present, the plant is the only one of its kind in the whole of the United Arab Emirates and represents a major achievement by the Municipality in the sphere of the protection of the environment.

In 1999, the facility treated 19,000 tons of waste, 26,000 tons in 2000, around 123,557 tons in 2001 and 117,216 tons in 2002, excluding medical waste or other waste that is difficult to process.

■ Medical Waste Treatment Facility

During the first half of the 1990s, the Municipality carried out studies to identify the amount of medical waste being produced by both government and private sector facilities and it became apparent that there was a need for the introduction of special treatment facilities.

The Medical Waste Treatment Facility began operating on a temporary basis in 1997, to meet urgent demand, with the capacity of handling four tons a day this being . designed to meet anticipated need for a five year period.

An Operations Manual for Administration of Medical Waste from Hospitals, Clinics and Medical Care Establishments in the Emirate of Dubai was issued and a comprehensive system for monitoring and administering medical waste was introduced. Immediate results included the reduction of the amount of medical waste by eighty per cent, through a simple process of treatment that rendered it harmless and similar in properties to ordinary waste.

■ Hazardous Waste Incinerator

In 2000, the Environment Department began work on its hazardous waste incinerator, designed to be an integral part of the Hazardous Waste Treatment Facility and also to serve the needs of the Medical Waste Treatment Facility.

The incinerator, inaugurated in February 2001 on the occasion of the fourth UAE National Environment Day, was designed in accordance with the latest European specifications, with the capacity to treat medical waste at a rate of 500 kilograms per hour and to burn any solvents stored at the facility as well as oil waste from the unit used to extract oil from water. It also uses the resulting heat to boil and evaporate treated liquid waste.

3. Air Quality Administration

In order to safeguard the environment and the quality of air within the Emirate of Dubai, the Air Quality Administration has focused on two main programmes.

■ Observing and Monitoring Air Quality

Monitoring of air quality in Dubai began in 1987, and was initially limited to the gathering of data and taking readings for a limited number of pollutants.

In 1993, a network was established to monitor air quality by measuring the presence of widely-known air pollutants. The air quality monitoring equipment was linked to an electronic network and computer which analyses data around the clock to obtain detailed and

accurate information about air quality and its compatibility with the objectives in place. These stations are in five strategic locations throughout the Emirate, with control and communications being handled by the main station, located in the offices of the Environment Protection and Safety Section. This includes a central receiving station for the collection, analysis and storage of information, so that it can be used in decision-making.

The monitoring of air quality is undertaken to obtain information about the pollution indicators and to compare them against natural standards, so that the necessary measures can be taken, while a database of information is maintained that can be of assistance of research into land use and transport planning in urban areas. The information is also of assistance in developing and evaluating strategic plans and in the preparation of procedures for the future measuring of air quality.

Direct monitoring of gas emissions

Implementation of this system in large industrial establishments and at power plants began in 1995. It entails the measuring of air pollutants from furnaces and kilns in factories, chimneys, power stations and the like. Specialist, licenced, laboratories in Dubai carry out the tests required, in order to ensure that those responsible for emissions stay within the relevant international rules and standards.

Companies and factories which do not have the resources to instal the system will be required to put in place special control equipment to monitor their emissions.
The following elements are monitored and studied.

- Measurements of the polluting elements released into the atmosphere as a result of industrial activities.
- The conditions and methods used to control polluting emissions into the air from fixed sources, in accordance with best international practices.
- Implementation of procedures to monitor polluting emissions from chimneys and drainage points and to specify the approved methods of incineration.
- Studying of the effects on the environment of new industrial activities and the issuing of licences that stipulate the need for monitoring and the control of gas emissions.

4.Industrial Monitoring

The Department inspects factories in order to organise and monitor the handling of waste and industrial emissions, implements health and safety procedures to protect workers and monitors hazardous materials, methods of storage and methods for using and controlling hazardous materials as well as monitoring the disposal of these materials, in accordance with Municipal Ordinance No 61 of 1991 and supplementary orders and directives.

An inspection programme covers factories, workshops, laundries, chemical stores and other sites, these being mainly located in the Al-Quoz, Ramool, Al-Aweer, Qusais and Jebel Ali areas, although some are also present in other parts of the Emirate.

Following inspection, detailed reports are prepared. If any shortfall in procedures or vio-

lation of regulations is identified, a written notification is sent to the establishment concerned, giving them a reasonable period of time during which they must comply with environment protection and safety requirements. Fines are imposed if the violations continue.

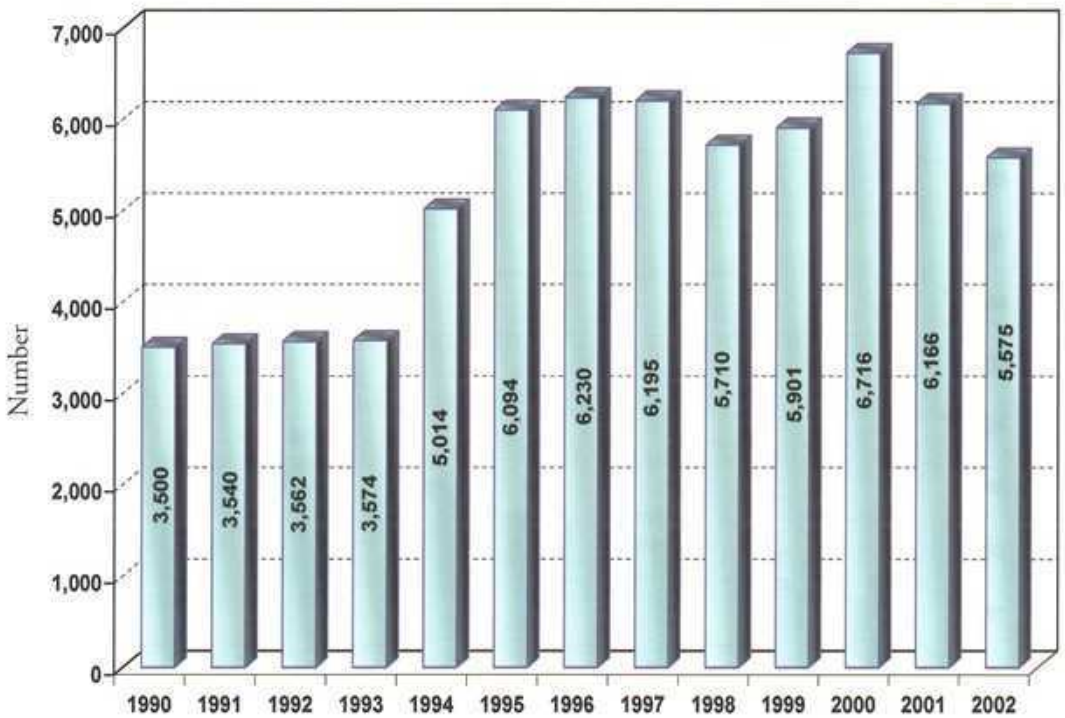
This inspection of industrial establishments has increased since the establishment of the Municipality's Environment Protection and Safety Section, with annual inspections rising from 3,500 in 1990 to 5,575 in 2002, as shown in the following table.

In 1990, the sum of 50,000 UAE dirhams was levied in fines, this rising to 768,600 dirhams in 2001. Fees received for the environmental assessment of new establishments were 125,795 dirhams in 2001, making total revenue for the Section for the year of 894,395 dirhams.

Inspections carried out of Industrial Establishments, 1990 – 2002

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Number of Inspections	3,500	3,540	3,562	3,574	5,014	6,094	6,230	6,195	5,710	5,901	6,716	6,166	5,575

Inspections carried out of industrial establishments in Dubai, 1990 – 2002



5. Public Safety

The Environment Department performs regular inspections and implements the necessary rules and procedures to protect the public. This includes the implementation of the swimming pool regulations laid down in Municipal Ordinance No. 61 of 1991, which provides for the inspection of plans and engineering drawings to ensure pools are in accordance with safety and environmental requirements, before they are built.

In 2001, plans were approved for the construction of 308 swimming pools, with fees for reviewing and approving the plans amounting to 341,600 dirhams, compared to fees of 234,800 dirhams for approving plans for 232 pools in 2000.

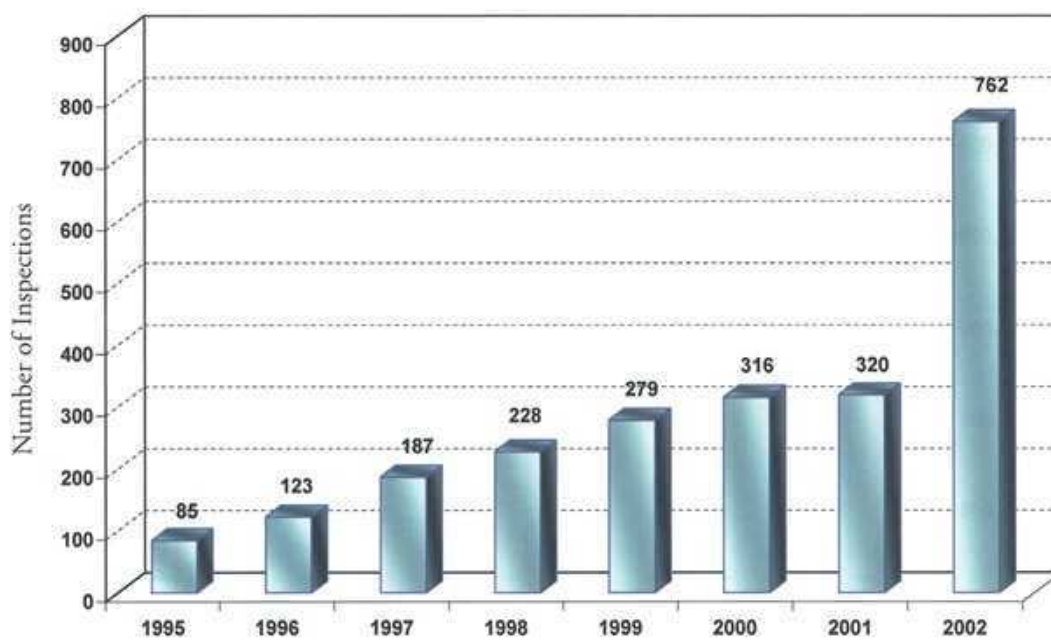
Regular and unscheduled inspections are also carried out of public and semi-public swimming pools to test water quality and to ensure that it meets the specified requirements. In1995, there were 85 inspections, this number rising to 762 in 2002.

Regular inspections are also carried out on importers of toys, to ensure that unsuitable

Swimming pool inspections, 1995 – 2002

Year	1995	1996	1997	1998	1999	2000	2001	2002
Number of Inspections	85	123	187	228	279	316	320	762

Swimming pool inspections, 1995 – 2002



products are not brought into the country, as well as of markets and toy shops. Importers are also briefed on the of Municipal Ordinance No. 61 of 1991 regarding the safety of children's toys.

The Department also ensures that its Safety Manual for construction sites is being implemented, through the carrying out of regular inspections. Notifications of violations are issued to contractors who are responsible for the health and safety of labourers on construction sites where such violations are noted, while the Dubai Police report any dangerous accidents on sites, so that safety procedures can be investigated. The Department also follows up on the implementation of the Safety Manual within the Municipality's Departments.

It also implements a health programme, carrying out tests on employees of industrial firms in the Municipality's Public Health Clinic.

As part of the Municipality's commitment to protect wildlife and the environment, and in accordance with the decree issued on 28th May 1989 by the late H.H. Sheikh Maktoum bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, prohibiting the sale or purchase of elephant ivory and rhinoceros horn, the Municipality has confiscated around 12.13 tons of these products, paying a total of 7,600,066 dirhams in compensation to owners.



Destroying confiscated ivory

Confiscated products are then destroyed, one such incident taking place on 22nd January 1992, and being witnessed by the Regional Representative of the United Nations and by the Consul-Generals of the United States and Britain.

The UAE is the first Arab country to have destroyed confiscated ivory in this way, in accordance with international regulations, in particular the Convention on International Trade in Endangered Species of Flora and Fauna, CITES, to which the UAE is a signatory.

6. Monitoring the Marine Environment

The economic importance of Dubai is based on its geographical location on the southern shores of the Arabian Gulf and, in particular, the presence of Dubai Creek (Khor Dubai), as well as of other, recently-created, ports and coastal facilities.

The Creek is not only an attractive location, but is also an important centre for tourism, thanks to its biologically-diverse environment and the fact that it has an important nature reserve, at Ra's al-Khor, at the inner end.

The Dubai Municipality began in 1985 to devote attention to the protection of the



Ship Monitoring

marine environment of the Creek, carrying out research, undertaking clean-up campaigns and ship monitoring programmes and monitoring of sea water and soil quality, as well as launching a public education programme. Other marine and coastal areas are also cleaned.

Marine Environment Cleaning Operations

Methodical cleaning of Dubai Creek began in 1985. The programme also involves regular cleaning of Al-Hamriyyah Port, Khor Al-Mamzar and Dubai's beaches.

Special vessels are used to collect refuse, with two daily shifts, in the mornings and afternoons. During 2000, as an example, 319 tons of floating refuse were collected from the areas of the Creek used by shipping and from Al-Hamriyyah.

Monitoring Ships and Coastal Activities

As part of efforts to protect the marine environment in Dubai and to ensure that cleaning operations were in line with the conservation efforts, the Municipality purchased two speedboats in 1990 and instituted daily patrols to monitor activity in the Creek. These cover the whole of the Creek, including the Al-Jadaf shipyard and the nature reserve at Ra's al-Khor, as well as the public beaches, and also extend to Al-Hamriyyah port.

In 2000, the patrols issued 291 notices of violations of regulations to ships and small boats, with total fines imposed amounting to 285,100 dirhams. In 2001, there were 400 violation notices issued, with fines of 415,800 dirhams, and in 2002, 294 violation notices were issued, with fines of 280,490 dirhams.

Monitoring sea water quality

The programme for monitoring the quality of sea water began in 1990. This involves monitoring the presence of physio-chemical and chemical indicators and concentrations of nutrients, hydrocarbons and heavy metals as well as the biological properties of the water and marine sediments. The work is undertaken by a network of 30 monitoring stations in the Creek, at Al-Hamriyyah Port, Al Manzar Creek, Port Rashid, Jebel Ali and in other coastal areas.

7. Nature Reserves

On 1st March 1998, Municipal Ordinance No. 2 for 1998 was issued, declaring the Ra's al-Khor area and an area south of Jebel Ali to be nature reserves. The Ordinance also included maps of the areas concerned.

In the same year, the Municipality carried out a study of all nature reserves and protected areas throughout the Emirate of Dubai, including those of Ra's al-Khor and Jebel Ali and also others at Nad al-Sheba, Khawaneej, Mushrif Park and Hatta. This study examined their bio-diversity and other environmental aspects as well as the pressures to which they were exposed. It also identified further areas worthy of protection and laid down detailed administrative plans for the Ra's al-Khor and Jebel Ali reserves.

The Municipality also erected noticeboards around the Jebel Ali reserve and carried out a programme to remove and confiscate fishing nets and traps placed in this reserve, following the placing of warning notices in the newspapers. Warnings were also widely issued, including to hotels, against the carrying out of any activities in the reserves which might cause damage to them or to the wildlife present, while liaison was maintained with the Dubai Police and the Coast Guard Administration with regards to the carrying out of regular patrolling.



The nature reserve at Ra's al-Khor

Where illegal activities are detected in the Jebel Ali reserve, such as the leaving of ashes or charcoal from barbeques, or the bringing of domestic pets or other livestock on to the reserve, or the driving of vehicles close to the high tide mark, causing damage, the appropriate penalties are imposed.

Activities in the Creek which may have an adverse impact on the Ra's al-Khor reserve are also closely monitored.

8. Environmental Education

The Department's education programmes are an important part of the methods used to achieve its objective of protecting Dubai's environment and wildlife. These are undertaken in association with other Municipality units, such as the Environment and Health Education Office and the Public Relations Section, and also with non-governmental organisations such as the Emirates Environment Group, Emirates Marine Environment Group, Diving Society and Friends of the Earth. The activities include the following:

- The regular issuing of press releases with information about programmes, activities and data or which outline new rules and regulations on protection of the environment and the safety of the public.
- The issue of widely-distributed Information Bulletins on environment protection in Dubai, and of technical guidelines, in both Arabic and English, on procedures and controls relating to the environment and safety, these latter being distributed to factories.
- The organisation of training and field trips for students in universities, schools and the Higher Colleges of Technology.
- The holding of lectures on various aspects of the environment as part of regular school programmes and the arranging of field trips for students, to environmental monitoring centres, for example, to show them the work involved.
- Active participation in national and international environment celebrations such as the National Environment Day, Municipalities Week, Earth Day, International Environment Day and Clean Up the World Day

Technical Guidelines

By the end of 2002, the Environment Department had prepared and issued a total of 69 booklets on technical guidelines and five booklets on implementation references (Table No. 1), to explain the details of the Environment Protection Regulations. These guidelines included the required procedures and requirements relating to environmental issues and various safety issues. This has helped to strengthen co-operation with the industrial sector on environmental protection issues, thereby contributing to the achievement of the overall goal of sustainable development.

Table No. 1. Technical Guidelines relating to Environmental Protection and Safety

No.	Name of Technical Guidelines	First Issued	Last Amendment
1	Application for permit to dispose of waste into drains, on land or into the marine environment	1993	April 1997
2	Guidelines on waste analysis test reports	1993	-
3	Preparation of safety procedures audit reports	1993	-
4	Guidelines on environmental impact reports for new industrial establishments	1993	Nov. 1998
5	Preparations for and response to oil spills	1993	-
6	Industrial compressed gas cylinders	1993	-
7	Heat exhaustion in the work place	1993	-
8	Entry into prohibited areas	1993	-
9	Safety of electrical works	1993	-
10	Protection of dangerous equipment	1993	-
11	Approval of swimming pool plans	1993	-
12	Requirements for liquid waste segregation equipment	1993	-
13	Disposal of liquid industrial waste	1993	Oct. 1997
14	Personal Protection Equipment – Protection of the head	1993	-
15	Personal Protection Equipment – Protection of the eyes and face	1993	-
16	Personal Protection Equipment – Protecting the ears and hearing	1993	-
17	Personal Protection Equipment – Protective Clothing	1993	-
18	Personal Protection Equipment – Protection of hands	1993	-
19	Personal Protection Equipment – Protection of feet	1993	-
20	Personal Protection Equipment – Protection from falls/ safety ropes	1993	-
21	Personal Protection Equipment – Protection of the respiration system	1993	Nov. 2000
22	Safe use of industrial biological solvents	1994	-
23	Procedures to test distribution filters/penetration of hazardous waste	1994	-
24	Taking samples of hazardous waste	1994	-
25	First Aid Requirements	1994	-
26	Applications for approval to dispose of hazardous waste	1994	April 2000
27	Annual permits to dispose of hazardous waste	1994	Oct. 1997
28	Reduction of industrial waste to the lowest level possible	1994	Oct. 2000
29	Requirements for the disposal of waste gases, vapours and dust into the atmosphere	1994	-
30	Spray Paint Booths	1994	-
31	Safety in car repair and service shops	1994	-
32	Estelline Generators	1994	-
33	Disposing of expired drugs and pharmaceutical compounds	1994	-
34	Requirements for use of exhaust oils in boilers and furnaces in Dubai	1994	-

Table No. 1.

35	Guidelines for the analysis of waste and the preparation of the related reports.	1994	-
36	Guidelines concerning the disposal of waste from service stations	1994	-
37	Transport of non-hazardous liquid waste by tanker	1994	April 1999
38	Health and safety in kitchens and food preparation areas	1994	-
39	Design of septic tanks/drainage holes	1994	-
40	Test and issue of certificates for boilers and pressure containers	1994	-
41	Test and issue of certificates for lifting apparatus such as hoists and lifts	1994	-
42	Requirements for cement mixing factories.	1994	-
43	Placing of warning signs on vehicles transporting hazardous materials	1994	Nov. 1998
44	Requirements relating to the reduction of noise arising from building and demolition work.	1994	-
45	Requirements on the control of noise levels from entertainment equipment	1994	-
46	Approval for the disposal of hazardous merchandise	1994	June 2001
47	Guidelines for the disposal of containers containing used chemicals	1994	-
48	Safety in dealing with asbestos	1994	-
49	Policy of exemption for hazardous waste	1994	-
50	Requirements for transporting hazardous waste	1994	Jan. 2000
51	Collection and storage of oils carried by water.	1995	-
52	Activities relating to treatment of metal surfaces	1995	-
53	Procedures to evaluate effects on the environment	1995	-
54	Removal of pollution from the soil	1995	-
55	Replacement of CFCs with other compounds for cleaning work and the removal of grease	1995	-
56	Preparation of the Environment Department's Regulations – Implementation of ISO 14001 in Dubai	1995	March 1998
57	Barriers for storage tanks and transport facilities	1995	-
58	Policy on the control of emissions into the atmosphere	1995	Sep. 2001
59	Administration of medical waste produced by clinics and laboratories	1995	May 1997
60	Accreditation of environmental audit companies	1996	March 1998
61	Development of procedures for dealing with accidents involving hazardous merchandise	1997	-
62	Re-use of sludge and liquid waste for agricultural and irrigation purposes	1998	-
63	Environmental guidelines for tourist tours in the Emirate of Dubai.	1998	-
64	Health, safety and environmental requirements in laundries	1998	-
65	Liquefied gas oil cylinders	1998	-
66	Protection from UV rays	August 2000	Not Translated
67	Safety requirements for children's toys	Jan. 2001	-
68	Control of waste resulting from industries producing brick, tiles and marble.	June 2001	Not Translated
69	Special requirements for companies collecting and transporting used oils.	Draft only	Not Translated

Information Technology Department

The use of modern technology is one of the key factors in ensuring that any office works efficiently and with a high rate of productivity. This role in the Municipality is handled by the Information Technology Department, which is responsible for planning for computer capability, the development of computerised information systems and of new programmes, the training of employees and the processing of data. This has not only enhanced efficiency and productivity, but has also permitted the introduction of a number of new services.

The Information Technology Department was formally created under the terms of Administrative Directive No. 100 of 1998. The history of the use of computer technology in the Municipality, however, goes much further back.

On 24th February 1985, Administrative Order No. 146 gave instructions for a study to be undertaken of the use of computers throughout the Municipality. A special team of four people was provided by the United Nations Development Programme with the task of setting up an Information Technology Centre. They were assisted by two UAE nationals, who were also given training so that they could eventually take over management of this function. Between then and 1990, a number of major achievements were made, including the preparation of the main needs and criteria for the system and the obtaining of quotations from selected companies.

In 1986, the servers, personal computers and printers arrived, this being immediately followed by the development of the system. A plan was drawn up to handle the building of a database, systems support and development of the systems and network over a five year period, ending in 1990.

This complex task involved developing the main systems, those for Commercial Licences, Finance, Purchasing, Personnel, Stores and Buildings, using the COBOL computer language. The PLEXUS optical archive programme was purchased for use in the Personnel, Buildings, Planning and Survey Departments, to help them increase their efficiency and productivity while, at the same time, reducing the amount of time required to transfer papers and documents between them, as required.

This expansion of work was reflected, of course, in the expansion of the manpower dealing with information technology, as shown in Table No. 1.

The process of network development involved the establishment of a number of key features and the training of operators throughout the Municipality.

A central computer room was established, meeting all relevant international specifications on health and safety, while external locations, such as the Health Section, the old Municipality and the Rashidiya Stores were connected to the main server.

Table No. 1. Manpower, 1985 – 1990

Year	1985	1985	1986	1988	1989	1990
Number of Emiratis	2	2	5	6	8	11
Number of Expatriates	-	-	1	4	7	10

An internal network was also developed, linking computer terminals to the Customer Services Centre at a speed of 96 kb per second, this being initially confined to the Commercial Licences Department, as it then was, Finance, Food Control and Personnel. The use of personal computers for secretarial use within the various Departments and Sections was also introduced.

As a result of this initial work, the use of modern Information Technology was successfully introduced in most of the Municipality's organisational units while the key main systems were established, A proper programme of training and support was also instituted.

In 1990, Administrative Order No. 244 for that year formally established the Information Technology Centre, which was directly affiliated to the office of the Director General. The Order also laid down the Centre's organisation chart, as shown in Chart No. 1.

Chart No. 1. Organisation Chart in 1990



Over the course of the next five years, up until 1995, the Centre's three Units became increasingly busy in the introduction of new systems throughout the Municipality. Its workforce increased from 21 employees in 1990 to 44 employees in 1995, as shown in Table No. 2.

Table number 2. Workforce of the Department, 1991 – 1995

Year	1991	1992	1993	1994	1995
Number of Emiratis	13	16	20	22	23
Number of Expatriates	16	19	22	22	21

During this period, some of the existing systems were upgraded, in accordance with the requirements of the Department and the introduction of new programming languages. This work was carried out by personnel from a specialist IT company, DataMission, who also undertook some other functions.

Systems development was also carried out internally on a number of systems, including those for Purchasing, Stores, Personnel, Commercial Licences, Treasury, Violations and Industrial Land. These were upgraded, using COBOL language on an IMAGE database.

In 1991, English language systems, using an ORACLE database, were developed for units like Food Control, Abattoirs, Pest Control, Industrial Land, the Medical Clinic and the Environment Protection Laboratory.

The programme of upgrading the systems included the introduction of faster computers and introduction of new operating systems such as the UNIX and ORACLE databases. The installation of the latest technology also permitted the internal network to be upgraded to a speed of 5 – 10 MB per second, while the number of servers was increased to 15, three of which were HP models.

These servers included dedicated units for the Optical Archiving System, the Abattoir System, the Health Clinic and the Environment Protection Systems.

Another innovation was the installation of optical fibre cables between the floors of the main Municipality building, while modems on lines rented from Etisalat permitted an expansion of the links to external locations such as the Garage and Al Awir station and all of the Municipality Stores. Work on independently-designed internal networks began in a number of the external

Table No. 3. Equipment in use, 1993 – 1995

Year	1993	1994	1995
Number of Computers	162	200	250
Number of Printers	80	132	140
Number of Scanners	10	8	5

Table No. 4. Employees trained, 1993 – 1995

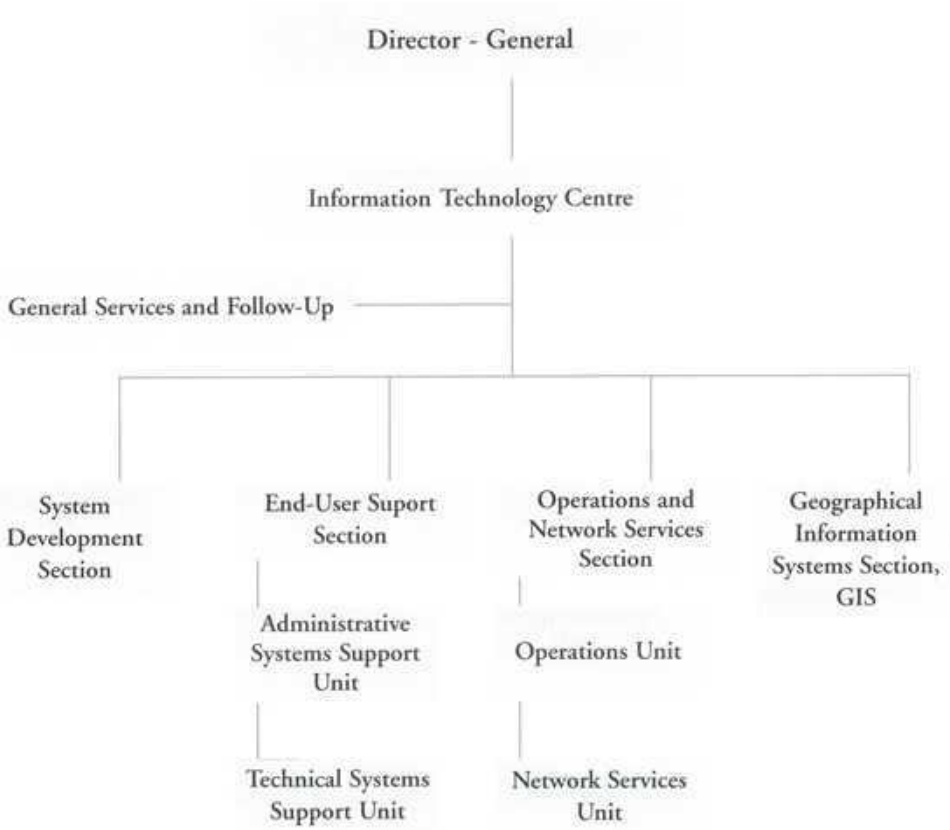
Year	1993	1994	1995
Number of Trainees	91	93	210

locations, including the Garage, while the network as a whole was expanded to link other locations outside the Municipality, such as the ports and airport, and links were established, through a dial-up system, to rural locations.

Internally, the speed and efficiency of the system was enhanced through the replacement of the old terminals with high speed personal computers, along with printers and the appropriate office programmes, with training being provided for all users. This had a rapid and beneficial effect upon efficiency, speed and accuracy, resulting in the provision of better services to consumers and an increase in the amount of work being achieved.

The increasing amount of work being undertaken by the Centre, as well as the expansion of its manpower, meant that there was a need to plan for a revision of its organisation chart and the internal distribution of responsibilities. Following a study carried out in association with the Administrative Development Department, Administrative Directive No. 598/1995 introduced the new structure, which established new working groups to simplify work procedures, to increase productivity and to improve the service provided to end-users, as shown in Chart No. 2.

Chart No. 2. Organisation Chart for the Information Technology Centre in 1995



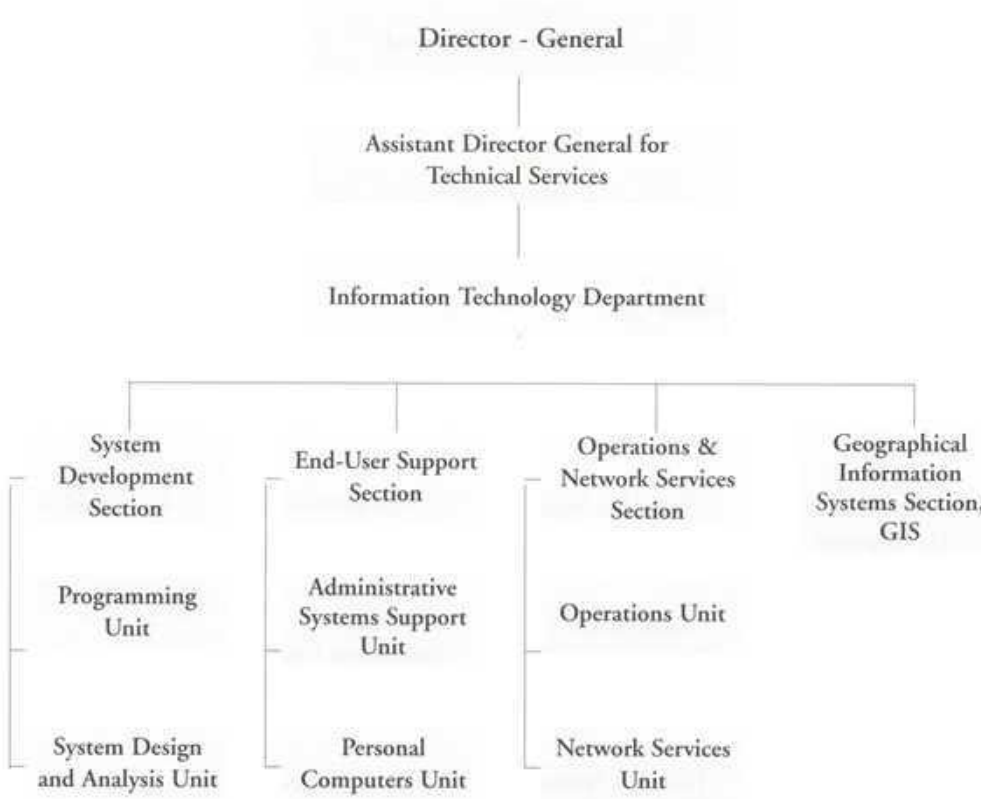
During 1995, a number of new steps forward were made Among these were:

- The introduction of e-mail in several departments, following a test of the system in the Information Technology Department in 1994.
- The introduction of Client/Server information technology.
- The introduction of the NT Windows system.
- The installation of INTEL servers.
- The Microsoft SQL database.

A new network with a speed of BS166 was also installed.

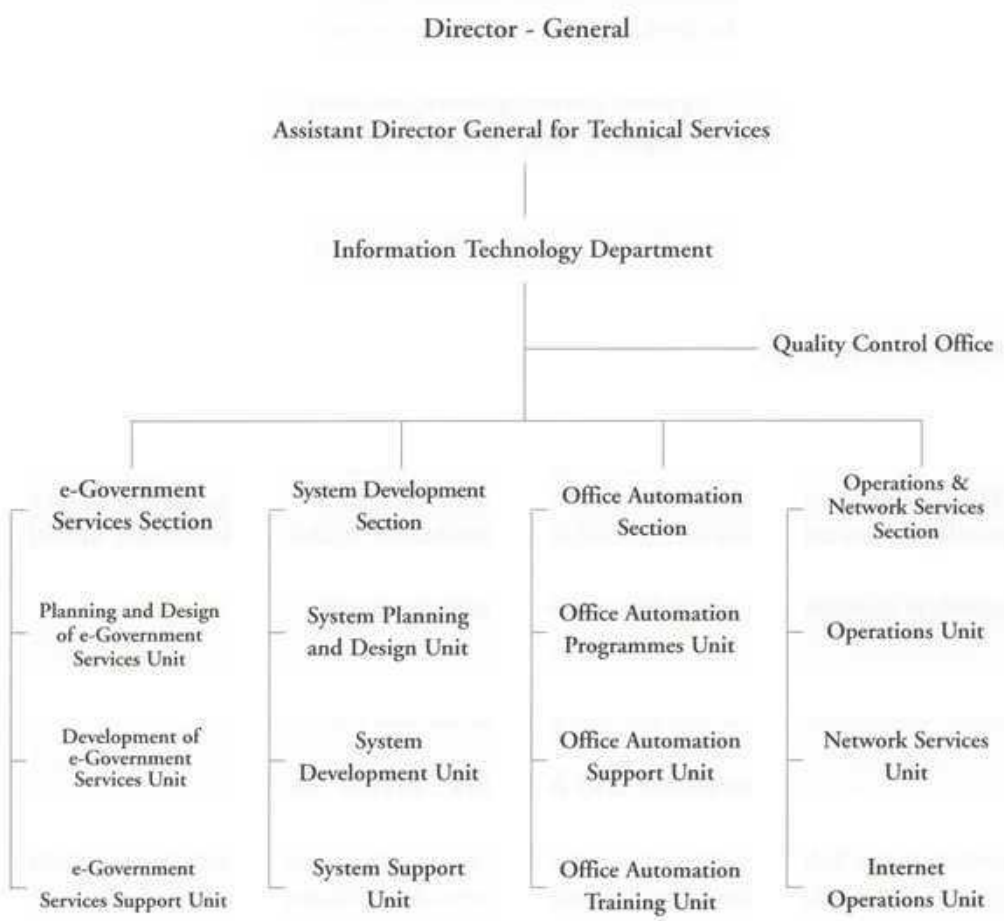
In 1998, Administrative Directive No. 100 introduced a further revision of the organisational structure, as shown in Chart No. 3.

Chart No. 3.Organisation Chart for the Information Technology Department in 1998



In 2002, the name of the Information Technology Department was changed, as shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Information Technology Department in 2002



Information Technology Department

The Information Technology Department is responsible for suggesting and implementing policies, laws, regulations and procedures relating to information technology and systems within the Municipality, including information processing services, and for the provision of equipment, programmes and the necessary communication networks for employees. It is also charged with the provision of the necessary system support for the end-users to ensure effective benefit of the systems. Its various Sections have the following duties.

e-Government Services Section

This Section is responsible for the supervision, modernisation, monitoring and support of all computer systems relating to e-Government, whether bought externally or developed internally,

and for the preparation and determination of technical criteria and specifications relating to the development of e-Government systems, databases, programming languages and for their implementation in the Information Technology Department.

It also studies existing e-Government systems, specifies ways in which technical specifications for system upgrades are to be developed and prepares tender specifications.

System Development Section

This Section has the task of suggesting long, medium and short term development plans for the information technology systems in the Municipality and of preparing and specifying technical criteria and specifications relating to the development of systems, databases and programming languages and then has the responsibility of implementing them in the Information Systems Department.

It also carries out cost efficiency studies on systems required by other units in the Municipality and provides technical assistance and training on existing systems and on those which are to be introduced.

Office Automation Section

This Section specifies the need for office automation programmes, carries out studies on their cost effectiveness and makes the relevant recommendations. It also prepares tender invitations with the appropriate technical specifications, contacts suppliers and evaluates quotations received, in co-ordination with other relevant organisational units.

It then supervises training of all computer end-users on the use of various office programmes, internet browsers and e-mail and provides guidance on data protection.

Operations and Network Service Section

This Section operates and maintains the internal and external computer network, lines and communication links, suggests and then implements procedures and special systems relating to the safety and confidentiality of the information network, databases, information storage, back-up systems and the Computer Connections Unit. It also installs and maintains terminals, printers and communications equipment.

Progress between 1995 and 2000

Substantial progress continued to be made by the Department during this period, one notable achievement being the tackling of the Y2K (new Millennium) issue without any adverse effects on the Municipality's operations.

Another important focus of attention was on the implementation of the Municipality's policy on Emiratisation.

On 10th December 1995, the guidelines for Emiratisation were drawn up and adopted, with the recognition that they posed a considerable challenge. One key feature of the guidelines were that people with low to intermediate educational qualifications, below University or College level, should be identified and trained internally, then being distributed among the various units

of the Municipality, so as to reduce the need for support from the Information Technology Centre itself.

It was recognised that there would need to be a creative approach to the task of implementing the Emiratisation and Replacement policy and that available expertise in training should be used, while the replacement of highly-qualified expatriates with members of this internally-trained group of Emiratis was recognised as a way of reducing costs.

Initially, therefore, an experimental programme of such training was initiated. This involved theoretical training on computers, PC programmes and the principles of computer networks, coupled with continuous attention to the need to maintain a high level of morale, through such means as the issuing of Certificates of Appreciation on a monthly basis.

The trainees were also encouraged to take part in technical support operations performed by the Department, so as to gain practical experience, and were encouraged gradually to take on administrative and technical responsibilities, such as those of being team leaders or project leaders required to make reports on the progress of various projects.

Table No. 3. Emirati employees, 1992 – 2002

Year	1995	1996	1997	1998	1999	2000	2001	2002
Number of Emiratis	23	25	29	35	45	54	65	71

The Storage, Movement and Distribution of Information

Archives now require large capacities in comparison to other programmes while many archives lack organisation. This meant that the Department was obliged to re-examine the strategy of creating smaller archives as well as to review data safety procedures with regards to fire hazards, theft and damage. The decision was taken to introduce the concept of the "paperless office", with a number of steps being taken to improve storage, movement and distribution of data. These included the introduction of the following.

Optical Archiving System

A special team was formed to evaluate this concept, to study end-user requirements and to evaluate systems available in local and foreign markets. It was found that there were numerous benefits, including the distribution of documents by e-mail, quicker document retrieval and the reduction of the space needed for storage of paper files. Data could also be more easily protected against threats of damage, loss and the infiltration of extraneous information.

In 1995, the WATER MARK archiving system, a miniature system for daily photocopying of documents and their electronic storage, was selected and approved for use in the Historic Buildings, Contracts and Purchasing, Public Relations, Information Technology and Personnel Departments, while the PLEXUS programme, for large applications, was introduced for the Personnel, Buildings, Administrative Affairs, Legal Affairs and Administrative Development Departments.

It was subsequently found that there were a number of problems with the WATER MARK

system, including insufficient support from the supplier, and in 1999, this was replaced by the DOCUWARE system, which was installed in the Information Technology, Department, the Contracts and Purchasing Department, the Public Relations Section, the General Projects Department, the Historic Buildings Department, the Quality Administration Section, the Roads Department, the Finance Department, the General Maintenance Department, the Dubai Central Laboratory Department, the Markets and Abattoirs Department, the Public Transport Department, the Internal Audit Department and the Public Relations and Organisations Department.

In line with a strategy of centralising the holding of information, the archives of several departments were combined and were unified on one server in the IT Department, which simplifies the provision of support to these systems by the Electronic Archiving Committee.

e-mail System

After testing in the Information Technology Department in 1994, e-mail was gradually extended, from 1995 onwards, to all departments and sections in the main building and to some branch offices, while all end-users were provided with training.

e-mail has proved to be an extremely valuable tool. It has helped secretaries to organise the time of their Managers, through maintaining an electronic diary, while messages can be sent direct to the person concerned. Any letters received by telefax can now be distributed electronically while communications between employees and their managers have been enhanced. Problems arising from oral communications have been removed while the distribution of copies to multiple recipients is now simply a matter of pressing a button.

Internet System

The beginnings of the Internet System were in April 1998, when, following a study by the Internet Committee, a number of dedicated lines were provided to various units of the Municipality.

A Dubai Municipality website was also prepared, with the data being available both inside and externally. The website has several sections. One, for example, offers general information about the work and scope of duties of the various Departments and Sections of the Municipality. Others include a section on general projects, a section of announcements and events, on which various advertisements dealing with, for example, job opportunities, contracts, bids and conferences, are included, while the Laws and Municipal Ordinances section includes the text of legislation and Municipal Ordinances relating to public health issues, environment, building licences and project contracts.

Table No. 6. e-mail and Internet users, 1996 – 2002

Year	1996	1997	1998	1999	2000	2001	2002
e-mail end-users	341	589	943	1,170	1,674	1,865	2,186
Internet end-users	-	50	78	121	242	381	582

A section on Public Services and Utilities provides information on parks, museums, public libraries and the like while there is also a dedicated Dubai Award section, with information on the Dubai International Award for Best Practices to improve the Living Environment.

Administrative Follow-Up System

This system follows up on all documents issued and received by the Municipality, by organising the system for internal and external correspondence. It allows employees to receive information in a timely manner, rather than having to search manually, and also eases movement through the system, reducing the number of forms required.

The follow-up system also registers all correspondence and keeps track of movement so as to avoid any delays in the carrying out of instructions. Confidentiality can be maintained by specifying end-users.

System installation went hand-in-hand with the training of users so that the simplification of procedures was well-established and outdated routines were removed, thus saving both time and effort.

The Internet has also made it easier to link employees through the e-mail system while connection speeds have been increased by around sixty per cent, thus helping in the transmission and back-up of information. The appropriate anti-virus programmes have also been installed, and are regularly updated.

A Programme Bank System was also introduced, involving the storage of programmes needed by end-users on a central computer and the distribution of programmes via the Internet, thus removing the need to send employees to install new programmes. Besides the advantages gained in terms of distribution, this also helped to guard against illegal copying of programmes.

Automated Attendance Monitoring System

In 1995, an automated attendance monitoring system was introduced, to monitor the attendance of Municipality employees and workers. This has simplified the process of preparing reports and statistical data and has also helped Department and Section heads, as well as the Personnel Department, to monitor attendance. It includes two separate sections, one for issuing cards and the other to monitor attendance itself, and to print out all related documents.

Implementing the Principle of Decentralisation

In 2000, a decentralised system covering the procedures of the Personnel Department was introduced throughout the Municipality, this handling holidays, work certificates, reports of attendance sheets, procedures for returning from leave and for overtime working and a general enquiry system. The objectives included a speeding up of procedures, a reduction in the large amount of paperwork that was formerly required, improvement of performance and a reduction of pressure on the employees of the Personnel Department.

The system also simplifies maintenance requirements, since amendments required can now be in-put by end-users, and has helped to disseminate understanding of the concept of comprehensive quality.

As part of its improvement of the services offered to citizens and other residents and as part of the implementation of the e-Government project, the Department introduced 25 separate

Internet-based services between 1999 and 2002. These dealt with revenue collection, the issue of No Objection Certificates, the provision of public transport maps and timetables, a system for offering suggestions, an electronic services guide, a guide to the services of the Buildings and Housing Department, a parking violations system, a library services system and a traffic enquiry system.

Other Internet services dealt with test results from the Dubai Central Laboratory, health certificates from Food Control, the Veterinary Clinic and other veterinary certificates, information from the Central Laboratory on engineering materials, calibration, bricks, foodstuffs, and sand, data on building landmarks, company registration, certificates of import and re-export, hazardous waste, employment, general location maps and enquiries relating to inspection results and violations.

Automated Telephone Enquiry System (IVR)

This system automatically replies to telephone calls made by the public. By calling the Municipality on the dedicated number, 090-40111, callers can be guided through the available options, which include one to indicate the current status of an application and one whereby callers can opt to receive responses by telefax.

This system has meant that there are far fewer visitors to the main Municipality building, thus reducing pressure on employees and permitting them to perform their tasks more effectively.

It also makes it easier for customers to check the process of their applications, while they can also ask to receive, by telefax, details of the relevant laws and procedures.

The system can be extended, as required, throughout the Municipality.

Other systems introduced through the Automated Telephone Enquiry System include automatic replies for the Financial, Parking Violations, Personnel, Contracts and Purchasing , Building and Housing, Roads and Planning and Survey systems.

Table No. 7. Number of requests input into the Support Magic programme, 1999 - 2002

Years	1999	2000	2001	2002
Completed Requests	8,748	12,717	16,289	18,481
Requests being processed	19	282	699	949
Total	8,767	12,999	16,988	19,430

Internet Team

In 1999, a special team was established to handle the Municipality's links with the World-Wide Web, this being tasked with the provision of e-mail links to the web and with the authorisation of end-users within the Municipality. It also administers the website and is responsible for providing protection against dangers that may arise from Internet usage, as well as administering and maintaining the Internet servers and monitoring Internet usage.

This team has successfully protected the website against attack, through the use of a security system known as SFIRE WALL, which was completed during the first quarter of 1999. This had additional security features to the previous system, which was replaced.



Training employees on the use of the Internet

Training

The Department carried out a detailed study of requirements for PC and office automation equipment training in 1996, while there is, of course, a continual need for further training, not least because of the increasing dependence of employees on computers to perform their daily tasks.

Information Systems

The process of continually evaluating the Municipality's IT resources made it clear that by the end of 1999, there would be a need for these to be updated. A plan was formulated, in association with specialist IT companies, to develop the programmes using the Client Server technology and ACCESS and VISUAL BASIC languages on a Microsoft SQL server database and an ORACLE database, so as to avoid any problems that might occur in association with the arrival of the new millennium – the Y2K issue.

45 projects were undertaken, with completion rate reaching 90 per cent, partly because some ran for more than a year and partly because of the desire to rely primarily on internally-available resources, in particular on Emirati staff, as part of the process of training them to take on more responsibilities.

Table 12 shows those projects and systems on which work was completed, up to 2002.

Table No. 8. Number of employees trained in the Information Technology Department, 1995 – 2002

Year	1995	1996	1997	1998	1999	2000	1002	2002
Number of Trainees	210	704	336	424	473	427	835	806

With the growing number of trainees, and the upgrading of their skills, new computer servers were required.

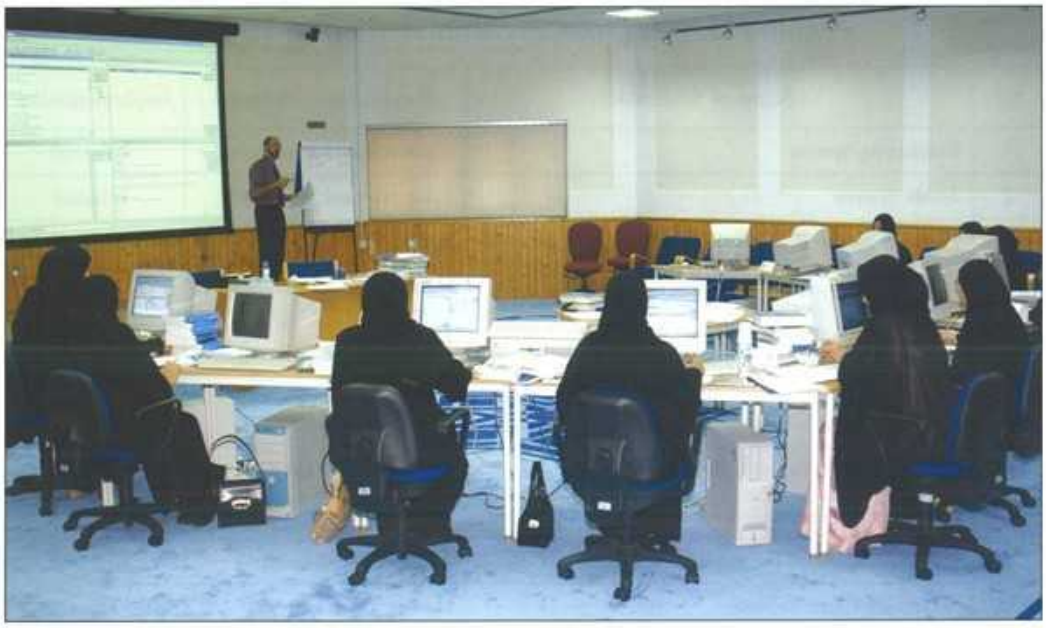
Table No. 9. Number of computer servers, 1996 – 2002

Year	1996	1997	1998	1999	2000	2001	2002
Computer Servers	15	25	64	31	28	30	53
Storage Capacity (GB)	50	110	190	500	1732	2500	3000
Memory (GB)	1.02	4	7	12	21	25	46

Another result of the increasing number of trained personnel was the identification of a need for more Internet access locations.

Table No. 10. Number of Internet access locations, 1998 – 2002

Year	1998	1999	2000	2001	2002
Number of Locations	7	34	64	87	91
Internet Locations Percentage	10%	49%	91%	95%	93%
Percentage of back-up capacity	33%	56%	69%	50%	100%



The number of computers has increased as more people have been trained

With the increase in the number of Internet access points and in trained personnel, it became apparent that there was not only a need for more computers but also for an expanded training programme, to help continue the expansion of the computer network. Table No. 11 shows the expansion in the amount of equipment, from 1996 – 2002.

Table No. 11. Number of computers in use, 1996 – 2002

Year	1996	1997	1998	1999	2000	2001	2002
Number of Computers	374	1,035	1,250	1,390	1,799	2,299	2,731
Number of Printers	138	462	599	941	1,099	1,213	1,413
Number of Scanners	0	20	36	66	85	121	201

Table No. 12. Projects completed up to 2002

No	Name of System	Department concerned	Implementation
1	Purchasing System	Contracts and Purchasing	Internal
2	Stores System	Contracts and Purchasing	Internal
3	Personnel, Payroll, Services and Training Systems	Personnel	Internal
4	End-Users support system (SUPPORT MAGIC)	Information Technology	External
5	Food Inspection System	Health	External
6	General Maintenance System	Transportation	External
7	Administrative Follow-Up System	All Departments	Internal
8	Dubai Central Laboratory Department System – Engineering Materials	Dubai Central Laboratory	Internal
9	Instruction System for Public Transport Users	Transportation Section	External
10	Veterinary Clinic System	Health	External
11	Audit system, ACL	Administrative Develop. & Quality	External
12	Government Housing System	Buildings and Housing	Internal
13	Project Payments System	Contracts and Purchasing	Internal
14	Graveyard System	Health	Internal
15	Project Contracts System	Contracts and Purchasing	Internal
16	Contracts and Tenders System	Contracts and Purchasing	Internal
17	No Objection Certificates System for the Drainage System	Drainage	External
18	Follow-Up and Maintenance of Personal Computers System	Information Technology	Internal
19	Monitoring of Traffic Violations System	Roads	Internal
20	Locations Licencing System	Roads	Internal
21	Building Violations System	Buildings and Housing	Internal
22	Properties System	Markets and Abattoirs	Internal
23	Financial System	Finance	External
24	Industrial Land System	Planning and Survey	External
25	Abattoirs System	Markets and Abattoirs	External
26	Road Maintenance System	Roads	External
27	Public Clinic System	Health	External

No	Name of System	Department concerned	Implementation
28	Pest Control System	Health	External
29	Abra System	Transportation	Internal
30	Transportation System	Transportation	External
31	Car Park System	Transportation	External
32	Environment Protection System	Environment	External
33	Compensations System	Finance	External
34	Parking Violations System (Internet)	Roads (and the public)	External
35	Local Fee Collection System	Finance (and the public)	External
36	Internet Building Services System	Buildings and Housing (and the public)	External
37	Information Technology Department Procedures System (relating to Projects Department)	Information Technology	External
38	e-Government Services (First Phase)	All Departments (& the public)	External
39	Pavements System	Roads	External
40	System Administration of computer programmes and systems issued (First Phase)	Information Technology	Internal
41	Land Registration System	Planning and Survey	Internal
42	Building Licences System	Buildings and Housing	External
43	Food Laboratory System	Dubai Central Laboratory	External
44	Calibration System for Measuring Equipment	Dubai Central Laboratory	External
45	Borehole Databank System	Dubai Central Laboratory	External
46	Car Park Ticket Sales System	Finance	Internal
47	Garage Purchasing System	Transportation	Internal
48	Archiving Scanner System (DocuWave)	All Departments	External
49	Maintenance System – Al-Aweer Station	Drainage	External
50	Inspection System	Environment	Internal
51	Assisting Archiving System (Optical Archiving System 2000)	Planning and Survey	Internal
52	PLEXUS Archiving System	Planning and Survey, Personnel and Buildings and Housing	External
53	Decentralised Personnel System	All Departments	Internal
54	Children's City website	Public Parks (& the public)	External

Developments between 1998 – 2002

During the period from 1998 to 2002, the IT system underwent a major upgrade, this being due, in part, to the fact that many employees were working in locations outside the main Municipality building. It was also necessary for there to be a more efficient system of communications between different departments and sections as part of the process of transferring to the new e-Government procedures.

As part of this process, the entire network was replaced, at a cost of two million UAE dirhams, with the latest network technology being installed, under the terms of an agreement with HNCR, the supplier.

The internal network was re-designed to permit data to be distributed rapidly, using switches designed by the firm NORTEL, while high-speed fibre optic cables, with a speed of 1 GB per second, became the core of the system.

A Network Operations Centre was also established, to supervise most of the technology services in the Municipality, while designs similar to those in the main building were prepared for all of the external locations. Servers in remote locations were linked to a centralised backup system which gathers the data from external locations and saves it in the magnetic tape library, which has a capacity of between 100 and 200 GB. A CISCO router was introduced to link the various networks and to provide emergency branch lines.

As far as the Y2K issue was concerned, an emergency plan was drawn up covering all of the Municipality's systems, under which all available technical resources were mobilised. This involved extensive overtime, with people on occasion working as late as midnight, while all holiday leave and the system by which people were authorised to leave their work during office hours were suspended.

As a result of the work carried out under the plan, around nine new ORACLE systems were introduced, all COBOL systems were replaced by Microsoft systems and 800 individual computers and 30 servers were inspected to ensure that they were Y2K-compliant. The Department also collaborated with other units of the Municipality in liaison with manufacturers to seek assurances that their equipment would not be affected by the Y2K problem. As a result of all of this effort, the Municipality was not affected in any way.

In 2000, in accordance with the directives and vision of His Highness General Sheikh Mohammed bin Rashid Al Maktoum, then Crown Prince of Dubai and UAE Defence Minister, with regards to the e-Government project, a special committee was formed, headed by the Assistant Director General for Environment and Public Health Affairs.

Information Systems

The following table illustrates the information systems used in Dubai Municipality

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
1	Parking Fines System	Roads	2000		Used to input and follow up on parking violations affiliated to the Municipality. It is linked to the internet, permitting individuals and companies to search for parking violations recorded.
2	Pavement System	Finance	2002		Used to monitor pavements and includes engineering data for all streets.
3	Road Corridor	Roads	2000		Includes the input and issue of street permits for cafe and restaurant outdoor seating.
4	Road Maintenance	Roads	1999		Used to register and follow up on road maintenance work (project data, clients, maintenance requests, engineers, materials...etc.)
5	Inspection and Service Coordination	Roads	1999		Used to input and follow up on requests for road construction works and the issue of No Objection Certificates.
6	Traffic Faults System	Roads	2000		Used in the Traffic Systems Control Centre, part of the Roads Department, to count the number of times in which the network lines are detached from the traffic lights, and to specify the reasons for malfunction, whether due to external authorities such as Etisalat or for internal reasons, such as being due to maintenance work. This is done through extraction of reports and data relating to malfunctions.
7	Smart Stream	Finance	1999		Financial Administration System, for input and regulation of the chart of accounts, General Ledger, suppliers' accounts, budget accounts...etc.
8	Finance Report System	Finance	2001		Used to extract financial reports from the financial system.
9	Local Fees Collection	Finance	Phase (1) 2000 Phase (2) 2002		Used to collect local fees owed by various parties.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
10	Abattoir	Markets and Abattoirs	1999		Used to organise all the abattoirís procedures, including slaughter, dissection, refrigeration and distribution of cattle to companies and individuals.
11	Real Estate	Markets and Abattoirs	1998		Administers real estate/ rent in respect of the Municipalityís real estate.
12	Land Registration	Planning and Survey	1990		Used to register and follow up on land in Dubai, registration of land ownership and change of ownership, according to purchase, sale, transfer or granting of land.
13	Industrial Land	Planning and Survey	1999		Used to register and follow up on industrial land in Dubai, registration of purchase requests and planning of distribution.
14	Plexus	Planning and Survey Personnel Affairs Building and Housing Legal Affairs	1993		Archives and saves documents electronically.
15	Land Management System	Planning and Survey	2002		Registers private and public land distribution and organises all matters relating to their ownership.
16	Advertisement Contracts System	Advertisement Section	2002		Used to follow up on the award of advertising contracts and issue of payment vouchers and reports on late contracts.
17	Advertisement Permits Search System	Advertisement Section	2002		Used to check bridges and vehicles to enquire about permits and to check the list of the names of private buildings registered at the Advertisement Section to avoid the duplication of names.
18	Building Fines/ Supervision	Building and Housing	1996		Used for supervision of construction, input of records of violations and specification of fines.
19	Building Fines/ Supervision	Building and Housing	1996		Used for building inspection, input of records of violations and specification of fines.
20	Fines/ Remote Building	Building and Housing	1999		Used for inspection and supervision of rural areas, input of records of violations and specification of fines.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
21	Government Housing	Building and Housing	1997		Administers the work of the Government Housing Section, including the granting to Emiratis of land and the provision of maintenance work and financial assistance.
22	Building Permits	Building and Housing	1990		Used for the issuing of building permits
23	Food Laboratory	Dubai Central Laboratory	2000		Receives food samples and performs tests on the samples. Results are sent to the Food Monitoring Section
24	Calibration Laboratory Equipment	Dubai Central Laboratory	1999		Records and calculates the calibration date for equipment and saves all information on equipment.
25	Borehole Databank	Dubai Central Laboratory	2000		Registers information on excavations and soils in respect of characteristics such as layers and thickness.
26	LIMS (Laboratory Information Management System)	Dubai Central Laboratory	1998		Manages operations relating to testing, examination, costs and payment of materials.
27	Warehouses	Contracts & Purchasing Transportation Administrative Development Quality Information Technology Markets & Abattoirs Administrative Affairs	1999		Includes procedures for input and dispense of items from warehouses and follow up of stock and stocktaking and all operations relating to warehouses. This system is linked to other systems
28	Projects & Payments	Contracts and Purchasing Roads Sewage and Irrigation General Projects Maintenance	1999		Handles registration and organisation of contract data, project phases, amounts due at each phase, registration of payments to contractors and consultants. The system includes a register with details of all contractors and consultants registered at the Municipality.
29	Tenders and Contracts	Contracts and Purchasing	2000		Handles registration and organisation of contracts and tenders data and is linked to project contracts.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
30	Purchasing	Contracts and Purchasing – used in each administration	1999		Organises procedures relating to purchasing and internal and external purchase requisitions.
31	Fixed Assets System	Contracts and Purchasing Administrative Affairs	2001		This system registers and follows up fixed assets as well as calculating their depreciated values.
32	Personnel & Payroll System	Personnel Affairs	1999		Organises personnel affairs and calculates all matters relating to employee salaries and services such as air tickets, leave, work certificates and overtime payments.
33	Recruitment	Personnel Affairs Legal Affairs	1996		Organises procedures relating to employment and vacancies in the Personnel Affairs Department.
34	Training	Personnel Affairs	2000		Follows up on employee training and training courses.
35	Employees Evaluation	Personnel Affairs	1999		Follows up on employees evaluation.
36	Attendance	Personnel Affairs	1999		Follows up on employees attendance.
37	Employees contracts	Personnel Affairs	2000		Follows up on employee contracts.
38	Veterinary Clinic System	Health	2000		The Veterinary Information Administration System deals with all cases handled by the Veterinary Section, part of the Public Health Administration of Dubai Municipality, through maintenance, treatment and administration of information relating to animals imported through Dubai's various ports. It also includes the processing of detailed veterinary treatment records, animal death registrations, animal vaccinations, health certificates, veterinary tests and results in addition to the inspection records and health quarantine records.
39	Food Inspection	Health	1996		Allows food inspectors to inspect food types and, through laptop computers, to view the daily inspection table, to register inspection results and to follow upon the results and print reports.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
40	Public Health Clinic	Health	1999		Administers the public clinic procedures within Dubai Municipality.
41	Pest Control System	Health	1999		Administers health, registers and follows up on pest control procedures.
42	Cemetery System	Health	2000		Used to register data relating to deaths where bodies are transported in, to and from the Emirate of Dubai. Extracts the required reports and statistics and registers incoming and outgoing movement of vehicles belonging to the cemetery and hospitals which are used to transport bodies and consumables.
43	Abra Control	Public Transport	1999		Registers all the data relating to abras, their owners and passengers and issues an Abra Operation Certificate. Registers all the approved procedures within the Abra Section, including violations, fees due for abras, registration of collection receipts, issue of abra maintenance permits and registration of accidents involving abras in the Creek.
44	Transit Control System (TRACS)	Public Transport	2000		Public Transport Revenue System – passenger tickets are issued inside the bus from a ticket machine. At the end of the day, the machine's key is handed over to the Operations Supervisor in the Garage. The Supervisor empties all the keys in a machine linked to a computer with the TRACS program. In the morning, the accountant extracts the necessary reports from the system to check against the revenues received from the drivers. There is an additional reports system affiliated to the system.
45	Public Transport ñ Transport Operations	Public Transport	2001		Registers the daily movement of bus operations beginning with the Run Out Control which is prepared according to the list of drivers and timetables which is updated when required by the Planning and Marketing Centre. Also deals with other tables such as the drivers' schedules,, bus malfunctions, buses stationed in the garage and the

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
					period of malfunction, changes of buses and period taken for changeover as well as extracting daily reports.
46	Public Transport ñ Penalty	Public Transport	2001		Used to input violations and complaints made against public transport drivers and specifies a date for investigation and the date drivers are to be informed about the investigation and when it is to be held. The Bus Operations Officer views the lists on the relevant day and follows up the investigation with the driver and administers the appropriate penalty. Then the Administrative and Financial Services Section types the table and places in the driver's file pertaining to Personnel Affairs. The same applies to internal procedures.
47	Public Transport DM Parking	Public Transport	2001		Registers the details of every employee who receives a Municipality Vehicle for which Municipality parking is allocated after working hours. The security guard in charge of the car park sends a list of all the cars present. The list of cars is checked against those registered to identify any violation of the rules and saves data received from various departments in the master database.
48	Bus Passes – Public Transport	Public Transport	1999		This system is available in the main bus stations. It registers passenger applications and renewal of monthly bus tickets which are valid from the date of issue –a file is saved for each applicant and statistical reports are extracted, such as reports pertaining to the number of participants in a certain area and informs participants upon renewal of tickets.
49	Public Transport – Overtime	Public Transport	1999		Calculates the number of overtime hours for each Supervisor according to his work schedule at the bus stations.
50	Public Transport –Economic - NOC	Public Transport	2001		This system registers the No Objection Certificates issued to the Department of Economy relating to a customer allowing him to establish

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
					activities in the field of transportation which are not in conflict with the activities of the Public Transport system.
51	Public Transport –Internal Transport	Public Transport	2001		Inputs the number of drivers according to routes and buses specified for internal transport in addition to extracting daily reports and a statement of daily movement.
52	Public Transport –Stores System	Public Transport	2001		Processing items received in and issued from the store of the Transport Department (Administrative and Financial Services Section) to extract the stocktaking report.
53	Public Transport –Bus Station Control	Public Transport	2002		Registers the arrival time of buses in the main bus stations. It is to be installed in all of the stations and linked to the garage database. All types of reports can be extracted from this system.
54	Public Transport –Pathfinder System	Public Transport	2002		Used to enquire about public transport routes, register missing properties left in public transport vehicles and for registering suggestions and complaints.
55	Public Transport –Keepers' Time Table	Public Transport	2002		Used to allocate keepers to stations. The keepers are posted to the stations on a monthly basis, and are rotated, while keeping in mind their weekly holiday.
56	Maintenance System –MAXIMO	Transportation General Maintenance Sewage and Irrigation	1999 2002 2000		Follows up on regular maintenance for all machinery according to an annual schedule. The system works by inputting all data relating to unscheduled maintenance such as spare parts and hours of work spent on maintaining the system. This system is linked to the stores system.
57	Re-order System Transportation	Transportation	2001		This system automatically follows up on orders for spare parts for vehicles according to international storage formulas and standards as well as initiating purchase orders, these being automatically input.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
58	Preventative Maintenance System Transportation	Transportation	2001		This system formulates preventative maintenance plans for official vehicles, based on a study of the mileage, whereby maintenance messages are sent to the Municipality's departments and sections. A work ticket is raised for each vehicle.
59	DM Vehicles Information Transportation	Transportation	2003		This system is used to enquire about official vehicles data separately in respect of maintenance costs, preventative maintenance appointments and when vehicle maintenance work is completed in the workshop.
60	PC follow up and maintenance	Information Technology	2000		This system registers and follows up on all requests involving computers and their accessories, follows up on maintenance operations required for equipment received from other departments and follows up on the issue of sequential numbers used within the system to issue various administrative and statistical reports for reviewing work completed by the technicians.
61	Environment and Protection Safety	Environment	1999		Administers all work relating to violations of environment regulations and all matters concerning food factories and textile, leather and timber workshops and factories. All complaints and violations are in-put into this system.
62	ACL System	Internal Audit Section	1999		This system is used by the auditors to extract reports for review and audit purposes.
63	Rent Committee System	Municipal Council	2002		This system is specifically designed for the Municipal Council, to organise and follow up on all matters relating to rents.
64	Follow–up System	All Offices within the Municipality	2001		This system registers and organises incoming and outgoing documents and archives them electronically.
65	Docuware	All Offices within the Municipality	2000		This system archives and documents all papers and documents.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
66	Web-based Personnel	All Offices within the Municipality	2002		This is an internet enquiry system relating to personnel procedures (leave, salaries, air tickets, evaluation, overtime...etc.) Through this system, the various departments are able to issue certificates dealing with work, leave, and returning from leave without referring to Personnel Affairs, thereby reducing the time and the paperwork relating to these procedures.
67	Health Certificates Service on the net (part of E-Government Services)	Health	2002		These services include the following: Food Monitoring, including - Health Certificate for the export of foodstuffs - Health Certificate for the export of foodstuffs to GCC countries - Certificate on absence of radioactivity - Special requests to approve health cards - Requests to destroy food stuffs The Clinic, including: - Request for Certificate of Good Health - Request for Health Card The Veterinary Clinic, including: - Certificate for the import of animals and veterinary materials - Certificate for the export of animals and veterinary materials - Health Certificates for animals
68	Site Plans Service on the net (part of E-Government Services)	Planning and Survey	2002		This includes the following: Requests for new housing land Requests to renew a map and new requests for the granting of land or grant or renewal of map –private
69	Hazardous Waste Service on the net (part of E-Government Services)	Environment	2002		This includes the following: No Objection Certificates to obtain information No Objection Certificates for the design phase No Objection Certificates for the implementation phase Other No Objection Certificates Renewal of No Objection Certificates Clearance Certificate

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
70	DCL Services on the net (part of E-Government Services)	Central Laboratory	2001		This includes the following: Engineering materials, including: - Request to issue Engineering Materials Certificate Bricks, including: - Request to issue Brick Certificate Sand, including: - Request to issue Sand Certificate Foodstuffs, including: - Requests for food stuff testing Calibration, including: - Request to calibrate equipment
71	One Stop Inspection Results and Fines Service on the net (part of E-Government Services)	Building and Housing Central Laboratory Environment Finance General Maintenance Markets and Abattoirs Health Horticulture & Public Parks Roads Advertisement Section Service Coordination Office	2002		Including the following services: Enquiry about inspection results Enquiry about violations Enquiry about outstanding unpaid violations.
72	Recruitment Service on the net (part of E-Government Services)	Personnel Affairs	2002		Includes applications for employment
73	Online Statistical Information Service on the net (part of E-Government Services)	Census Centre	2002		Includes the display of existing statistical reports and requests for new statistical reports
74	Revenues Service on the net (part of E-Government Services)	Finance Roads	2001		Includes Monthly revenues from fees paid by hotels, furnished apartments, supply companies. Monthly revenues from fees paid by cinemas Monthly revenues from fees paid by private shops Monthly revenues from fees relating to accidents.

No.	Name of the System	Beneficiary Administration(s)	Date of Implementation		Description of the system
75	Parking Fine Enquiry Service on the net (part of E-Government Services)	2000	Roads		Enquiries about car parking fines.
76	Directory of Services Service on the net (part of E-Government Services)	2001	All Offices within the Municipality		Includes the display of general information relating to the Municipality's services.
77	Geographical Information system (GIS) Service on the net (part of E-Government Services)	2000	Geographical Information Centre		Includes Search for maps within the Emirate of Dubai Search for addresses Search for utilities/services
78	Dubai Public Library Service on the net (within E-Gov part of E-Government)	2000	Administrative Affairs		Includes the facility to search by title, subject and author
79	Fuel System	1998	Administrative Affairs		This monitors the fuel consumption of Municipal vehicles.
80	Horizon System	1999	Administrative Affairs		This is used to input and follow up on indexing, borrowing, memberships and registration procedures.
81	Food Control System	1998	Health		This is used to monitor and to follow up on all shipments entering Dubai through the various ports of entry, through the registration of detailed data relating to each shipment, food samples data and any follow up on laboratory tests undertaken to determine whether import of goods is to be permitted.
82	Daily Follow-Up System	2001	Public Transport Department		This programme is used to input appointments and daily matters relating to the Departmentís Manager. The inputting is carried out by the secretary, with follow up being undertaken by the Department Manager.
83	Evaluation System Drivers	1999	Public Transport Department		Drivers are evaluated every six months and the best 20 drivers are chosen and rewarded with prizes according to the performance criteria chosen. These include conduct, absences, sick leave and number of accidents, a statement and graph being extracted to show results.

The Municipality and e-government

The Municipality began its transition towards the process of e-Government many years ago, setting out to prepare and to plan for the transition, without feeling the need to make any formal announcement. The process was initiated by the Information Technology Department, which sought to make use of the emerging Internet to benefit Municipality customers by making various services accessible by electronic means.

One of the earliest steps was introduced in November 1999, and involved a simplification of the procedure for collecting revenues from hotels, furnished apartments and cinemas.

This was followed by January 2000 by the launching of the Municipality's website while in January 2001 an electronic book and magazine search facility was introduced in the Public Libraries. This was followed by the inauguration of an electronic method for searching for statistical data, in June 2001, and by the implementation of the Geographical Information System GIS, for the Geographic Systems Centre in July 2001.

In 2002, four more electronic services, with eight separate subsidiary services, were introduced, covering Building Landmarks, the Classification of Land Use, Sewage and Irrigation Services and, being launched for the public for the first time, the GIS system..

The Information Technology Department also worked to establish the necessary infrastructure within the Municipality for e-Government. Over 2,000 computers were installed, each equipped with an e-mail facility, training courses were run for employees on basic computer skills, and the electronic network was extended to link the Main Office to a total of 87 different locations, including external units affiliated with the Municipality. Over 50 separate systems were developed to support the work of various Municipality units, to help them carry out their work and to provide services to customers.

The Dubai e-Government project was formally launched in April 2000 by HH General Sheikh Mohammed bin Rashid Al-Maktoum, then Dubai Crown Prince and UAE Minister of Defence, followed by the issue of Administrative Directive No. 104 for 2000 on 22nd April 2000. This set up a special committee, headed by the Municipality's Assistant Director-General for Environment and Public Health Affairs, to follow up the implementation of the e-Government project. This committee was given the task of laying down a comprehensive vision and strategy for the implementation of e-Government within the Municipality, and of then implementing it.

A firm of international consultants was appointed to draw up a vision and strategy with realistic and tangible objectives for the near and longer-term future. This was to be done through interviewing the people in charge of each of the Municipality's organisational units, so as to identify their responsibilities and the services they provide and to assess the extent to which they had assimilated and implemented the basis and concepts of e-government. As an initial step, around 150 separate services provided by the Municipality were identified, including internal services such as personnel affairs and legal services.

A second stage of classification involved the distribution of a questionnaire to specify the services under the criteria of "specifying the benefits of electronically transforming services according to their importance to the Municipality and customers." At this stage 40 services were identified which could be provided through the Internet.

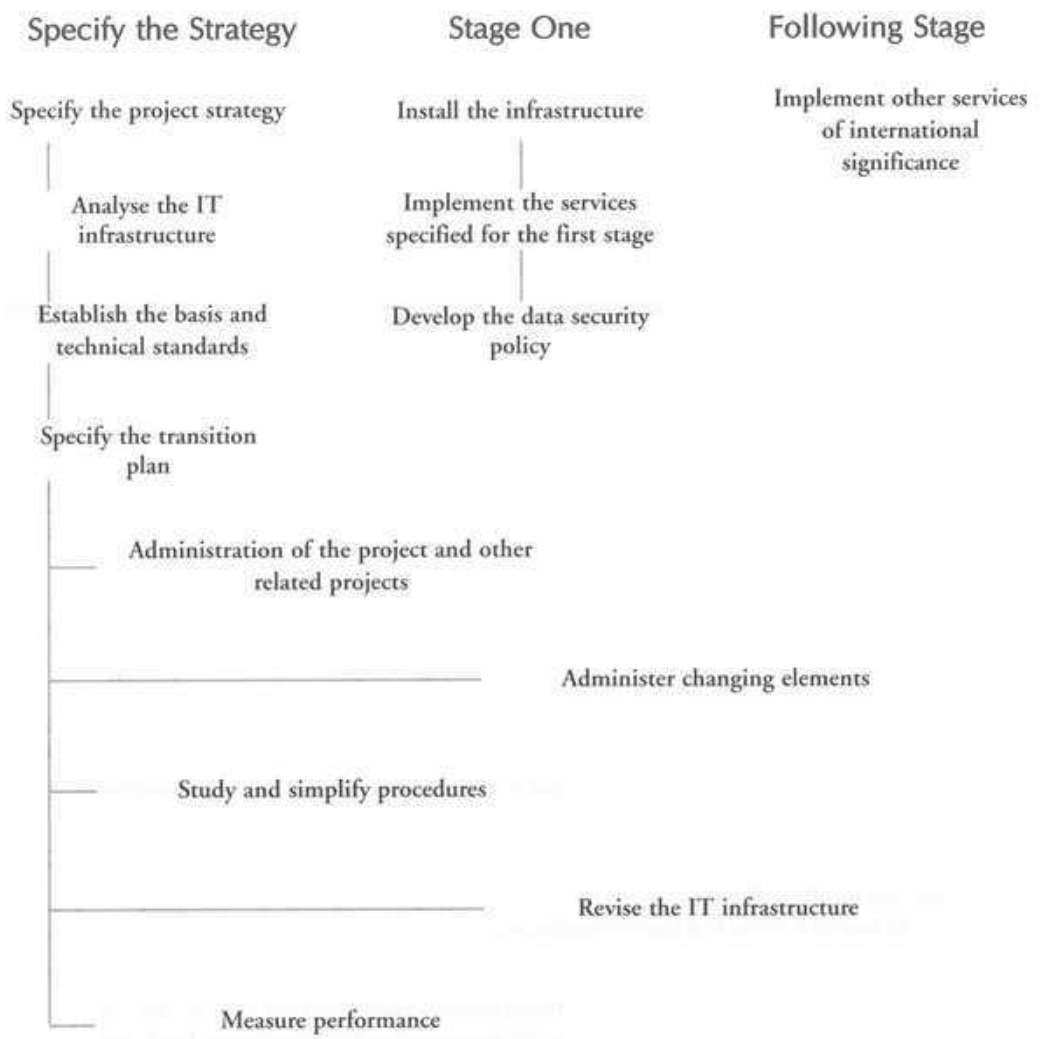
A third phase of classification then took place, to compare the scope of service with the degree of difficulty in introducing it. A total of 12 major services were then identified as being of high

priority in terms on introducing an Internet capability, as part of the first phase of implementing e-Government within the Municipality.

This was followed by a study of the existing Information Technology infrastructure and an analysis of the extent to which the Municipality was ready to introduce and operate electronic services, including a comparison of programmes, equipment and various technical standards used internationally in an Internet environment.

A number of seminars were then organised to raise the level of awareness among employees about the objectives of e-Government and their effect on customers and employees, followed by the preparation of a plan to implement the project, in several stages.

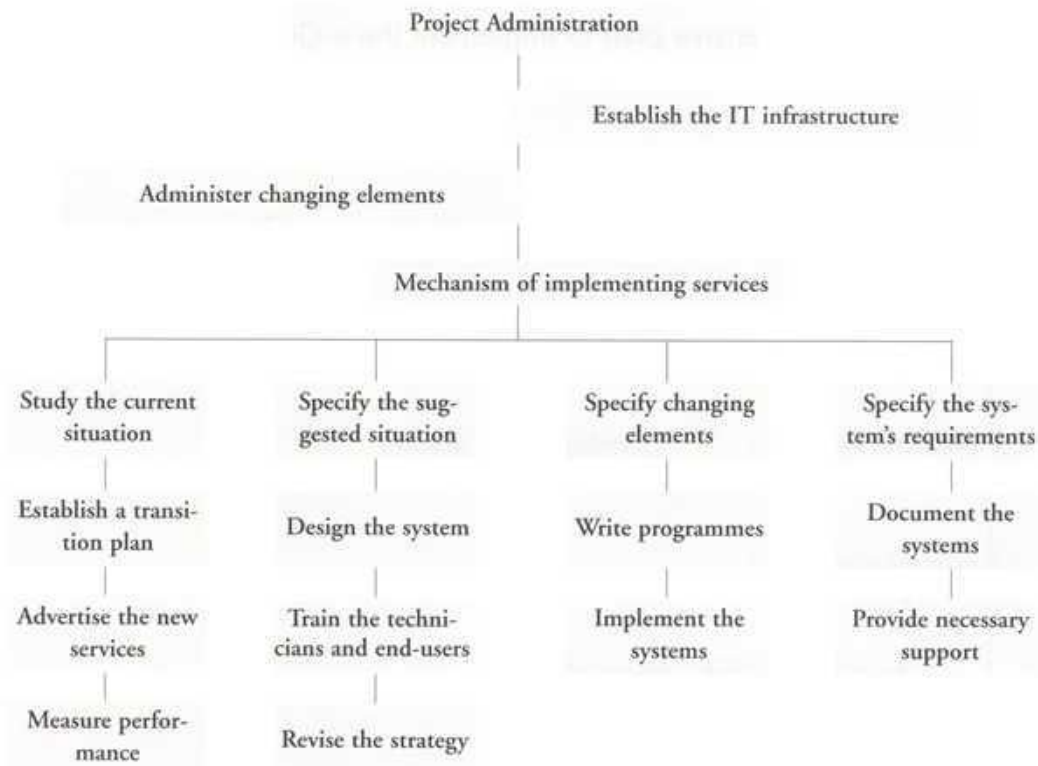
Comprehensive plan to implement the e-Government project within Dubai Municipality



Implement the First Stage Services (12 Main Services)

The first stage of introducing e-Government, which commenced in June 2001 and concluded in May 2002, started with the installation and testing of the necessary electronic infrastructure. Several main services were then introduced, in accordance with decisions taken during the Strategy Specification phase.

The Methodology of implementing the First Phase Services in the Project



The Municipality's e-Government committee then set up several sub-committees and work teams, one for each service, to work with the project consultants on implementing the services. Each sub-committee and work team included a Head, drawn from the membership of the e-Government committee, and representatives drawn from the organisational unit or units concerned. The number of members ranged between 5 to 20, depending of the nature of the service and on the number of units involved.

This was followed by the holding of seminars about e-Government and data security concepts as well as technical seminars for employees of the IT Department, and by the organisation of training courses for Municipality employees and customers on how to use and to benefit from the electronic services. In all, over 50 seminars and courses were held, attended by around 1,050 people.

In order to inform the public about the impending introduction of e-Government services, a number of press conferences were held, while advertising campaigns were undertaken to inform customers and to encourage them to use the new services.
The data security policy was also drawn up and was implemented.

The first phases of the Municipality's e-Government programme to be introduced are explained below, along with some basic information about the scope of the systems and the extent of work involved in preparing them.

List of Services	Number of contributing departments	Average number of participating employees	Number of sub-systems	Links with internal systems
Electronic Services Guide	22	30	1	-
No Objection Certificates	11	35	1	-
Dubai Central Laboratory test results	3	20	2	1
Dubai Central Laboratory Certificates	4	25	3	1
Health Certificates	4	20	3	1
Enquiries on inspection results	12	50	1	3
Inquiries on violations	12	50	1	3
Employment	2	10	1	1
Municipality news	22	30	1	-
Statistical data	2	5	1	-
Administration of hazardous waste	2	5	1	-
Location maps	3	10	1	1
Registering customers	2	10	1	1
Collection of revenue fees	1	20	8	-
Suggestions system	22	50	1	-
Public Transport maps & timetables service	1	3	1	-
Building and Housing Department services	1	21	18	-
Car park violations	1	3	1	1
Public Library services	1	40	1	-
Traffic movement services	1	2	1	-
Geographical Information services (e-guide)	1	8	1	-
Building Landmarks	1	6	3	2
Classification of land uses	1	3	1	1
Sewage and irrigation services	1	5	4	1
Geographical Information Systems (GIS)	1	4	3	-



The Municipality website (www.dm.gov.ae)

The Information Technology Department set up a work team with over ten members to administer the project and to follow up on its technical implementation. The first phase involved the introduction of 12 main services, with a total of 55 subsidiary services. In 2002, other services were added, with the total number of services being explained in the following table.

There are currently around 3,400 customers, from various firms and bodies, who are registered with the Municipality's e-Government services, while at the end of 2002, around 655 employees of the Municipality had been registered to provide electronic services.

The first phase of the e-Government project, including the study, design and development of electronic services and the installation of the necessary technical infrastructure, cost around 15.5 million UAE dirhams.

The next phases of the project

In the second phase, it is planned to introduce a new Internet service, to provide services through a variety of channels, such as mobile and land telephones and to link the electronic services with the Municipality's internal systems, so as to achieve a greater degree of electronic communication between the customer and Municipality employees.

New internal systems will be developed by the Information Technology Department to support the electronic services and to integrate the Municipality's internal procedures, while a comprehensive programme of training courses will be carried out to improvement education on the Internet and to raise the awareness of both customers and employees about the electronic services available and ways of using them.

Other plans include further promotion of the Municipality's website and services and the introduction of electronic payment systems to simplify procedures for customers.

Geographic
Information
Systems Centre

Geographic Information Systems are very important for any institutions because of the way in which they can provide data and analysis for the use of decision-makers. This applies, of course, to any city government, such as the Dubai Municipality, which has established a local system covering the whole of the Emirate.

What is Geographic Information?

Geographic information includes all types of information related to specific locations, such as naturally-occurring features like flora, mountains and beaches and man-made structures, like buildings and roads and sewage networks. Information like land Units, legislation, building laws and so on can also be included in the broader definition of such information.

Background to the Dubai Geographic Information System, DUGIS

At the beginning of 1990, the Survey Section of Dubai Municipality began to plan for the implementation of the Geographic Information Systems, GIS, project. Over a ten year period, those involved in the project have been able to secure recognition of both an internal and an external role for the use of GIS, internally with regards to all Municipality units and externally with regards to consultants and contractors.

As interest in GIS developed and it became more extensively used by the Municipality's various Departments and Sections, it became apparent that there was a need for a special organisational structure to be set up to ensure effective co-ordination. The Geographic Information Systems Centre was established by Dubai Municipality in February 2001.

Development of GIS in the Municipality

The first phase of work in setting up the GIS system involved identifying the sources of data and then collecting the data, first within the Survey Section and then throughout the Municipality. This was then followed by the drawing up of the Organisation Chart and implementing the introduction of GIS.

Phase One: Specifying the sources and data gathering, 1990 – 1997

During this stage, a central computer system was established, linked to the GIS model, and the necessary equipment was obtained to permit the assigned team to obtain the necessary data to construct the nucleus of an accurate database.

The study of the basic requirements and the testing of programmes and equipment was completed in 1990 and a successful pilot project was carried out in 1991-1992. A network of accurate and uniform survey control points was established, using the highly-precise WGS84 datum, and then, between 1992 and 1995, planning documents and topographical plans covering Dubai's urban and rural areas were collected, digitised and entered into the database.

Aerial photography was carried out in 1992 and satellite photography was obtained in 1993, with the survey work being completed by the end of 1994.

During 1996 and 1997, the Land Information System was prepared. This involved allocating to each plot of land a unique number, PID, which was then linked on the database to information such as the area of the plot, the owner's name, the date on which it was granted to him, land use, geographical co-ordinates and so on.

In 1997, the available maps of locations in Dubai, showing over 45,000 individual plots, were scanned and included.

Only limited resources were available during this stage, but excellent use was made of locally-available personnel who were provided with training to equip them to manage the system when it became operational. Consultants with experience of GIS were recruited to provide assistance and training

The collection of data took a considerable amount of time, and it was, therefore, possible to undertake various other tasks in parallel, including the development of the applications for the system.

One need was for the completion of a structure whereby applications made to the Survey Section for information from the GIS could be handled in an automated way. The team prepared a flexible system which allocates tasks and forwards applications to the relevant parties in a sequential and effective manner. Each employee was allocated responsibility for handling clearly-defined parts of applications, in accordance with their own specialist skills or information.

Today, applications for the issuing of location and planning maps or of building landmark certificates and certificates of completion are all handled by computer with a unique identification key for each.

The system also provides a simple and effective electronic record of all applications received by the Section and of the process of procedures, from receipt to completion. It also allows managerial staff to produce reports that help in the preparation of detailed future planning. All of this also makes it easier for staff to take informed and appropriate decisions.

A second task undertaken in parallel with the data-collection process was that of completing the issuing of land location and impact maps, this being completed by the end of 1993. A special programme was designed to permit the production of these maps, in A4 size, from the system, making use of the allocated PID numbers. This not only enhanced the accuracy and quality of the mapping, but also made it possible to increase the output of maps, from two or three a day, when they were manually produced, to between 15 and 20 a day.

In 1997, a system for issuing Certificates of Completion and Landmark Certificates automatically was also completed, saving time and effort and improving accuracy, this being followed by the introduction of a system for issuing No Objection Certificates.

Also in 1997, a Parcel Enquiry Programme was introduced for handling requests for land data. This included a facility for viewing the location map, placing the piece of land concerned in context to other parcels of land in the same planning area and for printing out of data.

Phase Two: Expansion of the system in the Municipality's Departments and Sections, 1998 – 2000

During this phase, the concept of a dedicated GIS was circulated to most of the Departments and Sections of the Municipality. At the same time, end-users were trained and a special team was created to administer and to develop the system.

Among the work carried out during this phase was the following:

1- Aerial Photography

Aerial photography of the whole of Dubai Emirate was carried out in 1998, to obtain a com-

plete set of accurate and up-to-date images. This helped the Municipality's programme to improve the services being offered with relation to, for example, survey and planning services, sewerage, property planning and so on.

2 - In-putting of Data

Data on the right-of-way centrelines was digitised and in-put during 1998 as part of planning for the development of a programme for producing maps that included street numbers and names. Zoning data and data on the sewage and irrigation networks were in-put during 1999, this being made available to the various users in the Municipality as well as to the computer application which produces location maps.

Digitisation of the centrelines from the aerial photography and from various road projects was also completed with the results being in-put between 1998 and 2000. Over the same period the GIS team also in-put the land address system, linking building numbers to street and area numbers, so that this could also be used in various applications.

3 - Archiving

Work began in 1999 on auditing and organising the land files, according to the unique PID Number and according to the planning area numbers. The files were then moved to the new archive system.

Parallel with the above, the design and development of various applications also continued. In 2000, for example, an application was developed for the production of location maps, including zoning data and street names, at an A3 size, while a Geographic Information Enquiry System was also developed, which included the land data and zoning data, roads, the address system and the sewage and irrigation network as well as aerial photographs.

Phase Three: Development of the Organisation Chart and establishment of the Geographic Information Systems, GIS, Centre

In 1992, a general strategy, in accordance with Administrative Order No, 281, was drawn up, outlining the ways of obtaining benefit from the Geographic Information System.

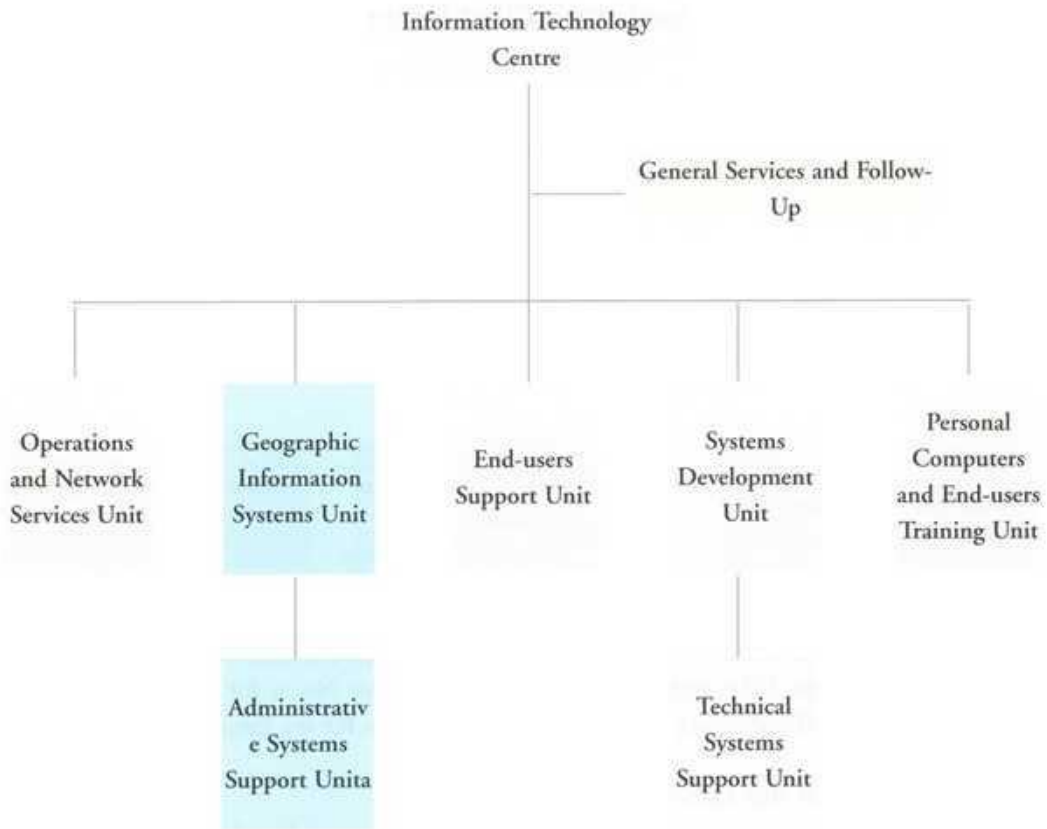
In line with this, between 1993 and 2000, work on the GIS was handled by the Planning and Survey Department which was responsible for collecting the data and establishing an initial structure for the system, and by the Information Technology Department, which handled the necessary technical matters. The project as a whole was overseen by various committees, with these having changes in their membership, as appropriate. New posts were also established.

The Higher Committee for GIS Policy was formed in accordance with Administrative Directive No. 249, issued on 3rd July 1993, this being charged with keeping up to date with latest international developments and uses of GIS.

The Executive Committee, formed by Administrative Directive No, 250, had a membership of engineers from various departments and was responsible for keeping an eye on progress while Administrative Directive No. 251 set up a work team to investigate various needs.

In 1994, some of the decisions of the Executive Committee and the Higher Committee were amended, while a post for a GIS Consultant was created within the Administrative

Chart No. 1. Organisation Chart for the Information Technology Centre in 1995



Development Office, this unit also being given the responsibility for overseeing project administration.

In 1995, the Geographic Information Systems Unit was established as part of the Information Technology Centre, as shown in Chart No. 1. During the same year, the Higher Committee was re-structured by Administrative Directive No. 1094 to ensure that the GIS project continued to make progress, with the Director-General becoming the head of the committee while Administrative Directive No. 268, issued on 5th April 1995, increased the membership of the Executive Committee.

On 26th July 1997, H.H. Sheikh Hamdan bin Rashid Al-Maktoum issued an order to designate the Survey Section in Dubai Municipality as the source of Geographical Survey information.

Establishment of the GIS Centre

The great variety of work as well as the increasing interest in GIS from within the Municipality and demand from other government offices for data made it clear that there was a need to revise

the organisational structure and define criteria for collaboration and co-ordination. Accordingly in 2001, Organisational Directive No. 5 was issued to establish the GIS Centre. This was affiliated directly to the office of the Director-General, as shown in Chart No. 2.

Chart No. 2. Organisation Chart for the GIS Centre, 2001



In the same year, the late H.H. Sheikh Maktoum bin Rashid Al-Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, issued Law No. 6 for 2001 approving the Centre as the only official source of geographical information for the Emirate.

The objectives of the GIS Centre

The GIS Centre was established to provide the requirements of all end-users in the Emirate, including both public and private bodies, in respect of geographical data, programmes, technical support, facilitation and training. Its objectives included the specifying of standards and of initial data sources, definition of the responsibilities relating to the identification of and collection of data and the creation of the required infrastructure, including the central computers and a network to link the various Government bodies.

It was also given the tasks of developing the necessary applications for maintaining and uplifting data, providing aerial photography and satellite images for government end-users, promoting the GIS concept and providing technical support and working to establish links with other Government departments and organisations.

To achieve these objectives, the GIS Committee was established, with members from both Government and private bodies, while H.H. Sheikh Maktoum bin Rashid Al-Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, issued Law No. 6 for 2001 on the setting up of the GIS Centre in the Municipality. This decree stated that it was to co-ordinate the establishment of a framework with common criteria that would facilitate the integration of all geographical information on the Emirate.



Benefiting from the Geographic Information Systems (GIS) to specify locations

Achievements of the GIS Centre, 2001 – 2002

Among projects undertaken by the Centre in 2001 and 2002 was a linking of all data from the Paving and Maintenance unit of the Roads Department with the geographical data to simplify the process of following up on road maintenance, linking of information on locations to existing statistical data, and, in 2002, preparation of data on bus routes, to provide users with details of routes and timetables as well as ways of identifying the best choice of route or routes to reach a specific location.

Also completed in 2002 was a project to link the names of commercial establishments with their location, specifying building number, street number and area name, as well as analysis of the data to permit the distribution of various types of commercial establishment to be plotted.

Another project in the same year, the GIS Pilot Project, brought together all geographical data held by the Municipality, the Dubai Electricity and Water Authority and Etisalat within a GIS framework, this not only permitting standards and applicable criteria to be laid down but also problems to be identified and solved.

The Municipality's achievements in the field of GIS

Between 1992 and 1997, all paper maps, planning data, sewage and irrigation data and right-of-way centreline data were digitised, while in 1994 the survey programme was completed with data being uploaded automatically

In 1996, a DLTM system was developed to permit investigation of the accuracy of location data while information criteria and a Data Dictionary were developed for use in field surveys, aerial photography and public service projects.

In 2001, the Dubai Electronic Guide was completed and launched.

Linking and integration of the system with other databases in the Municipality, like those dealing with the sewage network, the address system for the Emirate, census data and the location of advertising billboards, was also completed and integrated applications were developed to facilitate the delivery of information.

In consequence, the Municipality was able to provide various types of information to a wide range of government and private sector bodies.

Cost of Geographic Information Systems

Dubai Municipality began work on establishing its Geographic Information System in 1988, as explained above. To date, the cost of this project has been as shown below:

Customers of the Geographic Information Systems Centre

Authorities/ Establishments producing data, work team and system end-users.

No.	Description	Total Cost (Dirhams)
1	Collection of required data for the system	10,460,600
2	Equipment required, such as appliances and accessories	7,000,000
3	Programmes used	1,113,550
4	Employees working on the system	7,500,000
5	Total Cost	26,074,150

Conclusion

Geographic Information Systems are not only tools to prepare maps and plans and papers to various scales and using different projection systems, they are also tools which permit geographical data to be analysed. The databases themselves do not include detailed maps, but they do contain data which can be displayed and analysed in order to prepare those maps required for a specific purpose. The main feature of Geographic Information Systems is their ability to investigate the relationship between locations through various types of maps.

For this to be achieved, of course, it is essential that the geographical data is integrated and unified in accordance with a well-planned system, so that the data analysis can be of the greatest possible value. This requires the implementation of unified standard criteria, automated links between the parties producing and using the data, information end-users and the community at large about the resources available through the Geographic Information System and, finally, the automated exchange of data, linking end-users, whether in government departments or in the private sector, so that all data can be viewed or updated.

This, in turn, means that better services can be offered to citizens and other residents as well as to visitors.

Dubai Electronic Guide Project



The Geographical Information and Interactive Mapping Site "Explore Dubai"

In 2001, the Municipality announced its "Dubai Electronic Guide." This provides a way of looking for and selecting the various services available in Dubai through the Municipality's website. The facility was later developed to become "Explor Dubai", which was given its own website, www.exploredubai.ae, as well as being accessible through the Municipality website.

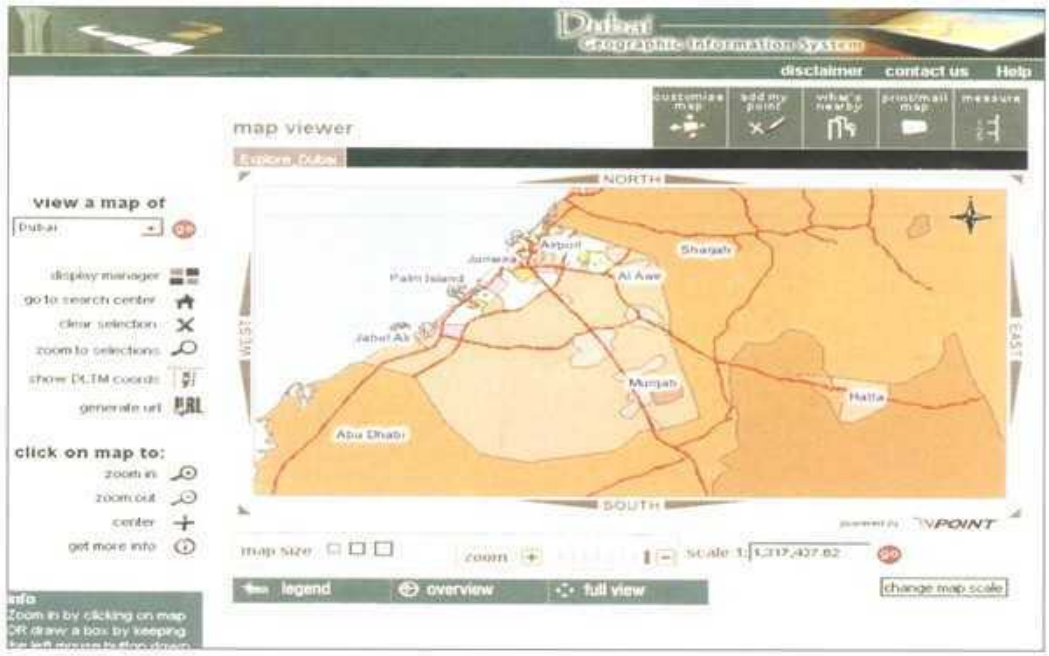
www.exploredubai.ae is the first official source for accurate and detailed geographical information about Dubai and also serves as a guide for visitors, using the approved address system for the whole of the Emirate.

The website includes a map that pinpoints the locations of all of Dubai's main attractions, including hotels, public utilities, commercial centres and restaurants. It also makes it easy for visitors to the site to obtain information and statistics relating to hotels, to make hotel bookings on-line, through links to the web pages of the hotels themselves, and to look at the facilities near each hotel.

The website also gives details on the location of various areas and on the major projects currently under construction as well as giving data for property owners in both English and Arabic.

Any hotel, company or other organisation can also provide a link on its own website to www.exploredubai.ae making it easy for intending visitors to check their location.

Geographic Information
System DUGIS
www.dugis.ae



Internet site for Dubai's Geographic Information System, DUGIS

In 2002, the Internet-based Geographic Information System "DUGIS" was approved for use in the Emirate of Dubai. The website www.dugis.ae provides Internet users with access to the system, and permits them to view, to analyse and to print geographical data about the Emirate.

The system was designed to meet the needs and the levels of expertise of various types of user, such as planners, engineers, inspectors and administrators, with each being given limited access, according to these needs.

www.dugis.ae links the databases of the Land and Properties Office and the Real Estate Office, and also offers access, according to the level of registration, to view and analyse data from the Civil Defence, Dubai Police, the Economic Development Department, the Civil Aviation Department, the Land and Property Office, the Dubai Electricity and Water Authority, the Dubai Free Zone Authority for Ports and Customs, Etisalat and Emaar.

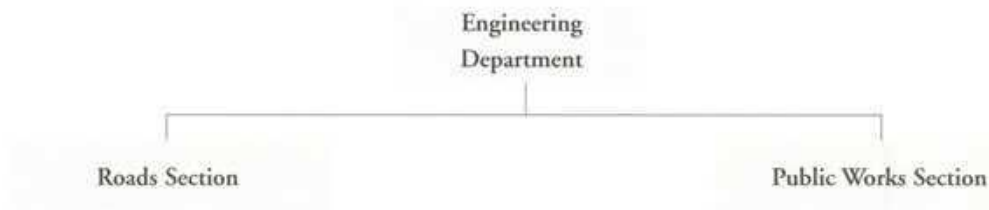
The Internet application of DUGIS, www.dugis.ae, also includes tools to analyse types and patterns of geographical data such as geodesic data, land data and other service data.

Thus Internet users can view data on land ownership held at the Land and Property Office, and then look at geographical data provided through interactive mapping. They can also enquire about and analyse any other type of geographical data such as data on land, building laws and legislation or on vital utilities such as drainage and sewerage networks. The mapping can then be printed or sent by e-mail to recipients.

General Maintenance Department

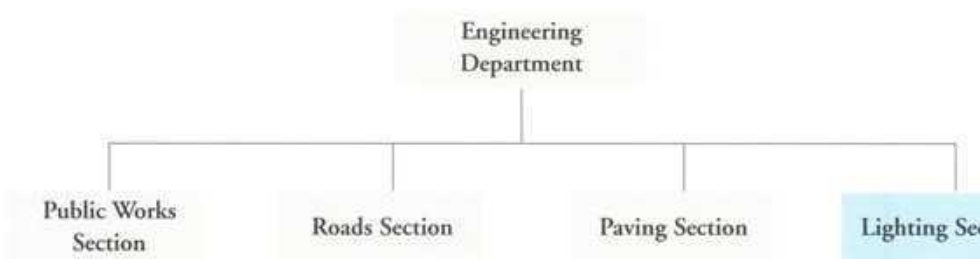
The origins of the General Maintenance Department of Dubai Municipality can be traced back to the establishment of the Public Works Section and Roads Section as part of the Engineering Department in the early 1960s. Maintenance was then carried out by small teams of workers divided into two groups which were affiliated to the Engineering Department. This continued until 1972, as shown in Chart No. 1.

Chart No. 1. Organisation Chart for the Maintenance Section, 1964 – 1972



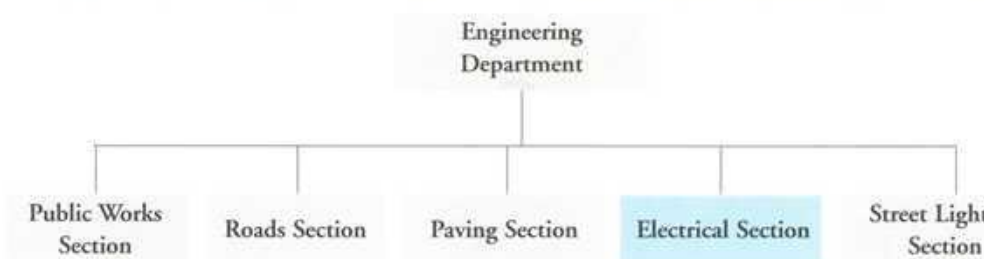
In 1972, the Lighting Section was created, as shown in Chart No. 2, this also having some duties related to maintenance.

Chart No. 2. Organisation Chart for the Maintenance Section, 1972 – 1978



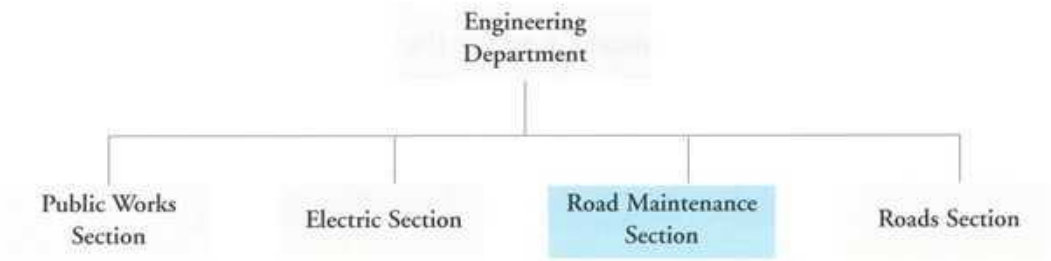
It became clear as a result of the rapid growth taking place that there was a need to separate Road Lighting from other electrical work. This was done in 1978, through the establishing of separate sections for electrical work and for street lighting, as illustrated in Chart No. 3. Mechanical maintenance was an important part of the work of the Electrical Section.

Chart No. 3. Organisation Chart for the Maintenance Section, 1978 – 1980



At the beginning of the 1980s, there was an increasing amount of work being undertaken by the Municipality on the construction of roads, tunnels, bridges and various utilities, and there was, therefore, a need for a greater capability in terms of maintenance. This led to the establishment of the Road Maintenance Section, as shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Maintenance Section, 1980 – 1988



The continuing development of Dubai meant that the Municipality's physical assets were growing quickly, with a consequent increase in the need for an effective in-house maintenance programme and capacity. In 1988, therefore, it was decided to establish the Building and Housing Department, as shown in Chart No. 5. This Department had a special section for building maintenance, including both civil engineering and electrical work.

Chart No. 5. Organisation Chart for the Maintenance Section, 1988 – 1992

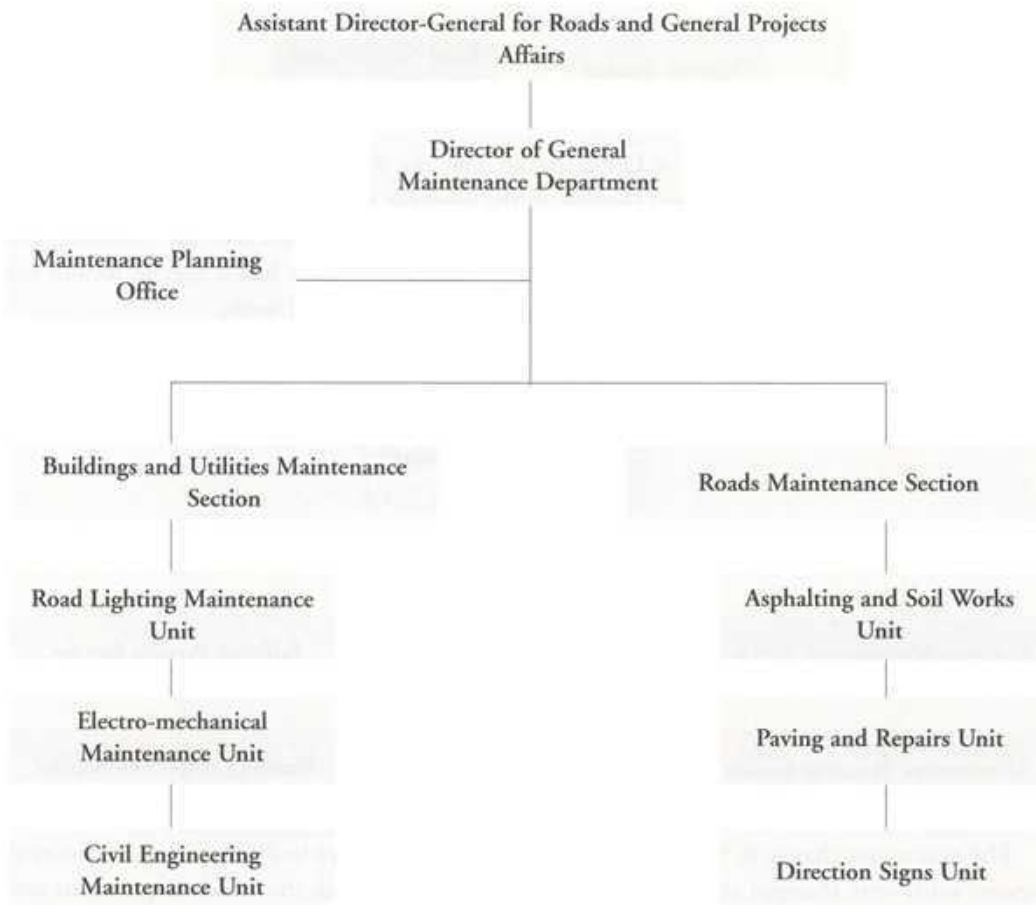


The next major change in the administrative structure took place in 1992, when the names of several units were changed and two new departments were created, the Roads Department and the General Projects and Maintenance Department. The maintenance of roads was made part of the responsibility of the Roads Department, while the maintenance of buildings and other establishments was given to the General Projects and Maintenance Department. This allocation of responsibilities continued until 1998, with the Roads Department having four Sections, dealing with Roads Maintenance, Road Lighting, Road Construction and Road Planning, and the General Projects and Maintenance Department having two sections, for Building Maintenance and for Projects.

Establishment of the General Maintenance Department

The General Maintenance Department was created on 15th July 1998, under the terms of Directive No. 185 for 1998, as part of planning to provide the Municipality with the appropriate structure to deal with the rapid growth of the city. In particular, it had become apparent that there was a need for a dedicated maintenance department. The Organisation Chart for the Municipality was changed accordingly, as shown in Chart No. 6.

Chart No. 6. Organisation Chart for the General Maintenance Department, 1998



One early task was the introduction of a computerised management system in the new Department. This included features to permit the efficient administration and organisation of regular maintenance work and repair for all buildings and other structures owned by the Municipality, such as traffic signs, electricity poles and pylons, vehicles and other equipment.

The introduction of this system increased the Department's productivity and also helped to lengthen the life expectancy of depreciated and fixed assets, thus saving both time and money.

It also made it easier to ensure that the right spare parts were available and helped to improve operational performance as a whole, while it also became easier to monitor the performance of companies carrying out maintenance work once the Municipality had begun to out-source this work.

Duties and responsibilities of the General Maintenance Department and its sections

The out-sourcing of work was gradually introduced from 1999 onwards, in response to the increase in the number of establishments owned by the Municipality and because of the expansion of the road network, resulting in more lighting, signs, pavements and so on. All maintenance work is now out-sourced, and is supervised by the General Maintenance Department. The most important aspects are as follows:

Carrying out maintenance, modernisation and the necessary repairs to the property under the Municipality's control. This includes buildings, public parks and related utilities and the roads network, as well as bridges, tunnels, road lighting, pavements, pedestrian bridges, directional signs, other traffic signs and other installations which are the responsibility of the Municipality.

Reducing the amount of corrective maintenance work, to strike the appropriate balance in the preventative maintenance programme.

The Department also takes part in the work of the committees responsible for the hand-over of Municipality projects, once they are completed, and monitors the implementation of Municipality regulations in all matters relating to maintenance.

It lays down the short-term and long-term plans for its work, reviews plans put forward by other administrative units and then ensures that they are carried out and also prepares, presents and implements its own annual budget, in co-ordination with the other relevant units of the Municipality. Another administrative task is the reviewing of monthly, quarterly and annual reports from various administrative units and making the recommendations required to deal with any problems.

In terms of the maintenance work itself, the Department prepares and revises annual maintenance contracts and monitors the quality of the work being carried out, on these and on planned maintenance programmes, in coordination with the Maintenance Planning Office and the units concerned. These contracts deal, in particular, with buildings, utilities and street lighting.

It also draws up and ensures the implementation of preventative maintenance and repair programmes and carries out internal auditing of its work.

In terms of work related to the hand-over of new projects and projects still under guarantee, the Department prepares the necessary No Objection certificates and archives all completed plans. The No Objection certificates include those dealing with road maintenance and street lighting.

Since it is the responsibility of the Department to oversee all maintenance, it is, of course, necessary for it to carry out routine inspections to determine maintenance needs for roads, pedestrian walkways, road signs, bridges and tunnels. Another task is the repair and replacement of defective or old traffic signs and the installation of new ones, as well as maintenance, repair and replacement of safety barriers of various kinds, both on roads and for pedestrians, as well as carrying out improvements at road intersections to improve the flow of traffic.

It also receives and handles requests from the public as well as from other bodies for back-filling or the levelling of roads.

More generally, the Department is also responsible for making suggestions and for carrying out policies and regulations and Municipal directives related to the maintenance of buildings, road lighting and associated equipment.

In general terms, the Department, finally, is responsible for monitoring the work carried out by contractors on roads and for imposing any fines that may be necessary as a result of violations of Municipality Ordinances as well as for implementing all of the Municipality's polices and rules related to preventative maintenance and repair of roads and associated utilities and of pavements.

The policy of out-sourcing maintenance work that began in 1999 meant that the Department was obliged to terminate the services of its manual labourers, while there was also a reduction in the total number of technical positions. The following tables shows the changes in the employment structure of the Department between 1996 and 2002.



Maintenance of street lighting

The out-sourcing programme also meant that the Department no longer had to maintain its own stocks of equipment, and a number of items were disposed of, being surplus to requirements, as shown in this table.

Fixed Assets of the General Maintenance Department, 1998 – 2002

Building and Utility Maintenance Section

Year	1998	1999	2000	2001	2002
Number of Buildings	494	509	527	539	544
Road Lighting (km.)	808	1,007	1,206	1,314	1,400

Road Maintenance Section

Length of Roads Network (Lane/km)	1998	1999	2000	2001	2002
	5,265	5,420	6,362	6,902	9,100

Year / Department/ Section	1996	1997	1998	1999	2000	2001	2002
Department and Planning Office	0	0	4	5	8	9	11
Road Maintenance Section	215	216	208	124	62	62	63
Building and Utility Maintenance Section	157	152	213	58	62	62	62
Total	372	368	425	187	132	133	136

Items of equipment held by the Department, 1998 – 2002

Years / Section	1998	1999	2000	2001	2002
Road Maintenance Section	88	40	40	35	37
Building and Utilities Maintenance Section	49	37	41	41	45
Total	137	77	81	76	82



Maintenance of Al-Maktoum Bridge

The out-sourcing programme had immediate cost benefits, as shown in the following table.

Comparison of costs prior to and after out-sourcing

Building and Utilities Maintenance Section

Maintenance Contracts	Cost of Work prior to out-sourcing	Value of maintenance contracts after out- sourcing	Saving (Dirhams)
Maintenance of the Municipality's housing stock	3,631,000	1,900,000	+1,731,000
Annual maintenance contract for plumbing, carpentry, painting and building work.	3,900,000	1,980,000	+1,920,000
Annual maintenance contract for electrical systems	2,150,000	850,000	+1,300,000
Maintenance contract for air-conditioning and other equipment	1,119,000	900,000	+219,000
Maintenance contract for fountains	533,000	550,000	-17,000
Annual maintenance contract for road lighting	3,800,000	3,700,000	+100,000
TOTAL	15,133,000	9,880,000	+5,253,000



Maintenance of Electrical Systems

Road Maintenance Section

Maintenance Work	Cost of Work prior to out-sourcing	Value of maintenance contracts after out - sourcing	Saving (Dirhams)
Maintenance of pavements and fixtures	3,950,000	3,160,000	+790,000
Painting road lanes	2,150,000	0	+2,150,000
Maintenance of asphalt pavements	3,100,000	5,750,000	-2,650,000
Maintenance of road signs and signals	2,100,000	3,539,770	-1,439,770
Soil works and maintenance of unpaved roads	3,600,000	5,866,000	-2,266,000
Cleaning road signs	500,000	0	+500,000
TOTAL	15,400,000	18,315,770	-2,915,770



Maintenance of traffic lights

Building and Utilities Maintenance Section

Total expenditure, by Chapter, 1998 – 2001, in dirhams

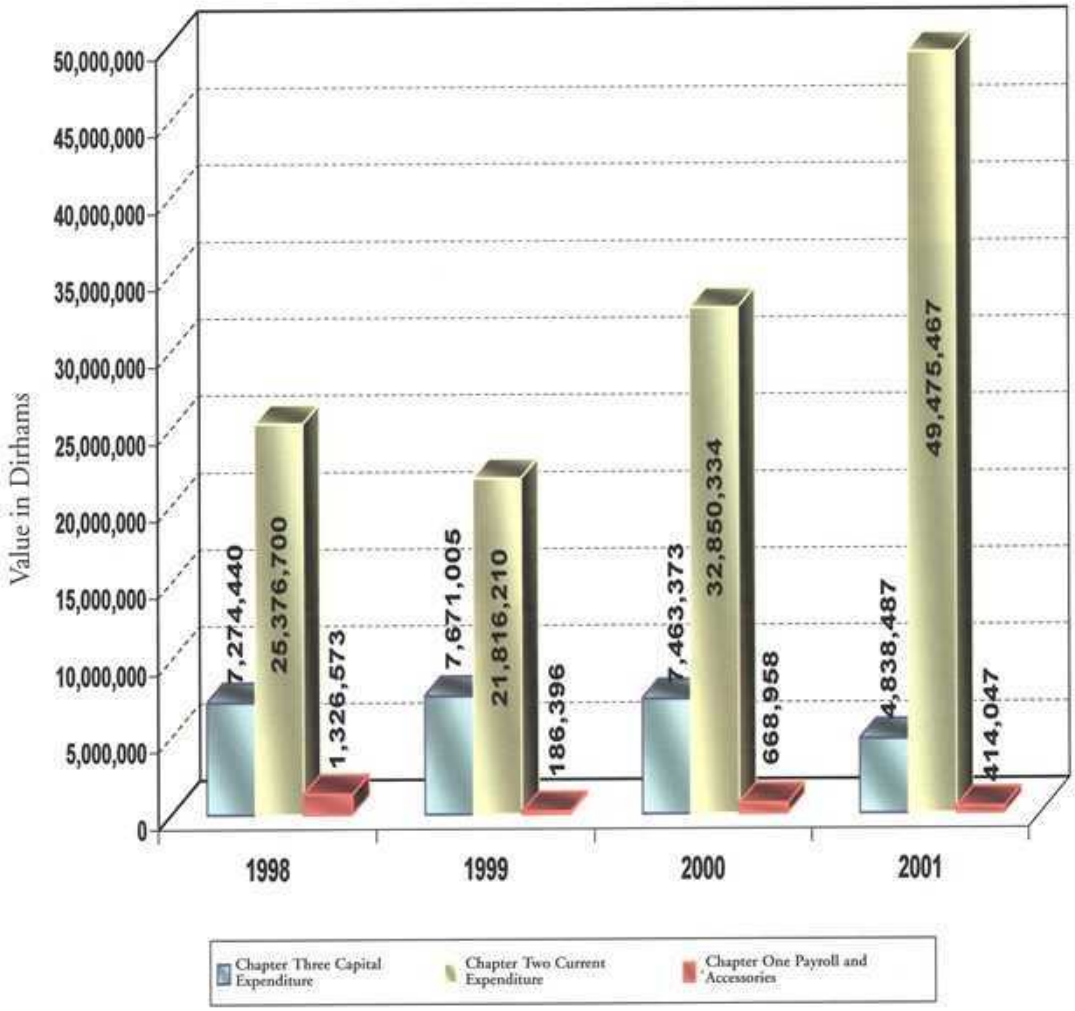
Item	Chapter One Payroll and Accessories	Chapter Two Current Expenditure	Capital Expenditure	Total expenditure for Building and Utilities Maintenance Section
1998	7,274,440	25,376,700	1,326,573	33,977,714
1999	7,671,005	21,816,210	186,396	29,673,611
2000	7,463,373	32,850,334	668,958	40,982,665
2001	4,838,487	49,475,467	414,047	54,728,000

The net increase in costs relating to road maintenance following the out-sourcing programme was due to a variety of factors. In 1997, for example, asphalting work covered an area of 78,000 square metres, while in 2002, it had risen to 240,000 sq. metres. There was also a sharp increase in the size of the road network, from 4,828 km./lanes in 1997 to 9,100 km./lanes in 2002.

Better quality services were also provided in response to public demand, such as, for example, the provision of temporary gravel roads, rather than rolled tracks, across sabkha.

It should also be noted that the out-sourced contract for road signs and traffic signals also covered the cleaning of signs and the painting of lines dividing the lanes of roads, this latter previously having been accounted for as a separate item.

Expenditure by the Building and Utilities Maintenance Section, by Chapter, 1998 – 2001



Expenditure

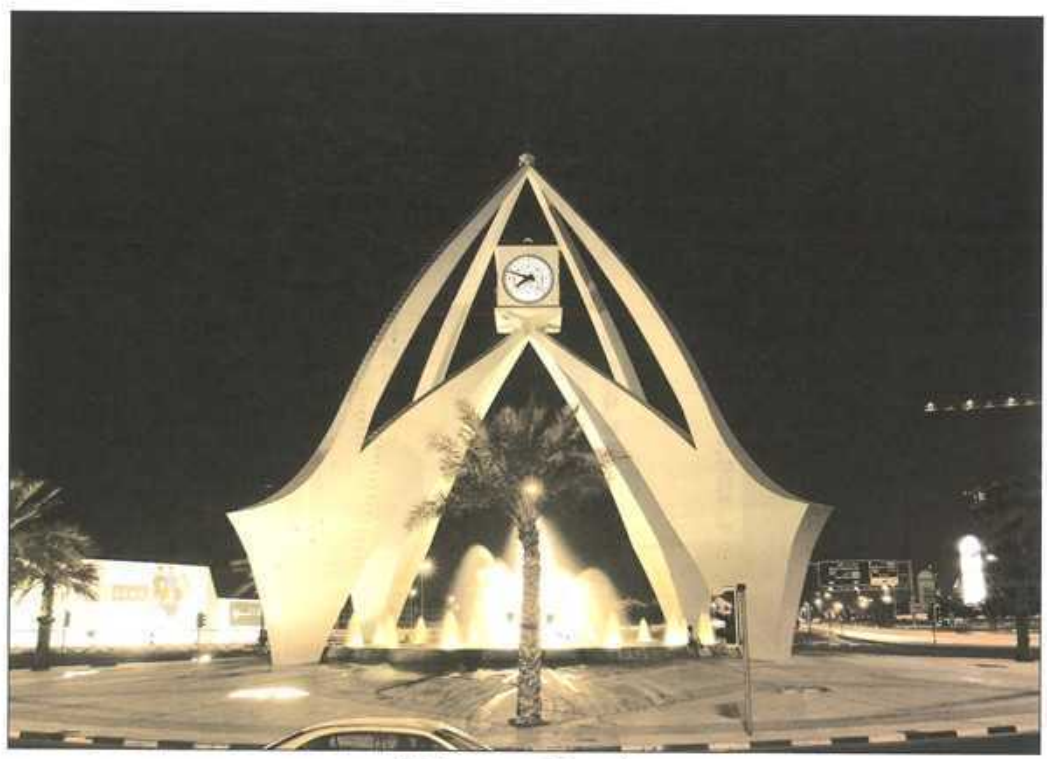
In order to plan ahead for its work, the Department carried out a careful examination of the actual expenditure within its various sections, using this to estimate future spending. Details are shown in the tables that follow.

The large increase in current expenditure in the Section during 2000 was due primarily to the fact that several major annual contracts were awarded in 1999, with payments for these being made in the financial year 2000. These including a contract for building maintenance, with a value of 7,113,204 dirhams, a contract for maintenance of garden fountains, with a value of 1,433,742 dirhams, an air-conditioning contract worth 433,652 dirhams and a general garden maintenance contract worth 350,000 dirhams.

Other contracts having a significant impact on expenditure during the year included additional maintenance work on schools, costing 12,901.900 dirhams, and the carrying out of several projects not originally included in the planned budget, which accounted for a total of expenditure of 3,911,069. These included the maintenance and development of the Deira fish market, improvements to kitchens in accommodation camps for labourers and maintenance on six buildings received by the Municipality as a result of the closing down of the Jumeirah camp.

A subsidy of 429,069 dirhams was also paid to various clubs and societies.

The increase in current expenditure in the Road Maintenance Section in 2000 was due to a number of factors.



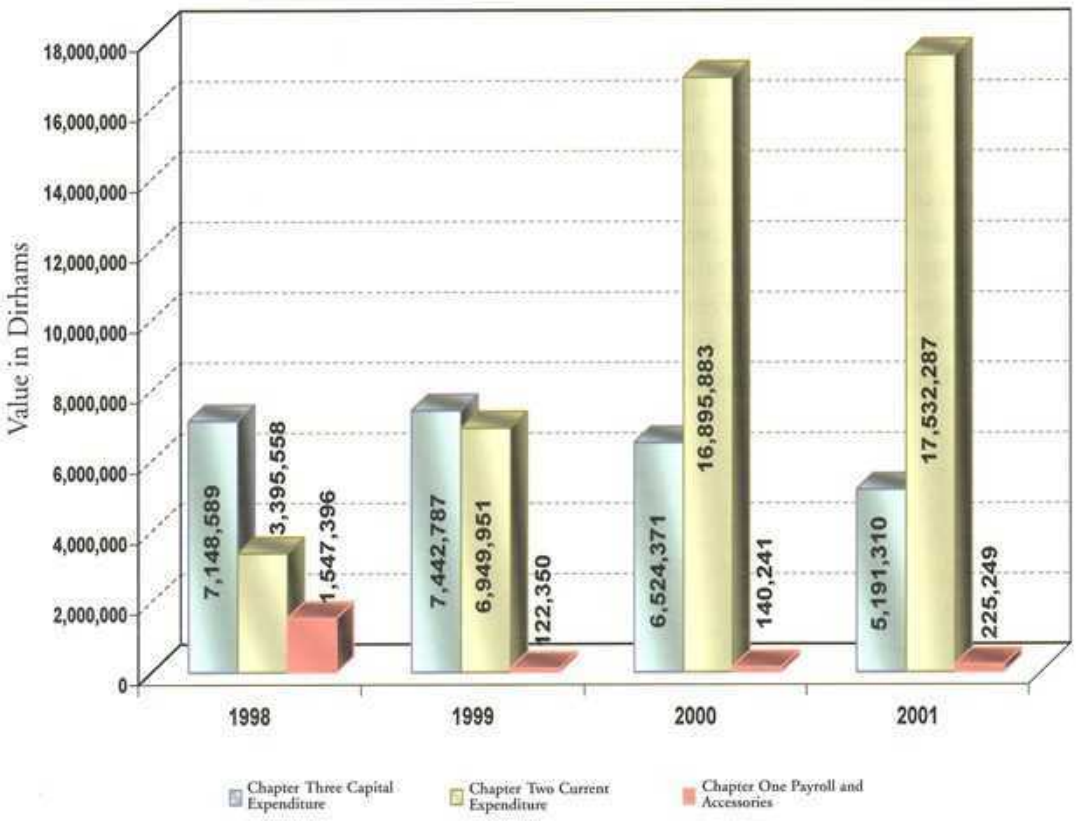
Maintenance of Fountains

Road Maintenance Section

Total expenditure, by Chapter, 1998 – 2001, in dirhams

Item	Chapter One Payroll and Accessories	Chapter Two Current Expenditure	Capital Expenditure	Total expenditure for Road Maintenance Section
1998	7,148,589	3,395,558	1,547,396	12,091,543
1999	7,442,787	6,949,951	122,350	14,515,088
2000	6,524,371	16,895,883	140,241	23,560,495
2001	5,191,310	17,532,287	225,249	22,948,846

Expenditure by the Road Maintenance Section, by Chapter, 1998 – 2001





Road Maintenance

The use of asphalt rose to 74,986 sq. metres, costing 2,984,000 dirhams, as well as a further 20,721 sq. metres used to fill in cracks and to repair roads, while the Section also took over various duties formerly carried out by the Roads Department. These included the repair of high-level traffic lights, the erection of large signboards, the cleaning of signs and road-painting. This cost a total of 3,193,000 dirhams. Work carried out for other Departments, but charged to the budget of the General Maintenance Department, cost 432,000 dirhams while items to the value of 1,275,000 purchased in 1999 were not paid for until 2000.

There were also payments of end-of-service benefits for manual labourers whose employment with the Department came to an end as a result of the introduction of the out-sourcing programme. These payments amounted to 1,988,000 dirhams.

Establishment and Development of the Markets & Abattoirs Department

The first market established by the Municipality was the fruit and vegetable market at Sabkha, in Deira, which opened in 1964. A number of other markets were set up at the beginning of the 1970s, as described below.

Al-Sanadeeq Market (now Nayif Market)

Established in 1970 in the Nayif area in Deira, it had around 50 stalls for selling fabrics and clothing, with others selling charcoal and tobacco, and was one of the most active markets at the time.

It was replaced in 1988 by the Nayif Market, which took its name from the nearby Burj Nayif (Nayif Tower). This rapidly became one of the busiest markets in the city, with a total of 182 shops, selling clothes, perfumes, accessories and various types of fabrics.

Deira Fish Market

This market was established in 1971 in the Al-Raís area of Deira, with fifty stalls selling fish, meat, fruit and vegetables and with a number of vendors selling from displays laid out on the ground. In 1987, it moved to newly-built premises nearby which included stalls for selling fish, fruit and vegetables and spaces for small carts from which fruit and vegetables were also sold. Besides this, there were a number of shops, selling meat, vegetables and other foodstuffs, tables displaying local produce, including dates, and other displays of fodder and other locally-made goods. This market has been renovated several times.



Fish Market

Bur Dubai Fish Market

This market opened in 1970 in the Al-Ghabibia area in Bur Dubai, inside a large enclosure where fifty shops had been constructed for the sale of fresh meat, fruit and vegetables. A number of vendors also displayed their goods on the ground, while there was a small abattoir for cattle nearby. In 1976, the number of shops was increased to 60.

Another group of 16 shops for the sale of fruit and vegetables was built nearby in 1969, this being known as the Al-Ghabibia Market. It lasted until 1990.

In 1992, the fish market was closed, with traders from both markets moving to the Al-Shindagha Market, also in Bur Dubai.

Cattle Market

The origins of today's cattle market go back to the 1960s and beyond. At the beginning of the 1960s, there were two cattle markets, one in the Al-Ra's area, known as Al-Arsa Market, and another in the Sabkha area. In 1963, these were closed and a new market selling cattle, sheep and fodder was established in the Nayif area. In 1968, the market moved again, to a new site on the location of today's Al-Shabab Club, and then it moved once more, in 1971, to a location adjacent to Hamriyyah Port.

The market was moved to its present location, in Al-Qusais, in 1995, this move being made for ease of movement of the livestock from the market to the nearby abattoir.



Al-Shindagha Market

Wholesale Vegetable Market in Hamriyyah

During the 1980s, the Emirate of Dubai grew rapidly, with a consequent growth in the population. Foreseeing this development, it was recognised that a large wholesale fruit and vegetable market was required, and a site was chosen at Hamriyyah. It was supervised by the Health Section of the Municipality, which monitored the quality of goods sold. The market, which still operates in the same location today, was administered by four Municipality employees.

Local Markets

A number of local markets were also established in residential areas. In 1985, for example, the Al-Rashidiya Central Market was opened in Al-Rashidiya area, with 46 shops selling a variety of clothes, perfumes, accessories and fruit and vegetables, as well as a number of tailor's shops.

In 1986, the Hamriyyah Central Market opened. This had 72 shops.

It was initially supervised by the Municipality's Health Section, but, later the same year, it was handed over to the Administrative Affairs Section, under the direct supervision of the head of the Section. At the end of 1986, there were seven Municipality employees involved in managing markets, four of them in the Administrative Affairs Section and three in the Health Section.

In 1988, the responsibility for supervision of the markets was transferred to the Commercial Licence Section under the direct supervision of the Head of Section, with one more employee being added.

In 1989, Administrative Directive No. 208 amended the Organisation Chart of the Section so that it became the Commercial Registration and Licence Department. The Markets Section was established as a separate administrative unit and was given the responsibility of managing the seven main markets that then existed.

1– The Hamriyyah Wholesale Fruit and Vegetable Market, opened in 1980.

2– The Al-Rashidiya Central Market, opened in 1985.

3– The Hamriyyah Central Market, opened in 1986.

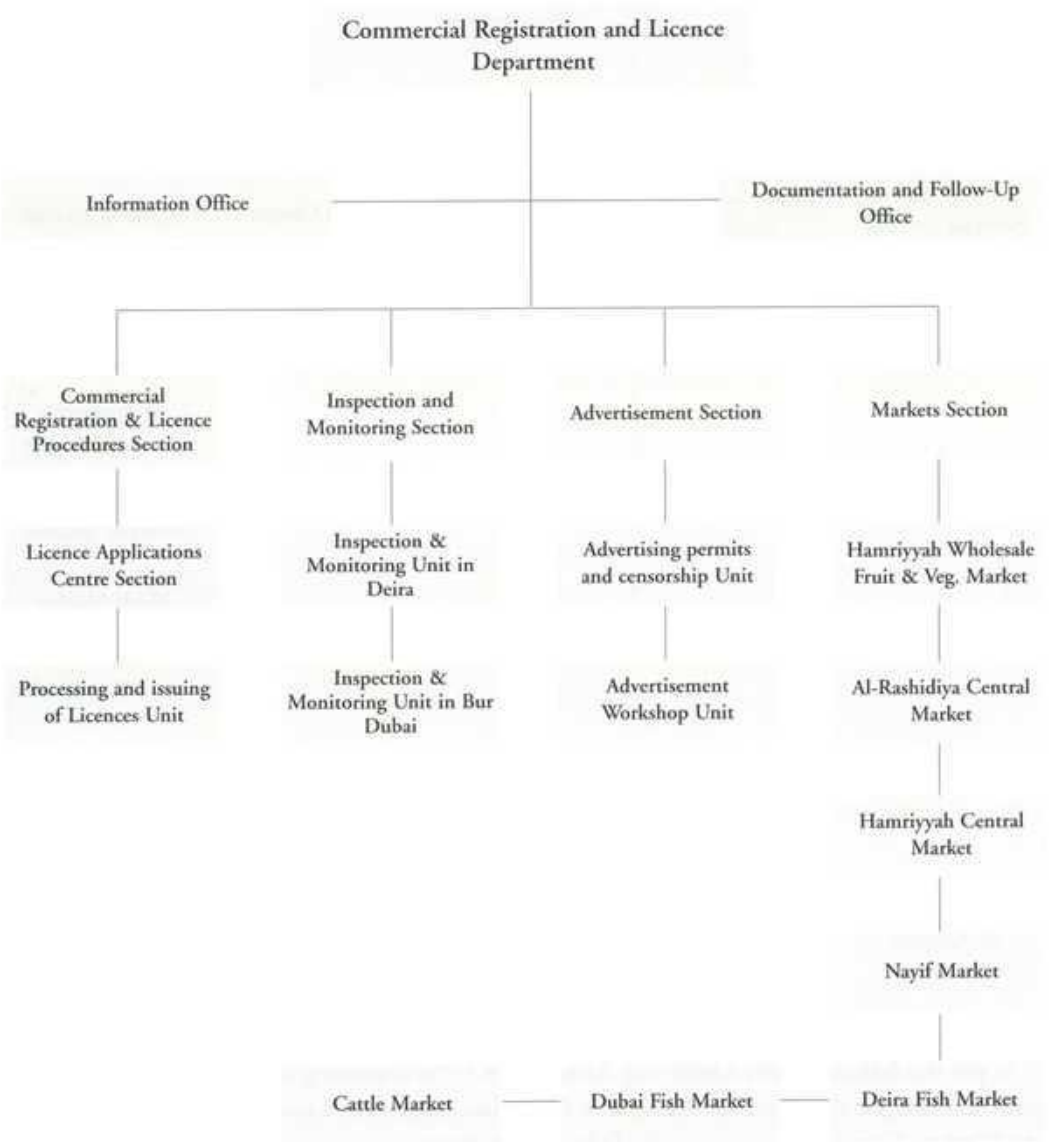
4– Nayif Market, opened in 1988.

5– The Deira Fish Market, opened in 1971.

6– The Bur Dubai Fish Market, opened in 1970.

7– The Cattle Market, opened in 1963.

Chart No. 1. Organisation Chart for the Commercial Registration and Licence Department in 1989



In 1989, the job description for the Markets Section was drawn up, with a total of twenty employees. This remained in operation until 1993 when, in accordance with Administrative Directive No. 206, the Markets Section was removed from the Commercial Registration Department to become part of the Administrative Affairs Department, as shown in Chart No. 2. At the same time, the Commercial Registration and Licence Department was transferred from the Municipality to the Economic Development Department.

Chart No. 2. Organisation Chart for the Administrative Affairs Department in 1993



As per the Administrative Order No. 22 issued in 1998 approving the organizational structure and modified job descriptions, subsequent to the issuance of the Local Order No. 107 of 1997, the Markets Section will supervise the following markets.

1– The Hamriyyah Wholesale Fruit and Vegetable Market.
2– The Hamriyyah Central Market.
3– The Al-Rashidiya Central Market.
4– Nayif Market.
5– Deira Fish Market.
6– Al-Shindagha Market.
7– The Cattle Market.
8– The Abattoirs.
9– A new market at Nad al-Sheba.
10– The market in Hatta.

In October 1998, Administrative Directive No. 291 was issued to establish the Markets and Abattoirs Department and to update the duties and responsibilities of the Markets Section.

The new Department had four Units, the Central Markets Unit, the Fruit and Vegetables Markets Unit, the Fish Markets Unit and the Cattle Market Unit, as shown in Chart No. 3.



Fruit and Vegetable Market

Chart No. 3. Organisation Chart for the Markets and Abattoirs Department in 1998



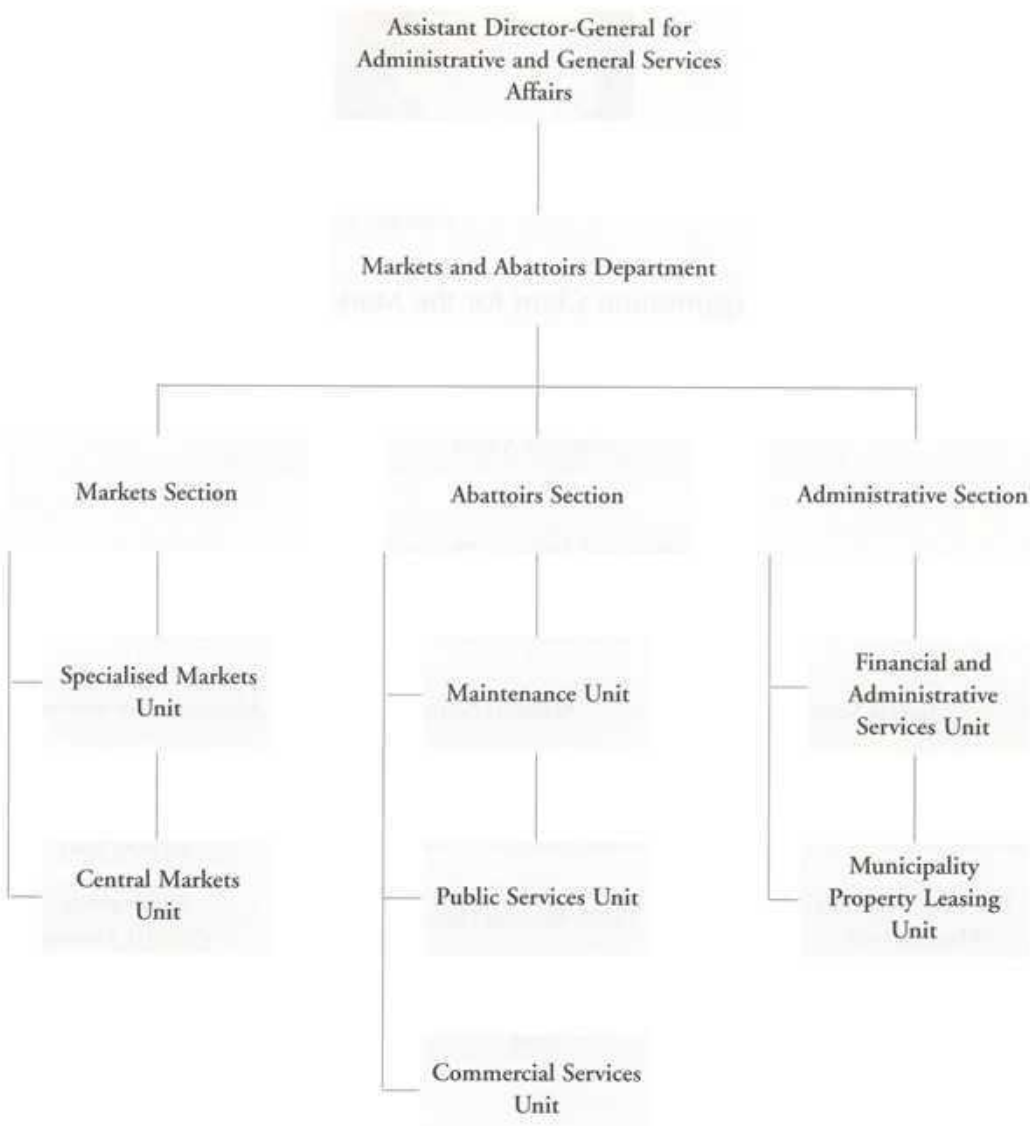
In 1999, Administrative Directive No. 280 amended the organisation chart for the Markets Section within the Markets and Abattoirs Department to create two separate Units,

1- The Specialised Markets Unit

2- The Central Markets Unit

as shown in Chart No. 4.

Chart No 4. Organisation Chart for the Market and Abattoir Department in 1999



Duties and responsibilities of the Markets and Abattoirs Department and its sections

The Department and its various sections and Units are responsible for the supervision, monitoring, inspection and development of all of the Municipality's markets and abattoirs and for ensuring that they are run in accordance with the agreed plans and adhere to Municipality rules and regulations. This task includes the function of ensuring that the appropriate health and safety procedures are followed. All of this work is down in accordance with the policies and procedures laid down by the Municipality's Director-General.

Health and safety, both for market workers and for the public, are a key task. In the abattoirs, this is of particular importance and the Department has the role here of proposing and implementing the appropriate methods for receiving and slaughtering of livestock, and for the preparation, preparation and storage of meat, as well as its delivery to customers. Both normal and cold stores are provided. Qualified veterinarians are present to ensure that animals, both alive and following slaughter, are free of disease and fit for human consumption. They oversee the cutting up of the carcasses and the delivery of these, along with skins and offal, to the owners of the animals and are also responsible for ensuring that all slaughtering is undertaken in accordance with the precepts of Islamic Sharia law and for supervising the disposal of animal waste.

The Municipality abattoirs are provided with the latest equipment to ensure that they operate both economically and in accordance with international standards.

The Department is also responsible for leasing market properties and for collecting rents and other fees and for the keeping of detailed financial records on revenue, expenditure, purchasing, stores and the payment of casual labourers. Each merchant or operator is checked to see that they have the necessary permits and licences or rent agreement. Where appropriate, the Department



Operations inside the abattoir

also works with the Dubai Economic Development Department on inspection campaigns to check that those running shops in markets have the right permits. Tenants are extensively briefed on all relevant regulations, while prompt action is taken against any violations of the Municipality's rules as well as other legislation.

Wherever necessary, the Department works with the relevant units of the Municipality responsible for maintenance, planning, health and environment, to ensure that the buildings, vehicles and other equipment are properly maintained and that the relevant rules and regulations are implemented.

To ensure that the markets and abattoirs operate effectively, the Department also promotes them through exhibitions, advertising campaigns and other activities designed to attract more business.

Recently-built markets administered by the Municipality

The second-hand car hypermarket

In order to make the buying and selling of second-hand cars in Dubai more efficient, the Municipality decided to establish a dedicated market for this purpose. A site was chosen at Ra's al-Khor in 1998, and the necessary facilities were built, costing 55 million dirhams. Construction work ended in June 2001, though the market itself had opened for business the previous year, with 130 showrooms, two auction yards and 2,231 car-parking spaces.

The market also has an area for testing vehicles, an office for registering sale and purchase, a bank to provide finance facilities and a cafeteria. Work on improving roads around the market and the street-lighting in the market was under way at the time this book was being written.



Second-hand car hypermarket

Al-Warsen Fruit and Vegetable Market

This large market is close to the junction between the highway to Al-Aweer and the Emirates Highway and covers an area of one million square metres. Selection of the site was finalised in 2001, and construction work, costing 153 million dirhams, was completed in 2003. Easy to reach, yet outside the city, it has helped to reduce the number of heavy trucks entering Dubai.

The market has an administration block and associated service facilities, as well as seven buildings with 284 wholesale shops. There are also four buildings for the retail trade, with a further 150 shops, selling fruit and vegetables, meat and fish. Associated with these are special areas for the wholesale and retail trade, truck loading and unloading bays and vehicle repair workshops.

There are also 18 cold stores, 24 packing warehouses, a refuse depot and a wide range of other offices and facilities, including a supermarket, cafeterias, a mosque, a Civil Defence station, a police station, a bank, a post office and a petrol station. A motel offers accommodation for drivers coming from far away, while there is also an accommodation block for manual workers.

Jum'a Market (Friday Market)

At the beginning of 2001, a weekly 'Friday Market' was opened in the Hamriyyah Central Market car-park. It has space for 445 market stalls, which sell a wide range of goods, excluding food items. Anyone wishing to trade in the market may do so provided that they inform the Market Section of the type of goods to be sold and obtain approval. No commercial licences are required, and no fees are payable to the Municipality.



Friday Market

Table No. 1. Shops in the various markets, 1990 – 2002

Market / Number of shops	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000*	2001	2002
Hamriyyah Fruit & Vegetable Market	171	194	225	245	285	236	308	316	316	322	389	169	169
Al-Rashidiya Central Market	43	43	43	43	43	43	43	43	43	45	46	46	47
Hamriyyah Central Market	68	68	68	68	72	72	72	72	72	72	72	72	72
Nayif Market	181	181	181	181	181	181	181	182	182	183	183	183	192
Deira Fish Market	317	319	321	321	321	321	321	411	421	421	421	421	1196
Al-Shindagha Market	136	136	127	329	329	329	329	329	329	329	329	152	157
Cattle Market	311	311	311	311	311	146	223	223	223	223	223	223	223
Nad El Sheba Market	-	-	-	-	-	-	-	-	53	53	120	168	169
Car Hypermarket	-	-	-	-	-	-	-	-	-	130	130	130	139

* The increase in number of shops is due to the addition of privately-owned shops

Table No. 2. Total revenue and expenditure for the Market Section, 1991 – 2002

Year	Total Expenditure	Total Revenue	Revenue as a percentage of expenditure
1991	2,072,813	8,389,554	405%
1992	2,349,936	5,962,377	254%
1993	2,566,263	6,291,520	245%
1994	2,673,765	7,580,082	283%
1995	2,988,266	8,689,949	291%
1996	4,573,733	11,652,627	255%
1997	3,664,555	10,445,276	285%
1998	4,224,694	10,884,137	258%
1999	3,883,277	11,340,900	292%
2000	4,378,580	15,060,377	344%
2001	6,224,717	15,272,151	245%
2002	5,559,088	40,974,551	737%
Total	45,159,687	152,543,501	338%

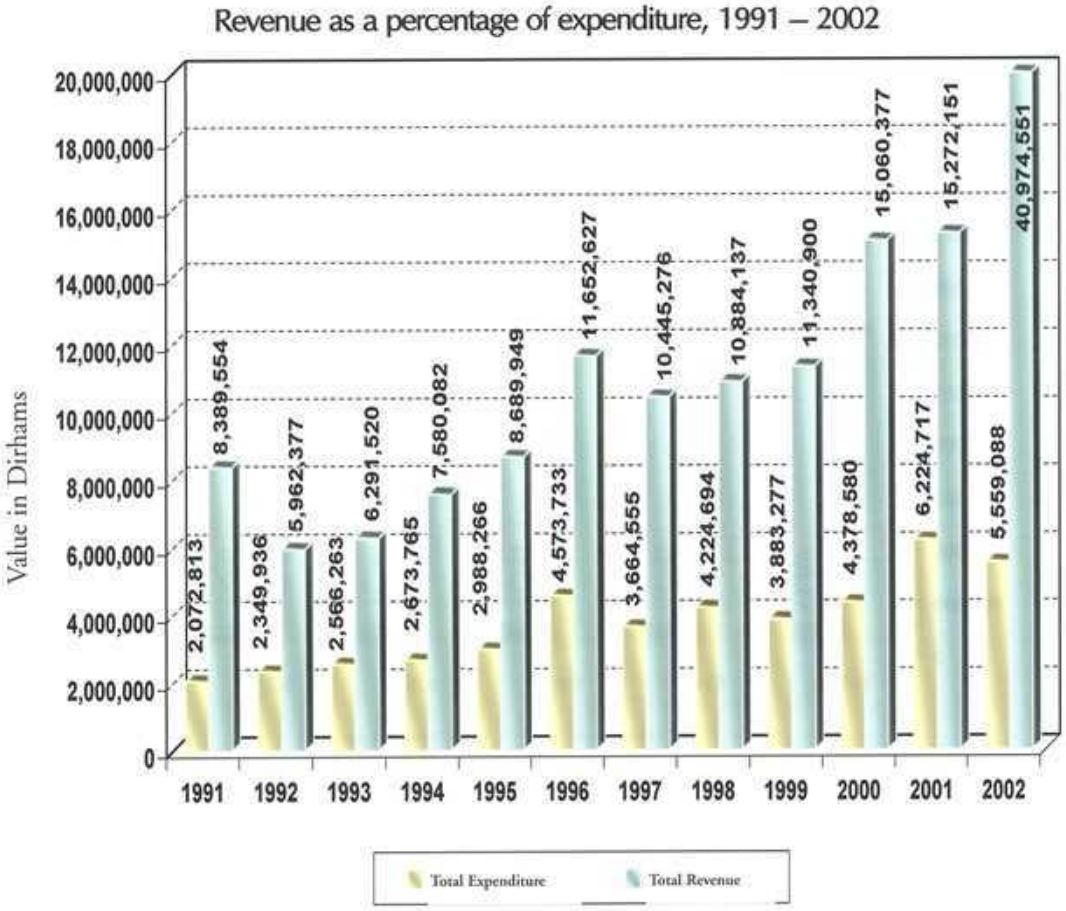
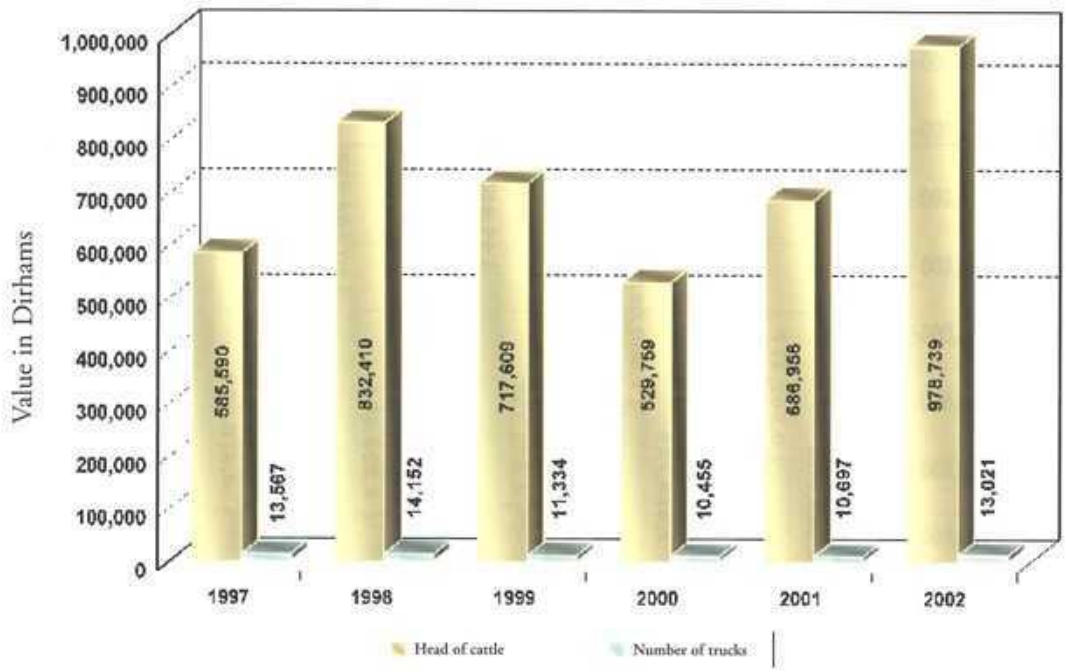


Table No. 3. Total number of refrigerated truck and cattle deliveries to the Hamriyyah Fruit and Vegetable Market and the Cattle Market, 1997 – 2002

Item	1997	1998	1999	2000	2001	2002
Head of Cattle	585,590	832,410	717,609	529,759	686,956	978,739
Number of refrigerated trucks	13,567	14,152	11,334	10,455	10,697	13,021

Total number of refrigerated truck and cattle deliveries to the Hamriyyah Fruit and Vegetable Market and the Cattle Market, 1997 - 2002



Refrigerated truck deliveries to the Hamriyyah Fruit and Vegetable Market and to the Cattle Market, by origin, in 2002

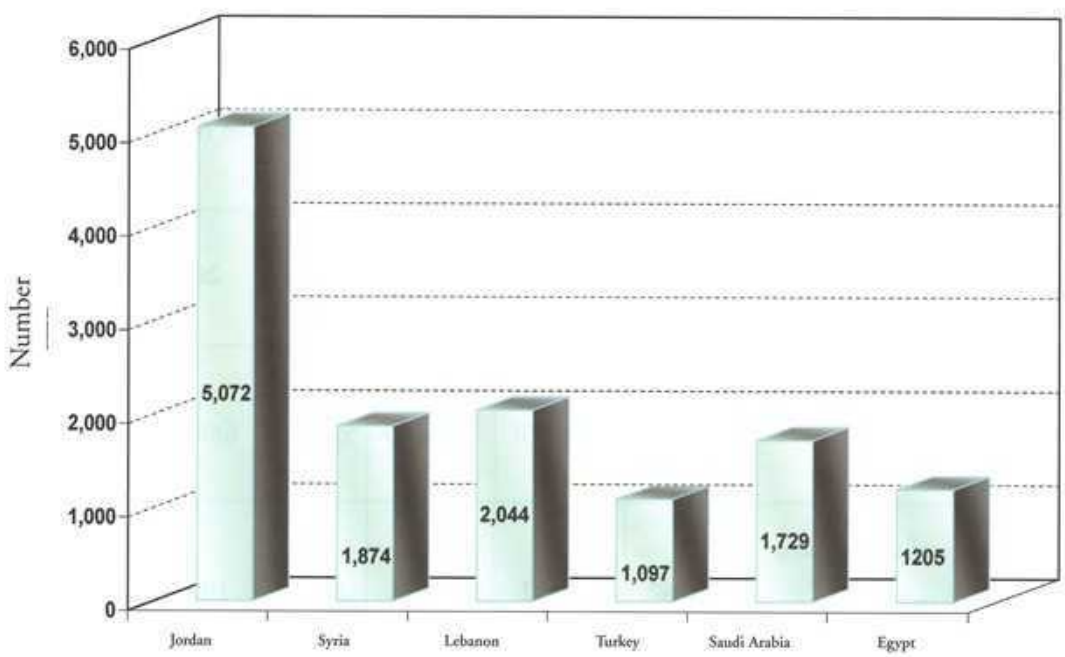
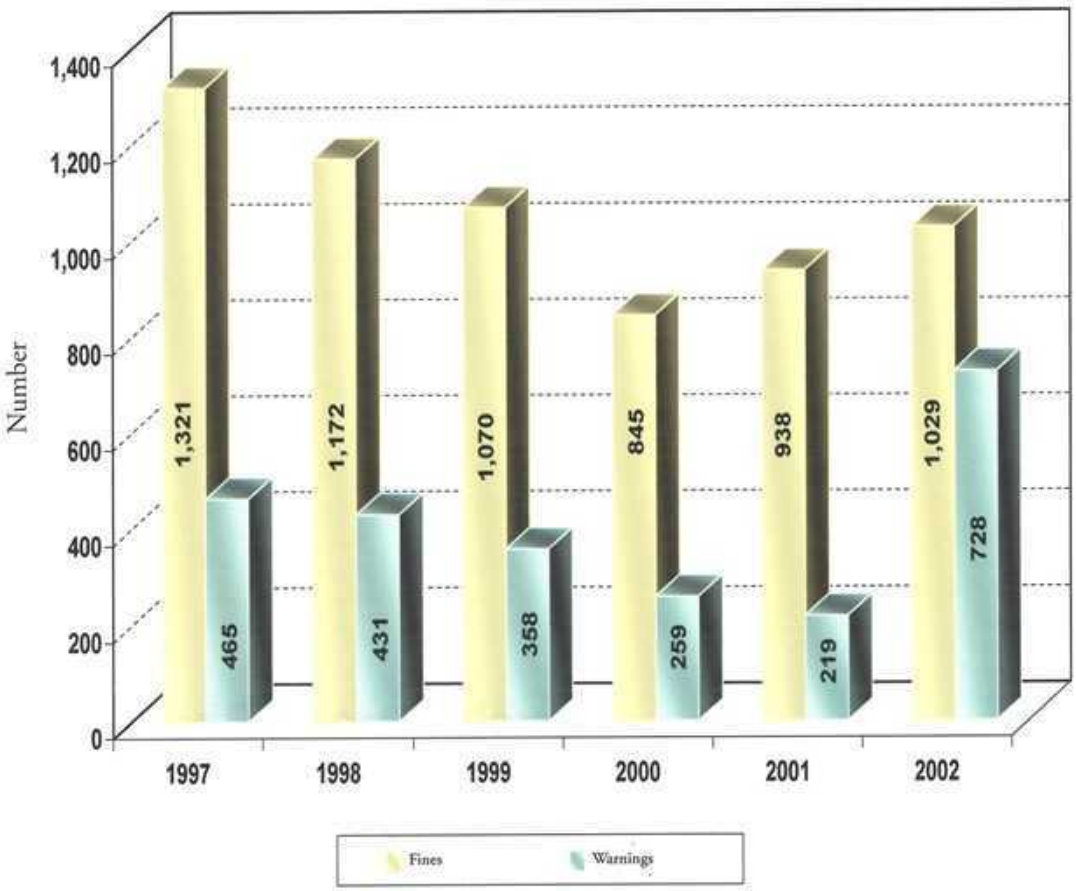


Table No. 4. Number of offences in the markets, 1997 – 2002, by type of penalty

Item	1997	1998	1999	2000	2001	2002
Fines	1,321	1,172	1,070	845	938	1,029
Warnings	465	431	358	259	219	728
Total	1,786	1,603	1,428	1,104	1,157	1,757

Number of offences in the markets, 1997 – 2002, by type of penalty



Development Phases of the Abattoirs

The origins of today's abattoirs in Dubai can be traced back to 1957, when a small one was built behind the present Nayif Centre, consisting only of a cement floor building with wooden rails on which the carcases were hung. It had no running water, and water supplies were brought from elsewhere.

In 1961, in order to safeguard the health of the public, Municipal Ordinance No. 6 was issued to prohibit the slaughter or sale of meat, or the sale of cattle and offal anywhere other than in the locations specified by the Municipality. The original abattoir was closed down and two new ones were opened, one in Bur Deira, as part of the Fish Market, and the other in Dubai, at the Bur Dubai Market. Both were very simple, meeting only very basic public health needs. The butchers in both were self-employed. These two abattoirs continued to operate until 1989.

During the 1980s, however, the process of monitoring abattoirs to ensure that they meant public health requirements got properly under way, and planning began for new abattoirs. Conditions laid down for the operation of these included safeguards for the health of the consumer, such as the provision of veterinary care to examine the livestock and the meat, to ensure that they were disease-free, and the introduction of a healthy and sterile environment for the slaughter of the animals.

The first of the new abattoirs, the Dubai Abattoir, was built at Al Qusais. The United Nations Development Programme was asked to provide the services of a consultant, who made an initial study of the needs, and an international company specialising in abattoir design and construction was then appointed.

Work on constructing the new abattoir began in March 1987, this being completed in 1988 at a cost of 28.6 million dirhams.

In 1989, work at the old abattoirs in Bur Dubai and Bur Deira ceased, and the new Dubai abattoir was opened. Administrative Decree No. 201 laid down that it should have a capacity of 1,200 head of sheep and goats and 65 head of cattle and camels. 85 qualified staff were appointed, and the abattoir was placed under the control of the Municipality's Public Health Department.

In 1989, a fertiliser plant, costing 3.5 million dirhams, was set up in association with the abattoir, with a daily production capacity of 1.5 tons of output, equivalent to 547 tons a year, suitable for use on the land or for animal fodder. 500 litres a day of oils, or 182,000 litres annually, were also produced, suitable for use in various types of manufacturing, this being sold to commercial companies.

The continuing increase in the consumption of meat, as a result of population growth, meant that the Al Qusais abattoir could not meet demand, and in 1990, work on the building of a new Bur Dubai abattoir began.

Costing 6 million dirhams, this opened in 1992, with a daily throughput capacity of 600 head of sheep and goats and 20 head of cattle and camels. In the same year, an annexe to the Al Qusais abattoir also opened, for use by the public. Called the Public Abattoir, and costing 5.5 million dirhams, it had a daily capacity of 600 head of sheep and goats and 20 head of cattle and camels.

In 1993, Administrative Directive No 294 for 1993 laid down the organisation of the Dubai Abattoir, which was divided into two Units, the Public Services Unit and the Commercial Services Unit. It remained part of the Public Health Department.

In 1995, Administrative Directive No. 313 for 1995 spelt out the administrative structure of

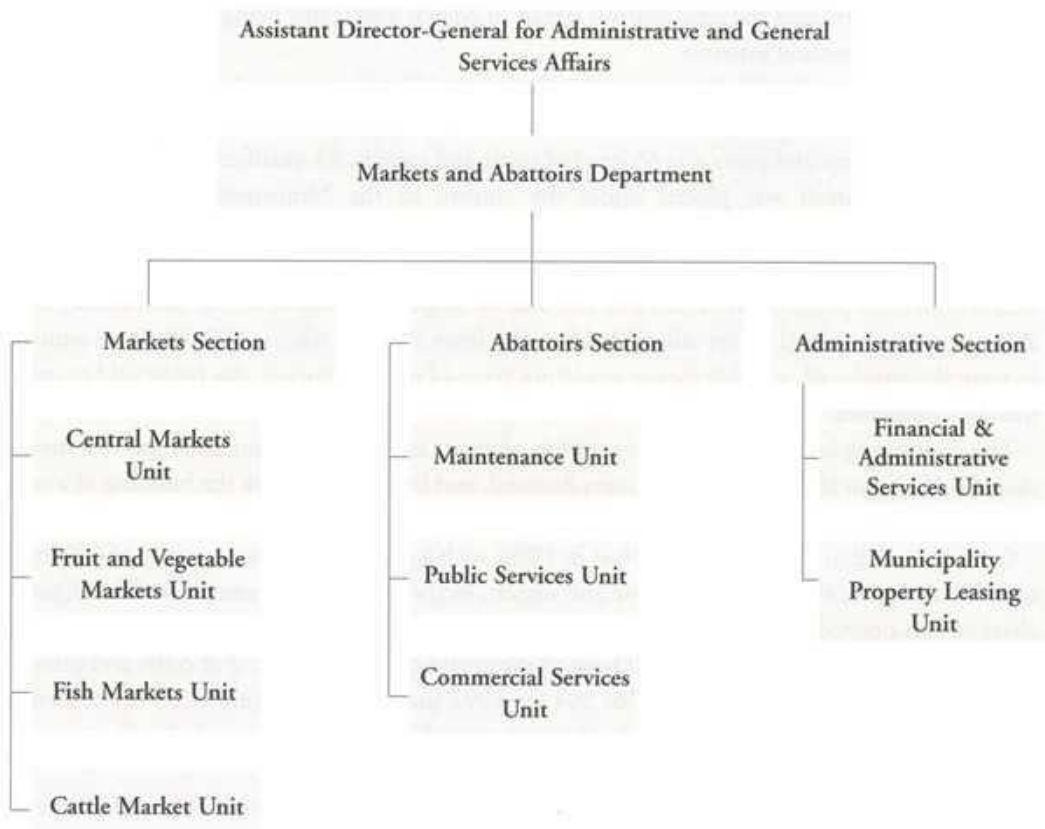
and duties of the Dubai Abattoir at Al Qusais, which was placed under the supervision of the Assistant Director-General for Environment and Public Health Affairs. In this directive, it was specified that Municipality abattoirs should be operated using the latest equipment and in accordance with the appropriate health requirements. The necessary measures to dispose of the remains of carcases were prescribed as well as the requirement that a high degree of cleanliness should be maintained at all times. It also laid down details of the fees to be charged and how these were to be collected, and provided for collaboration with the Public Relations Section and other appropriate sections on the preparation of advertising and publicity material.

Until 1998, the abattoirs were part of the Environment and Public Health Department, with an Abattoir Maintenance Unit, an Abattoir Operations Unit and an Accounting and Administrative Services Unit.

In March 1998, a new abattoir with a capacity of 100 head of sheep and goats and 20 head of cattle opened in the town of Hatta, to meet the needs of Hatta and nearby villages.

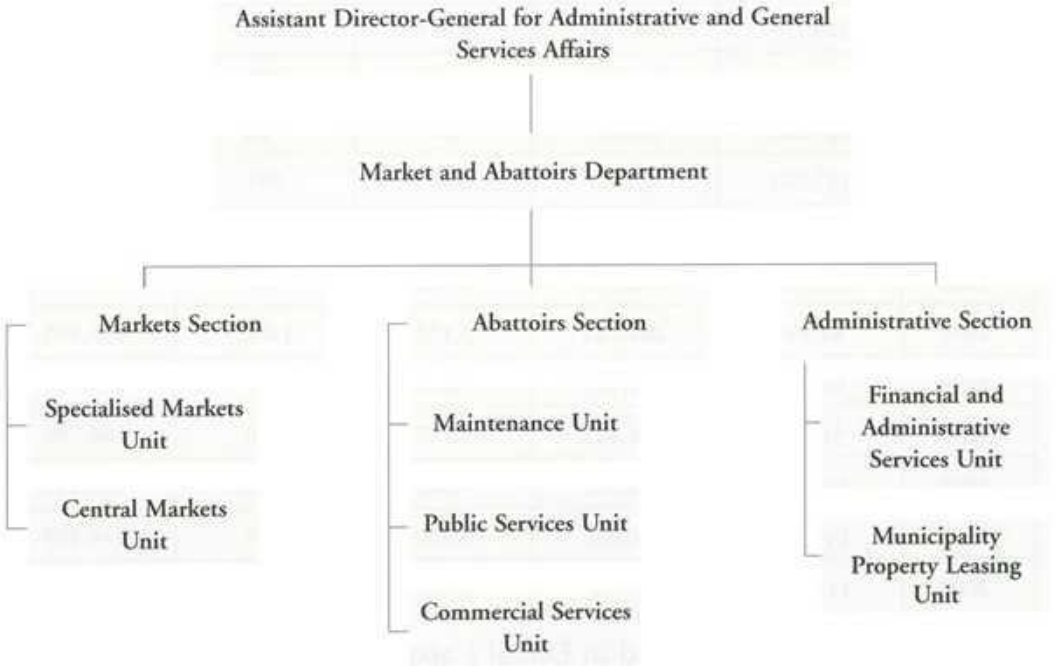
In 1998, Administrative Directive No. 291 created the Markets and Abattoirs Department, into which the Markets and Abattoirs Sections were merged, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Markets and Abattoirs Department in 1998



In 1999, Administrative Directive No. 280 was issued amending the organisation chart, as shown in Chart No. 6.

Chart No. 6. Organisation Chart for the Market and Abattoir Department in 1999



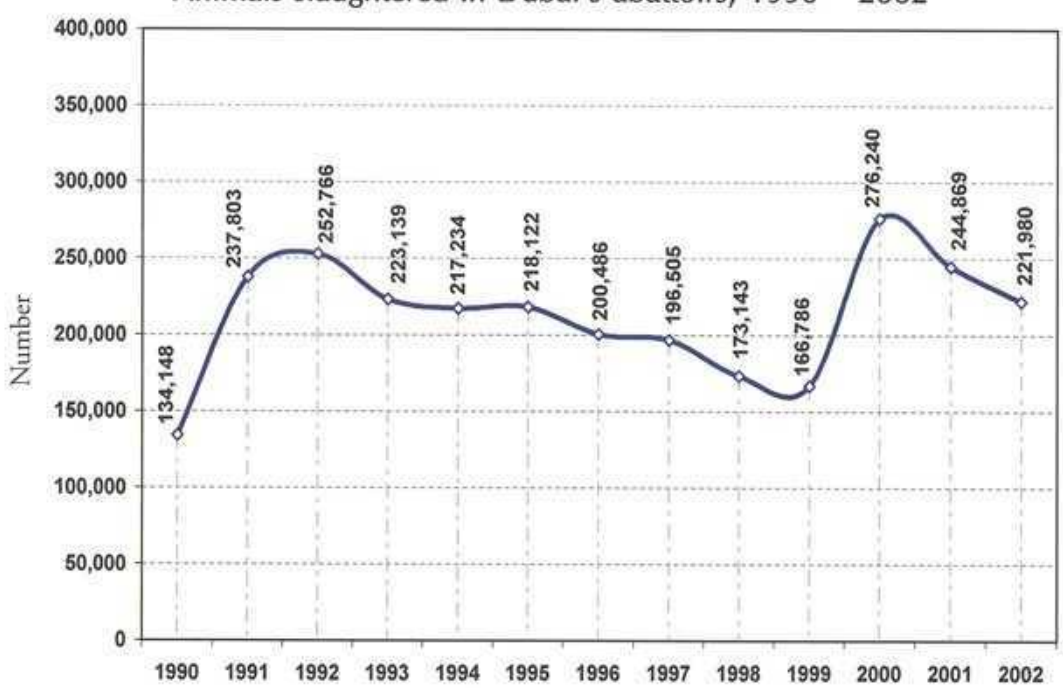


The Dubai Abattoir at Al-Qusais

Animals slaughtered in Dubai's abattoirs according to type, 1990 – 2002 during 1990 – 2002

Item \ Year	Sheep	Goat	Cattle	Camel	Total
1990	79,799	51,953	2,077	319	134,148
1991	146,139	88,111	2,810	743	237,803
1992	132,004	119,237	1,023	502	252,766
1993	137,225	81,827	3,361	726	223,139
1994	142,966	69,563	3,804	901	217,234
1995	102,476	110,982	3,663	1,001	218,122
1996	93,742	102,218	3,722	804	200,486
1997	84,555	105,784	5,133	1,033	196,505
1998	63,947	102,911	5,500	785	173,143
1999	51,857	108,402	5,717	810	166,786
2000	159,676	107,927	7,585	1,052	276,240
2001	145,599	93,093	5,430	747	244,869
2002	112,845	98,778	9,462	895	221,980

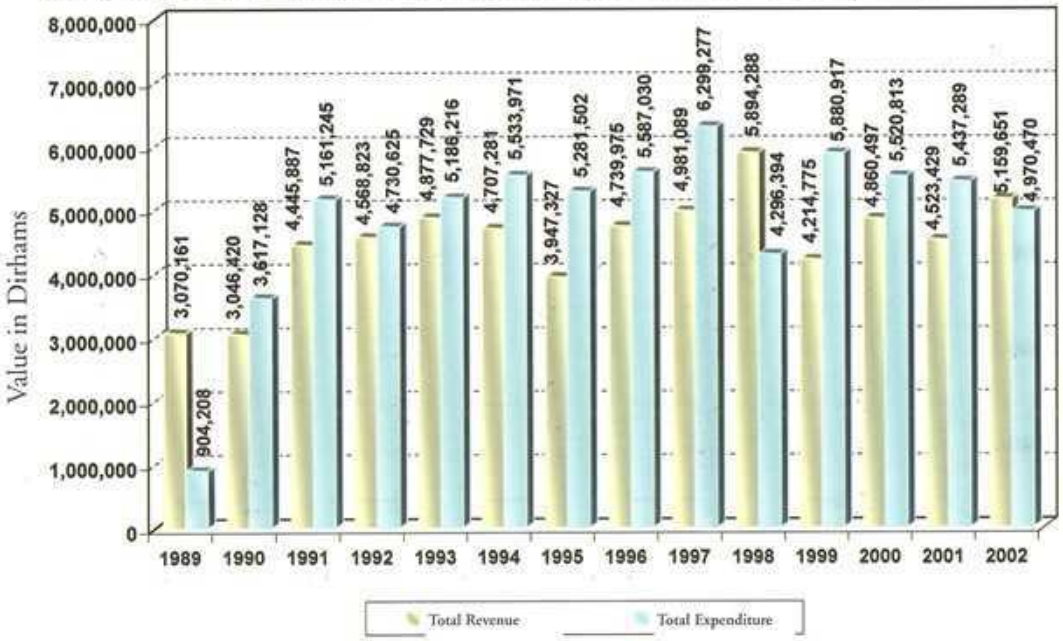
Animals slaughtered in Dubai's abattoirs, 1990 – 2002



Revenue and expenditure of the Abattoir Section, 1989 – 2002, in dirhams

Item \ Year	Total Expenditure	Total Revenue	Revenue as a percentage of expenditure
1989	3,070,161	904,208	29%
1990	3,046,420	3,617,128	119%
1991	4,445,887	5,161,245	116%
1992	4,568,823	4,730,625	104%
1993	4,877,729	5,186,216	106%
1994	4,707,281	5,533,971	118%
1995	3,947,327	5,281,502	134%
1996	4,739,975	5,587,030	118%
1997	4,981,089	6,299,276.55	126%
1998	5,894,287.81	4,296,393.96	73%
1999	4,214,774.97	5,880,917.34	140%
2000	4,860,496.91	5,520,813.35	114%
2001	4,523,428.98	5,437,289.30	120%
2002	5,159,650.69	4,970,469.77	96%
Total	63,037,311.36	68,407,085.27	108.52%

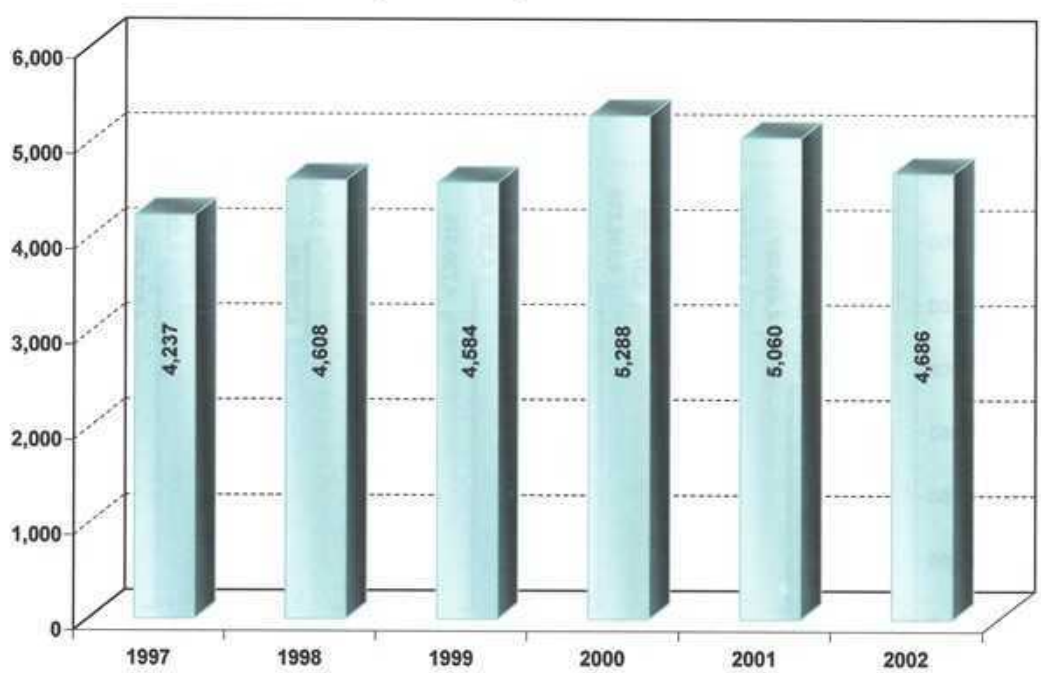
Revenue as a percentage of expenditure in the Abattoir Section, 1989 – 2002



Since 1997, Dubai's abattoirs have relied on the HACCP (Hazard Analysis and Critical Control Points) system to monitor cleanliness. This involves the taking of regular samples from animal enclosures, workers, equipment, surfaces, walls, ceilings, water, carcases and meat to check for pollution. in order to monitor the degree of pollution. In 1999 the latest system for the monitoring of pollution was introduced with the installation of a tool which monitors and corrects pollution in less than 10 minutes.

Source of sample	Number of samples tested for pollution					
	1997	1998	1999	2000	2001	2002
Meat and carcases	1,232	1,073	1,103	1,124	948	963
Equipment and tools	784	987	918	1,206	1,299	898
Level surfaces	1,137	1,510	1,435	1,809	1,640	1,507
Workers	655	721	800	891	971	1,081
Water	266	253	270	191	189	163
Retained carcases	85	7	26	57	6	26
Leftovers/ entrails	78	66	32	10	7	48
Total	4,237	4,608	4,584	5,288	5,060	4,686

Samples tested, 1997 – 2002

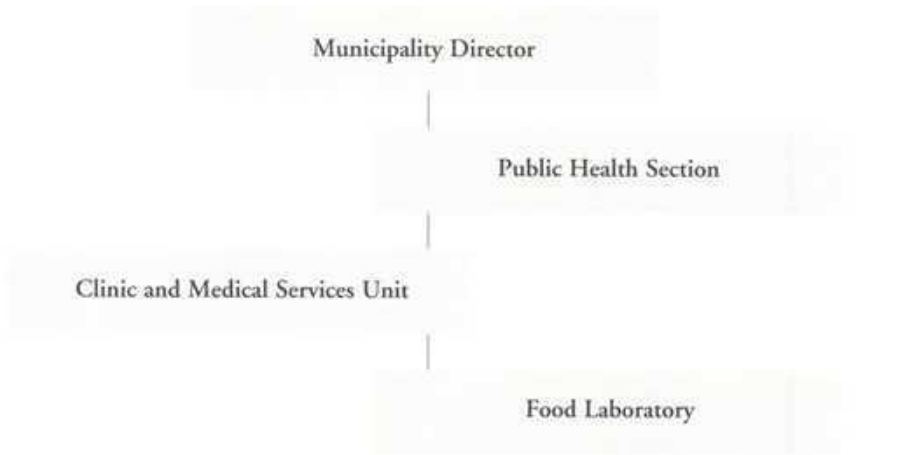


Dubai Central Laboratory Department

One of the main tasks of the Municipality from the time it was established has been the taking of measures to protect the health of citizens and other residents of Dubai, as well as their interests as consumers.

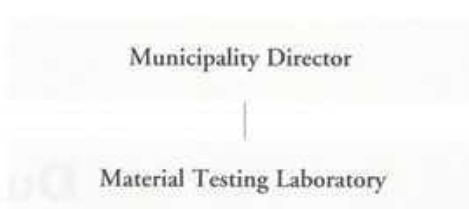
In 1975, the Food Laboratory was set up, to carry out basic tests on foodstuffs for public consumption. As illustrated in Chart No. 1, it was then part of the Public Health Section.

Chart No. 1. Organisation Chart for the Food Laboratory in 1975



As the development of Dubai continued to gather pace, a number of other laboratories were established, such as, in 1979, the Material Testing Laboratory, which was placed directly under the Municipality's Director, as shown in Chart No. 2.

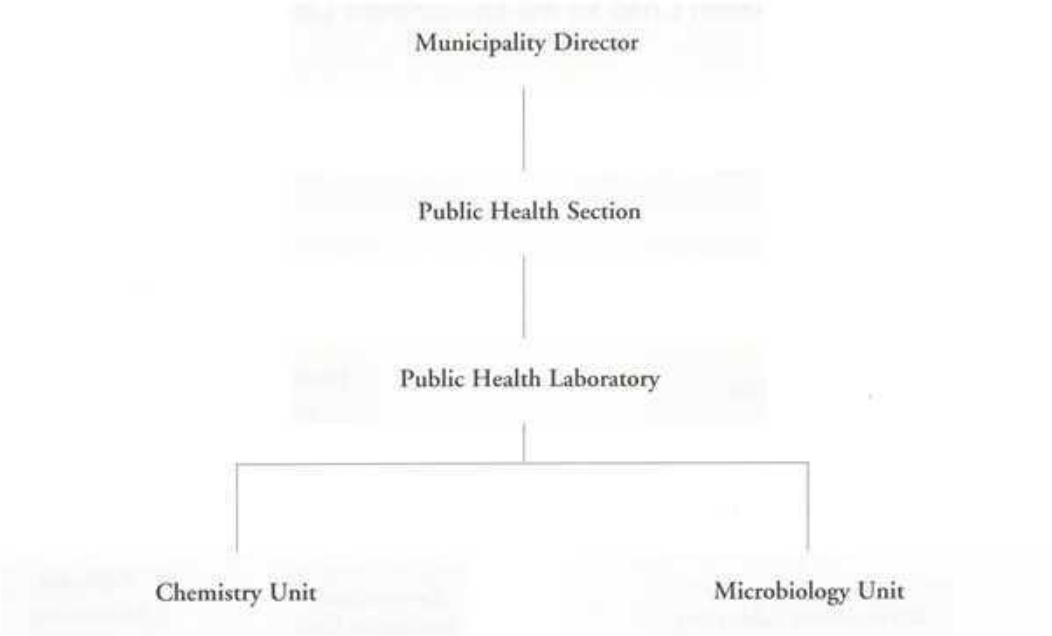
Chart No. 2. Organisation Chart for the Material Testing Laboratory in 1979



When first set up, this had only four employees, and dealt primarily with the testing of concrete blocks, as well as limited tests on rocks and stone, this continuing until the end of the 1980s.

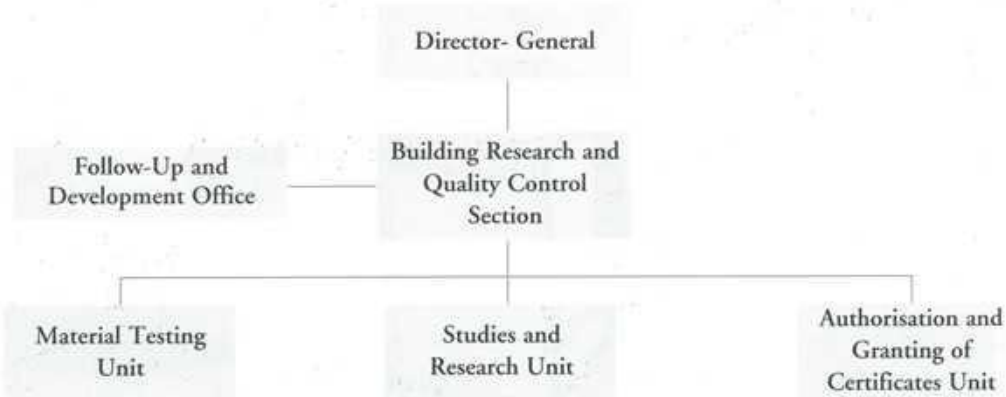
In 1984, the name of the Food Laboratory was changed to the Public Health Laboratory, with two separate Units being created, as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Public Health Laboratory in 1984



In 1987, the Material Testing Laboratory was renamed the Building Research and Quality Control Section, under the terms of Administrative Directive No. 208, as shown in Chart No. 4.

Chart No. 4. Organisation Chart for the Building Research and Quality Control Section in 1987



In 1988, the Environment Laboratory was established, as part of the Environment Protection and Community Safety Unit, itself part of the Public Health Department. Once the Environment Protection Section was set up in 1991, it was transferred to this Section, as shown in Chart No. 5.

Chart No. 5. Organisation Chart for the Environment Laboratory, 1988 – 1991



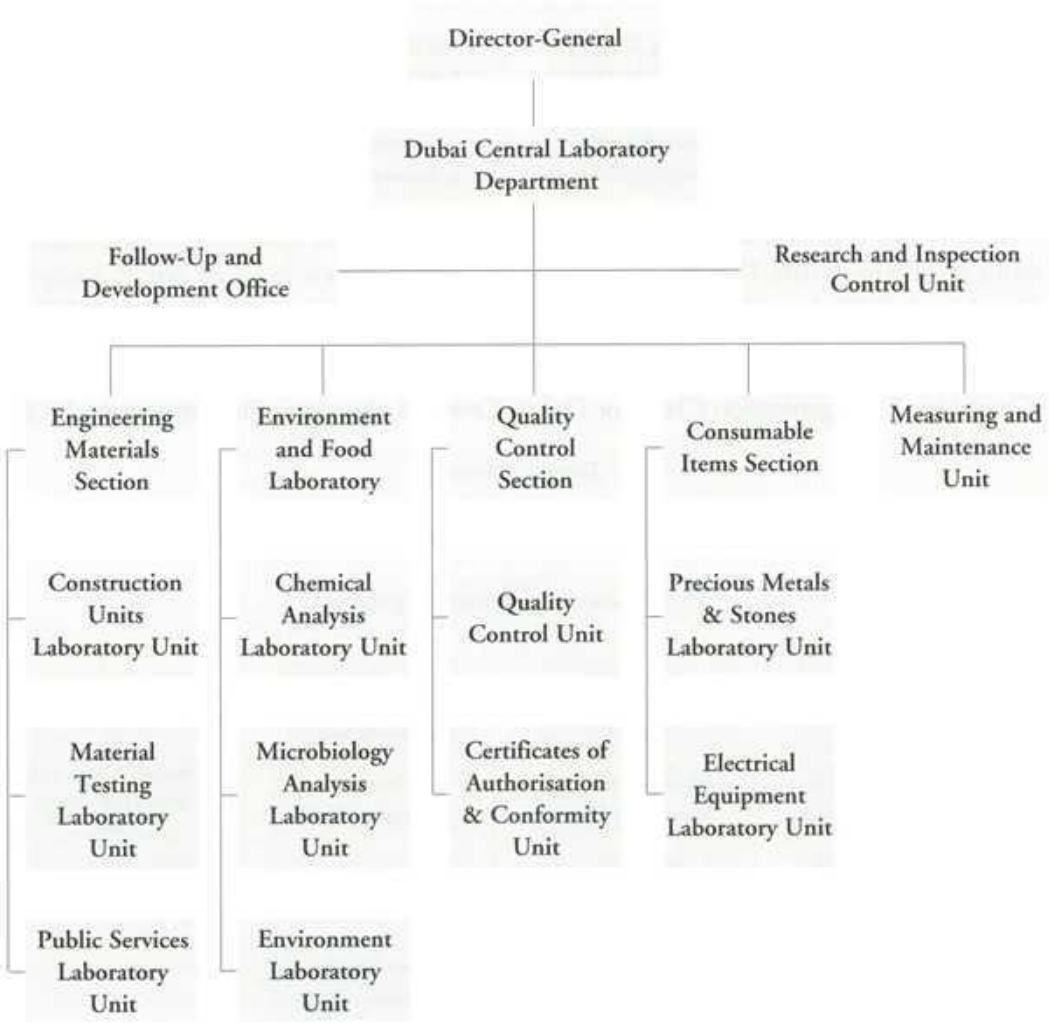


Inside the Laboratory

In 1997, the Dubai Central Laboratory Department was established in the Al-Karama area (Umm Hurair). This included all of the Municipality's laboratories, those mentioned above as well as the Precious Metals and Stones Laboratory, the Electrical Equipment Laboratory and others. The objective of this move was to improve performance and to enhance consumer protection as well as contributing in a positive way to the national economy and to facilitate the import and export of goods within the framework of the country becoming a member of the World Trade Organisation, WTO.

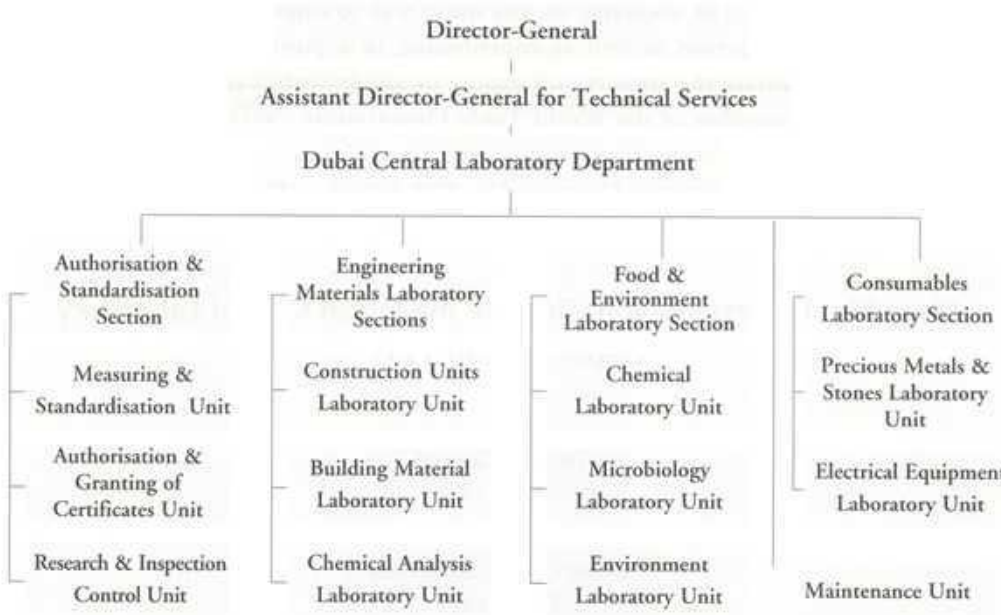
In the same year, Administrative Directive No. 800, issued on 9th June 1997, laid down the organisational structure for the Laboratory, as explained in Chart No. 6.

Chart No. 6. Organisation Chart for the Dubai Central Laboratory Department in 1997



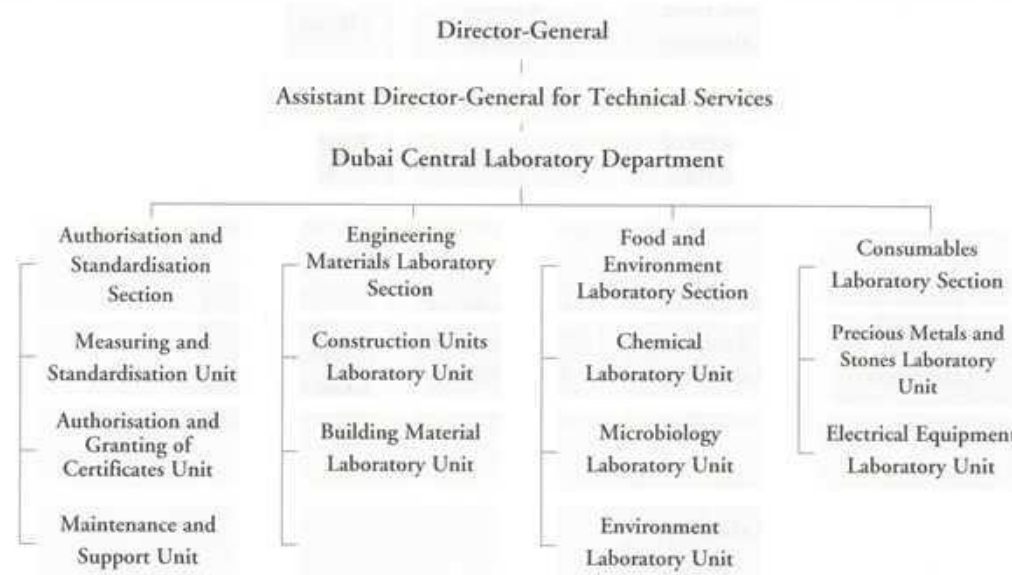
In 1999, the organisation chart for the Department was amended, as shown in Chart No. 7.

Chart No. 7. Organisation Chart for Dubai Central Laboratory Department in 1999



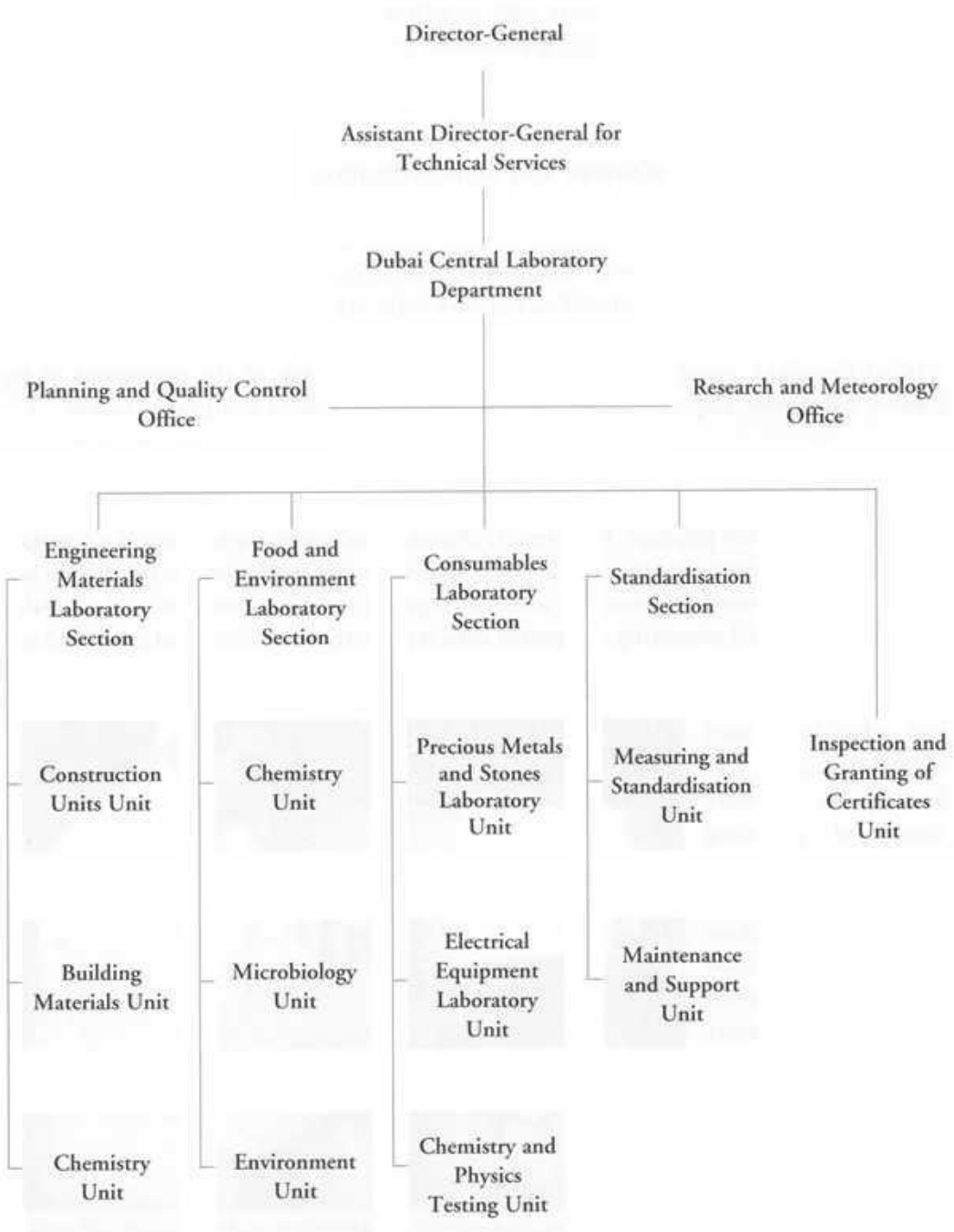
In 2000, the organisation chart for the Department was once again amended, under the terms of Administrative Directive No. 45 for the year, as shown in Chart No. 8, while on 25th March 2000 the vision, mission and objectives of the Department were specified in a manual issued as part of the quality implementation programme.

Chart No. 8. Organisation Chart for Dubai Central Laboratory Department in 2000



In July 2002, the organisation chart was once again amended, as shown in Chart No. 9.

Chart No. 9. Organisation Chart for Dubai Central Laboratory Department in 2002



The main duties and responsibilities of Dubai Central Laboratory Department

The main duties of the Dubai Central Laboratory are to ensure that the appropriate tests and research are carried out with regards to standardisation, the use of weights, meteorological information and other topics. It is responsible for the issuing of certificates guaranteeing authenticity and conformity with standards and the unification of all standards and descriptions used for engineering materials, environmental matters, foodstuffs, and other goods, such as precious stones, precious metals and household electrical and electronic goods. This work is carried out by following sections, as described below.

Authorisation and Standardisation Section

This Section provides quality control services for the laboratories engaged in the testing and analysis of building material, food stuffs, environmental products and consumables and carries out research on the building industry with relation to the development of techniques, rules on standardisation, regulations and descriptions. It also provides measuring services (gauging), using approved measuring techniques, for all the equipment of the Central Laboratory Department as well as for other government and private bodies.

Engineering Material Laboratory Section

This Section offers physical, mechanical, chemical and petrographic testing on various items used for construction to federal and local government bodies and to the private sector, in order to ensure that materials meet the required specifications. It also ensures that all of the testing and measuring equipment used is properly maintained and calibrated and undertakes research on engineering materials and other items used in construction, collecting the necessary data and preparing reports.

Other tasks include the study and revision of all specifications related to Municipality projects and making the appropriate recommendations, in particular with regards to the suitable scales to be used.



Measuring the endurance of a building block in the Engineering Material Laboratory



Testing foodstuffs

Food and Environment Laboratory Section

This Section carries out microbiological, chemical and physical analysis on samples of food stuffs and drinking water according to request, including testing for levels of radioactivity. It also conducts specialised tests samples of agricultural and animal products to identify the presence of traces of pesticides, growth hormones and fungal toxins.

Other work includes the carrying out of laboratory tests on foodstuffs to determine their composition and to identify whether they have been accurately described, so as to provide consumers with satisfactory guarantees. It also carries out laboratory tests on food and environmental samples received from other Municipalities in the country, if requested to do so.

Consumables Laboratory Section

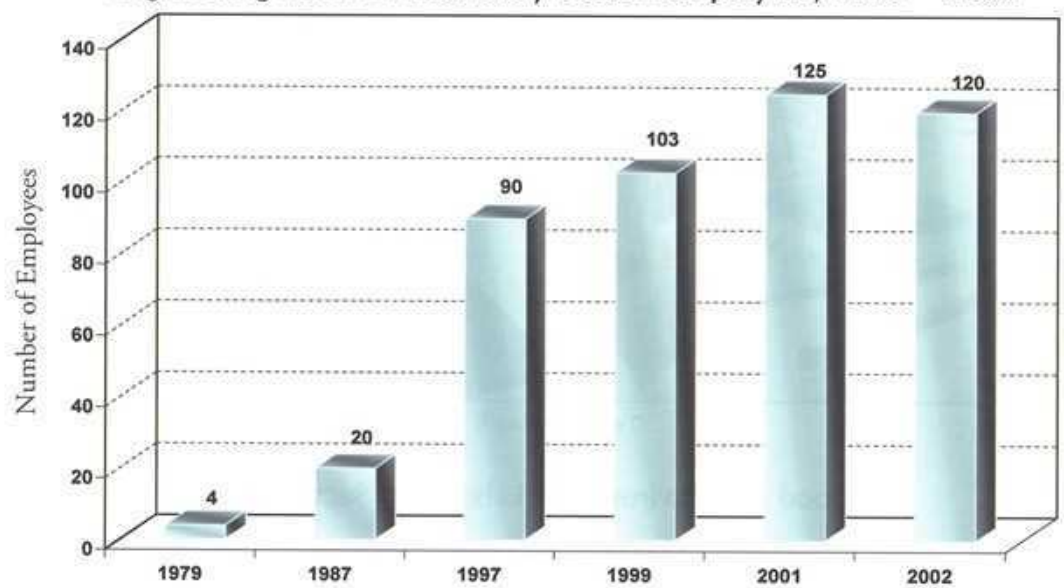
The Section tests precious stones and precious metals manufactured in or imported into Dubai, and, where appropriate, puts on hallmarks. It also carries out laboratory tests on household electrical and electronic equipment and tools which are sold or made in the Emirates to ensure they are safe for use and carries out other tests prior to the issuing of quality certificates.

Development of the Sections of the Dubai Central Laboratory

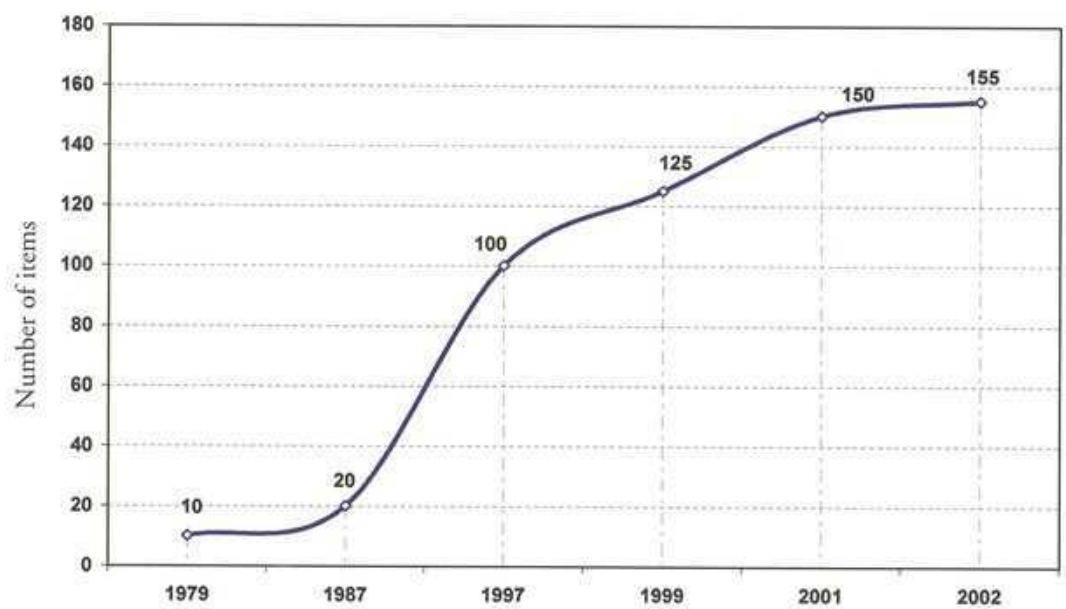
Engineering Material Laboratory Section

Since this Section was first established in 1979, it has grown rapidly, both in terms of the number of employees and in terms of the amount of equipment being used. These graph shows the growth between 1979 and 2002.

Engineering Material Laboratory Section employees, 1979 – 2002



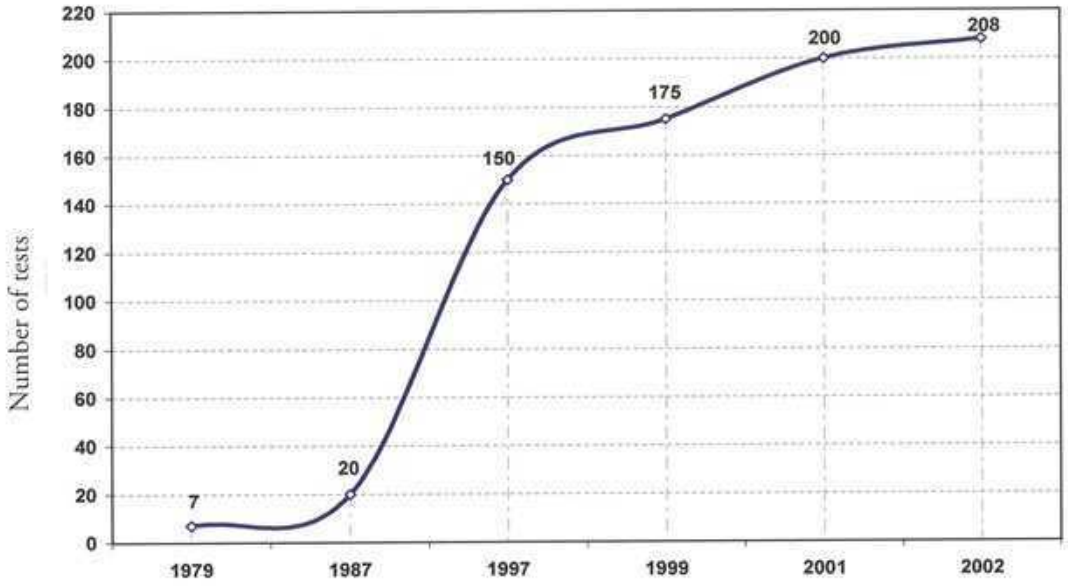
Engineering Material Laboratory Section equipment 1979 – 2002



Following the establishment of the Dubai Central Laboratory Department in 1997, it was decided to increase the number of services and test facilities for building materials that were offered by the Building Research and Quality Control Section.

The Section has three Units, the Building Material Laboratory Unit, the Chemical Laboratory Unit and the Construction Units Laboratory Unit, with 120 employees at the time this book was compiled. These carry out a variety of physical, chemical, mechanical and petrographic tests.

Tests conducted by the Engineering Material Laboratory Section, 1979 – 2002



Building Material Laboratory Unit

This Unit has several laboratories carrying out physical and mechanical tests on building materials using standard international measuring techniques. Both the number of tests and the quality of them have increased substantially since 1979.

Chemistry Laboratory Unit

Chemical tests on building materials began with simple facilities, but these have been much improved. The laboratories are now equipped with the latest equipment, capable of carrying out detailed tests on a variety of construction and manufacturing materials. These include cement tests, engine oil tests and others such as microscopic petrographic tests.

Construction Units Laboratory Unit

This Unit provides physical and mechanical testing services for Municipality projects, for the private sector and for federal and local Government bodies, in accordance with the latest international standards. In 2001, new equipment was purchased for tests of reinforced concrete, and for tests of concrete structures to see whether they meet specifications as well as for tests on heat insulation.

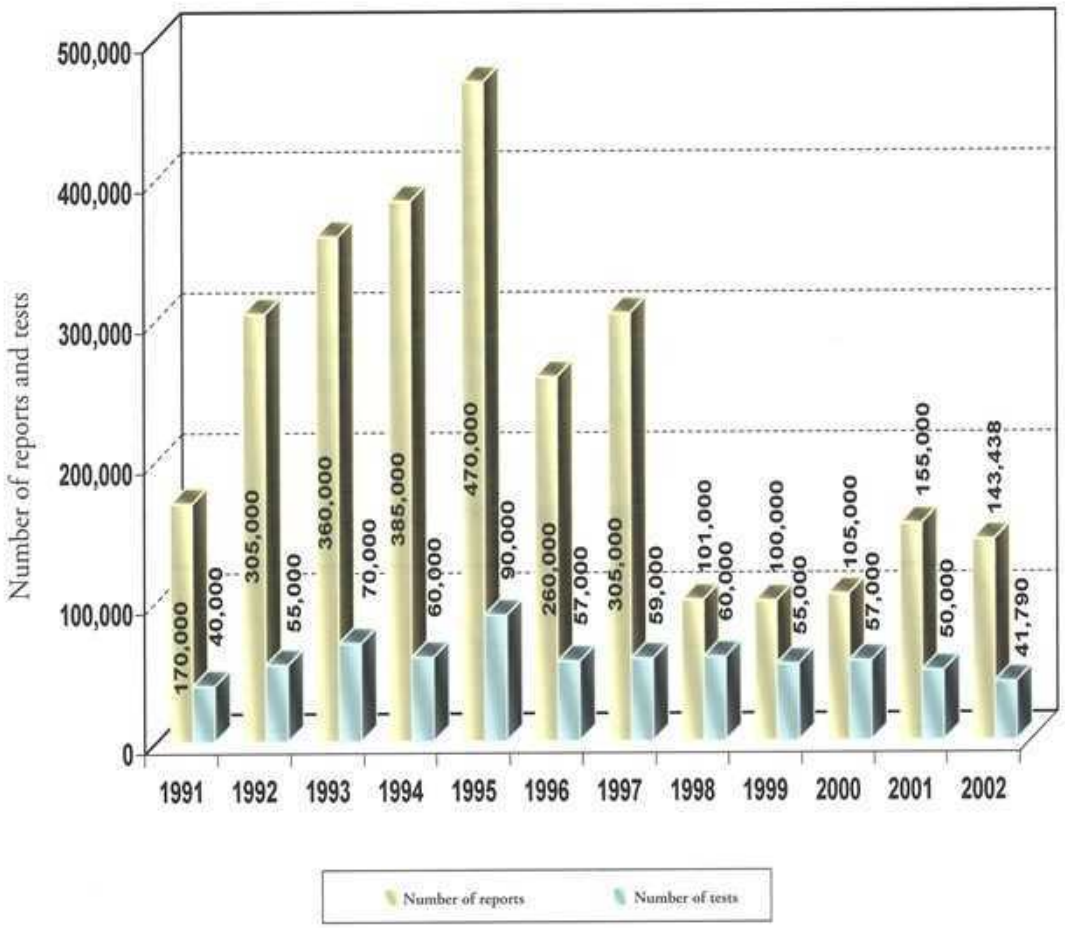
The following table summarises the development of tests and other resources in the Engineering Material Laboratory Section.

Tests and other resources available in the Engineering Resources Section, 1979 – 2002

Year	Number of employees	Number of tests			Items of equipment
		Physical	Mechanical	Chemical	
1979	4	2	3	2	10
1987	20	8	8	4	20
1997	90	60	50	40	100
1999	103	70	60	45	125
2001	125	80	70	50	150
2002	120	84	72	52	155

The Engineering Material Laboratory Section

This Section implements quality control programmes on construction materials used in Municipality projects. This has helped significantly in improving standards for roads, bridges and buildings. The following graph shows the way in which the Section's work developed between 1991 and 2002.



Development Studies

The rapid development of Dubai's construction industry has involved much greater use of pre-cast units for tower construction. Originally, however, there was no authority responsible for the testing of such units. The Central Laboratory therefore set up a hard-ground testing area in its research centre and purchased the equipment necessary to allow it to carry out tests on pre-cast units.

Another recent development has been the purchasing by the Engineering Material Laboratory Section of equipment to test the plastic and concrete pipes used in irrigation and sewage projects. Previously, these had only been tested by the manufacturers and not by an independent third-party laboratory.

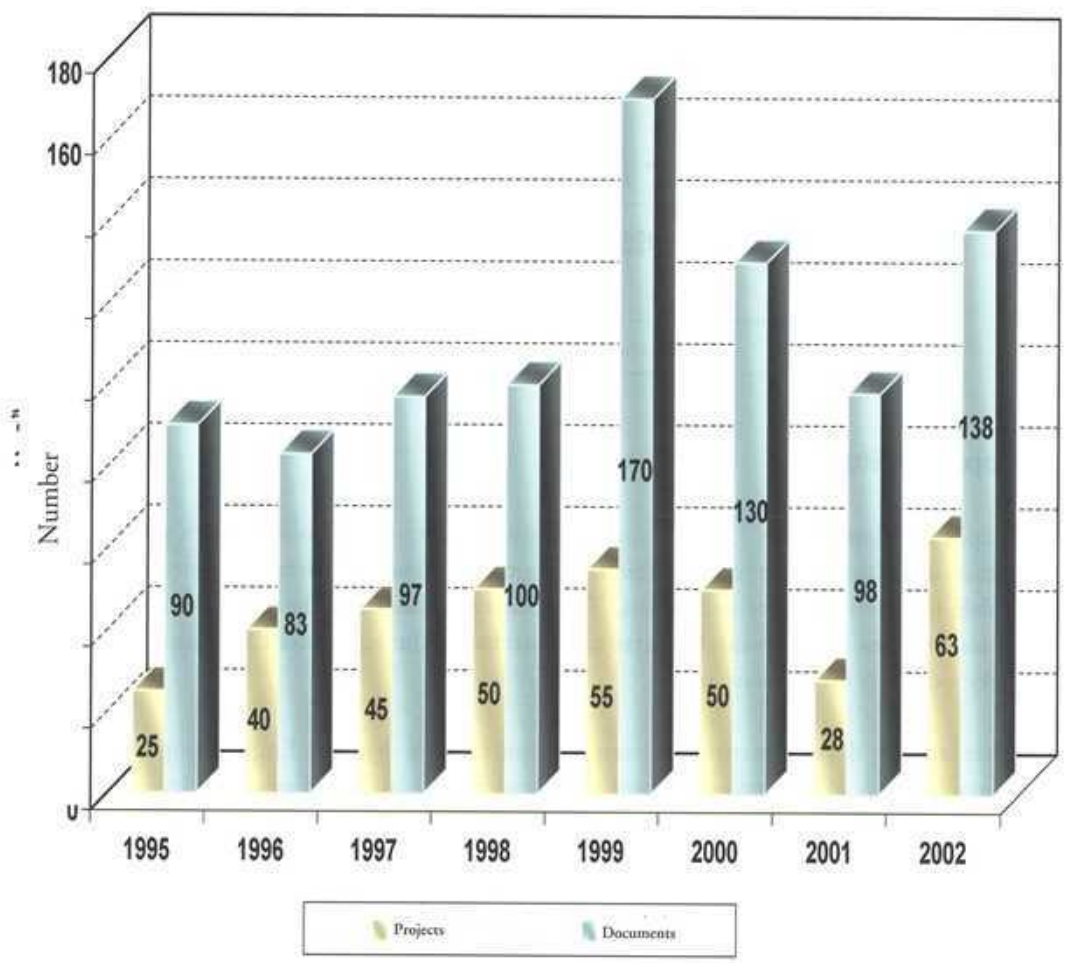
The recent introduction, in 2003, of building heat insulation regulations also meant that laboratory testing equipment for this purpose needed to be purchased. Tests began in mid-

2001, and, overall, the introduction of the new regulations has contributed to a reduction of electricity consumption in the buildings concerned by a factor of around 40%.

Another project has been a study to investigate the optimal composition of asphalt mixes, to determine the mix that can best cope with the combination of heavy loads and high temperatures on Dubai's roads. This is being carried out by the Engineering Materials Laboratory in co-ordination with the Roads Department and a firm of external consultants, and is expected to reduce the need for roads maintenance.

The Engineering Material Laboratory Section has also carried out an audit and review of tender documentation and of studies prior to hand-over of projects. The following graph illustrates the development of this activity.

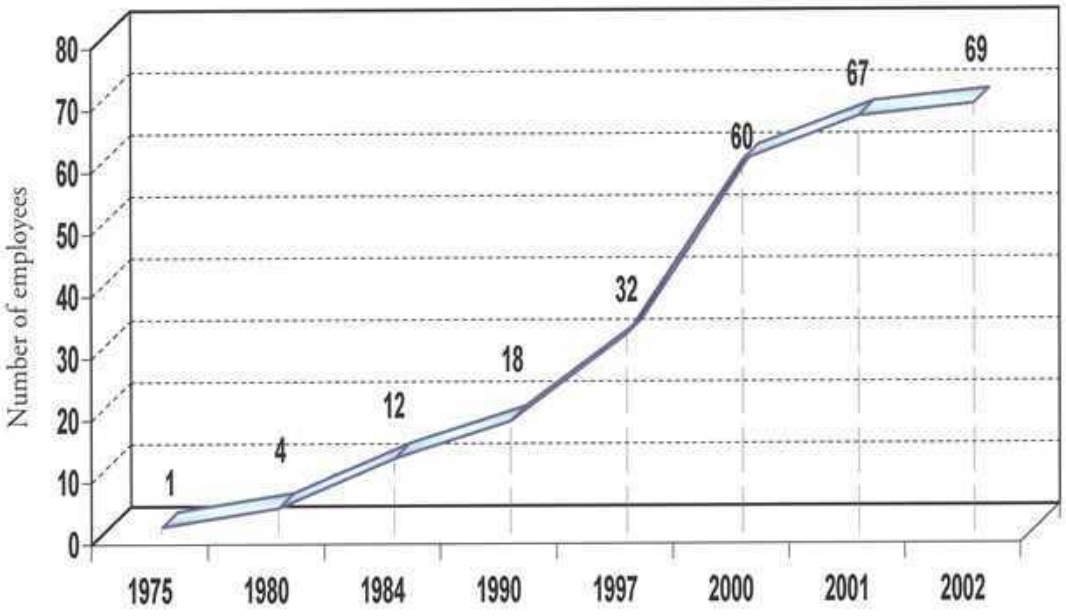
Studies of documents and projects prior to hand-over, 1995 – 2002



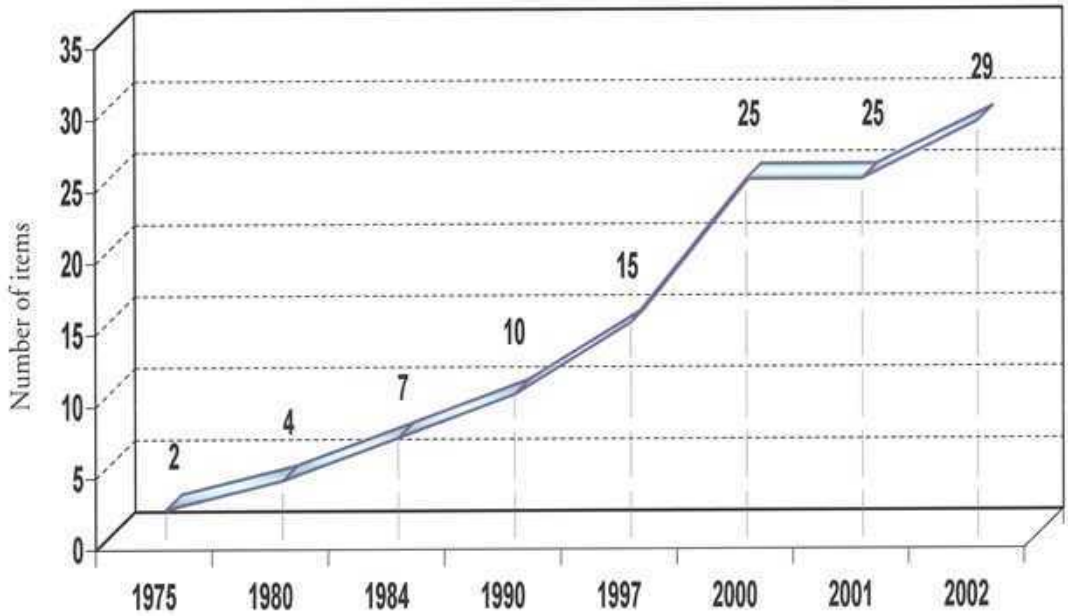
Food and Environment Laboratory Section

The Food and Environment Laboratory Section has expanded greatly since it was set up in 1975. Graphs 1 and 2 show the changes in personnel and equipment between 1975 and 2002.

Graph No. 2. Employess in the Food and Environment Laboratory Section, 1975 – 2002



Graph No. 2. Equipment in the Food and Environment Laboratory Section, 1975 – 2002



In 1991, the Environment Unit was upgraded to become a Section, known as the Protection of Environment and Safety Section, with two Units:

1– The Environment Inspection Unit

2– The Pollution Monitoring Unit.

Both were provided in 1992 with the equipment necessary to permit them to conduct their work in a timely and effective way.

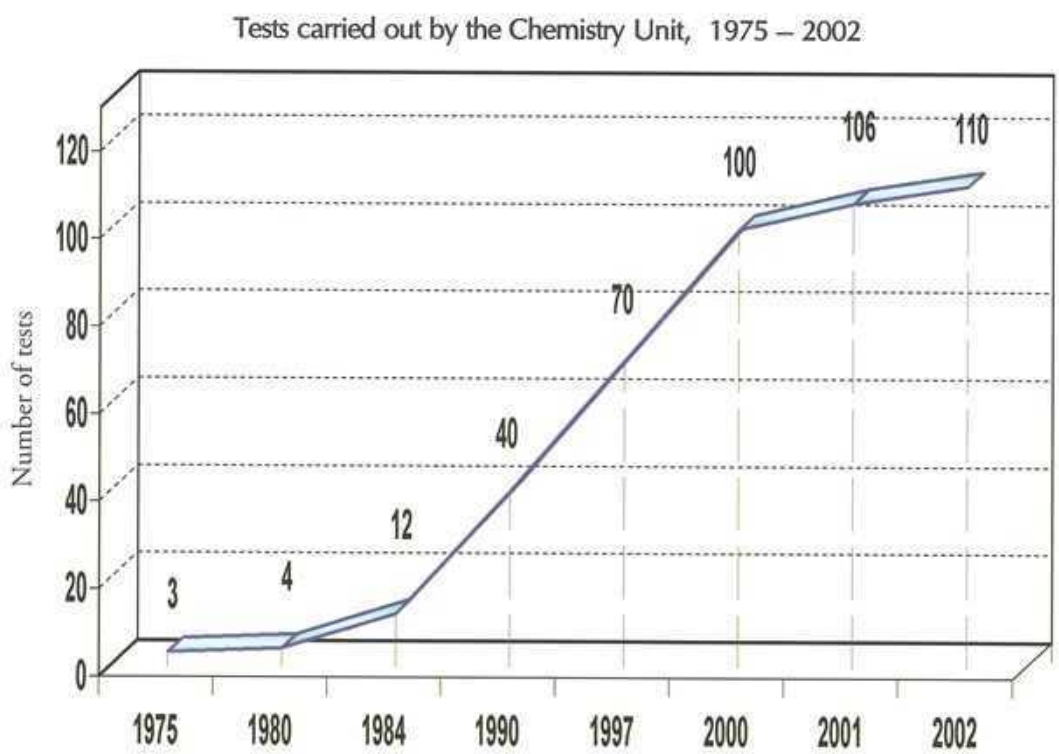
In 1995, the Food and Environment Laboratory moved to new offices in Al-Ittihad Square, the first UAE national chemist joining in the same year.

Another Emirati became the head of the laboratory in 1996.

In 1997, the Food and Environment Laboratory became one of the Units of the Municipality Food Section, which was renamed the Food and Environment Laboratory Section.

Chemistry Unit

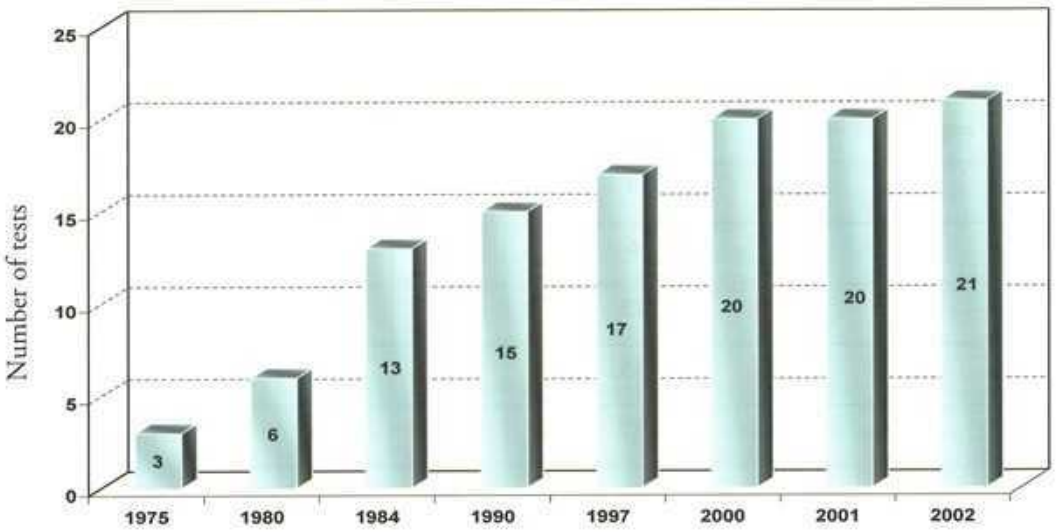
The development of this Unit since 1975 is shown in the following graph.



Biology Unit

This Unit has been able to increase the quality of its testing through the purchase of newer and more accurate equipment, as shown by this graph.

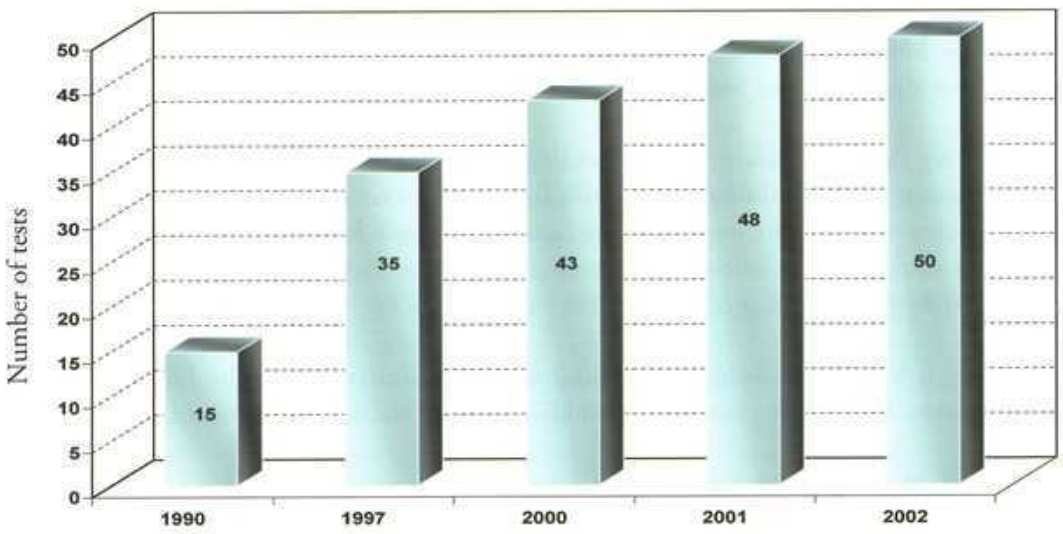
Tests carried out by the Biology Unit, 1975 – 2002



Environment Unit

Since 1988, the importance of environmental testing has become of much greater significance, because of the growing attention being paid to environmental issues at a local, regional and international level. The following graph shows the tests carried out between 1990 and 2002.

Tests carried out by the Environment Unit, 1990 – 2002



Development of Services and Resources

The following table summarises the development of tests and resources, both human and in terms of equipment, in the Food and Environment Laboratory Section.

Tests and resources in the Food and Environment Laboratory Section, 1975 – 2002

Year	Number of employees	Number of tests			Number of equip-ment	Number of samples per month
		Chemical	Microbiological	Environ mental		
1975	1	3	3	-	2	200
1980	4	4	6	-	4	250-300
1984	12	12	13	-	7	500
1990	18	40	15	15	10	1,000
1997	32	70	17	35	15	1,200-1,300
2000	60	100	20	43	25	1,230
2001	67	106	20	48	25	1,350
2002	69	110	21	50	29	1,110

Authorisation and Standardisation Section

This Section was established in 1987, and includes:

- The Authorisation and Granting of Certificates Unit
- The Maintenance and Support Unit
- The Measuring and Standardisation Unit.

Following the establishment of the Building Research and Quality Control Section, the Authorisation and Granting of Certificates Unit was created to implement the Municipality objective of improving the quality of items being produced in Dubai. It began its work in 1991, following the issuing of Municipality Ordinance No. 44 for that year, relating to standard specifications for concrete blocks.

Initially it had three employees, working under the supervision of the Follow-Up and Development Office, then part of the Building Studies and Quality Control Section.

In 1992, the implementation of Administrative Directive No. 143/1991 provided for

the monitoring of the quality of the fine gravels used in cement mixes.

At the beginning of 1994, and in accordance with Municipality Ordinance No. 52 for 1990 on the licencing of private laboratories in Dubai, the Unit was given responsibility for supervision of such private laboratories, and more employees were recruited.

In 1998, the Unit introduced inspection of shops selling gold items, to ensure that they adhered to Federal Law No. 9 for 1993 on the hallmarking of precious metals.

In 2001, another inspection system was introduced, for shops selling engine oils, to ensure that they implemented Dubai Municipality Directive No. 36 for 2001 and rules of standard specifications laid down by UAE Standard No. 635 for 1996.

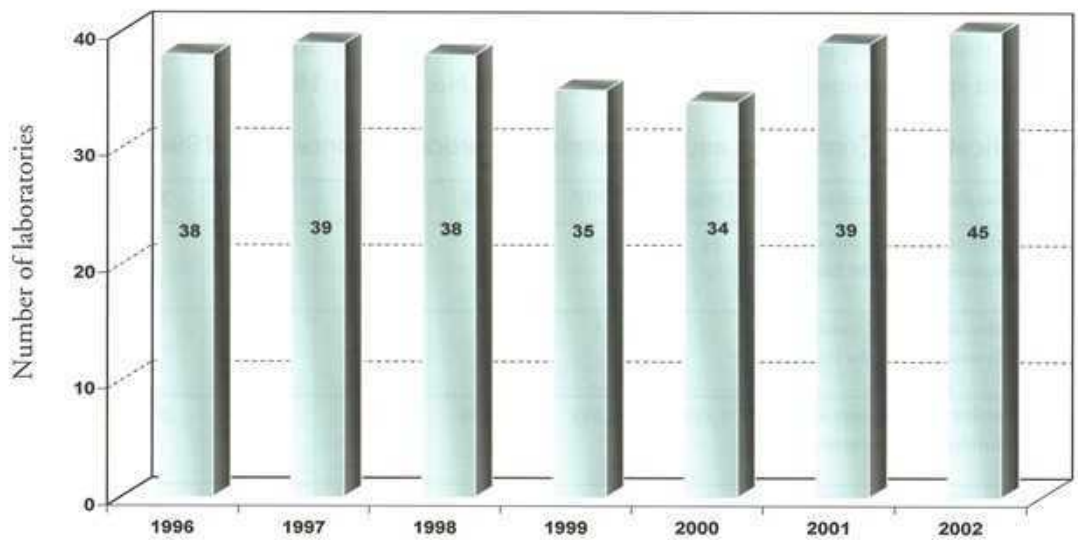
Certificates of Conformity and the number of products concerned, 1996 – 2002

No	Accomplishments/ Activities	1996	1997	1998	1999	2000	2001	2002
1	Number of registered concrete block factories within the Emirate of Dubai	21	22	20	21	22	21	22
2	Number of registered concrete block factories outside the Emirate of Dubai	-	3	3	3	3	3	3
3	Number of Certificates of Conformity issued for concrete blocks	11,194	12,953	15,890	18,433	18,216	20,250	18,743
4	Number of Certificates of Non-conformity issued for concrete blocks	390	598	602	588	447	635	919
5	Actual quantity of concrete blocks represented by the number of Certificates of Conformity issued	108,436,776	124,498,531	154,729,476	179,824,255	178,642,226	198,441,166	183,639,185
6	Actual quantity of concrete blocks represented by the number of Certificates of Non-conformity issued	3,821,725	5,636,392	5,907,404	5,718,602	4,410,408	6,200,902	8,919,032
7	Number of companies/factories for ready-made concrete and central mixing units registered at the Section and operating in the Emirate of Dubai.	19	19	18	23	28	31	29
8	Number of companies/factories for ready-mix concrete registered with the Section and operating outside the Emirate of Dubai.	3	3	3	5	5	6	4
9	Number of Certificates of Conformity issued to companies/factories for ready-mix concrete and central mixing units	210	185	220	252	369	512	642
10	Number of Certificates of Non conformity issued to companies/factories for ready-mix concrete and central mixing units	17	18	19	25	13	13	22

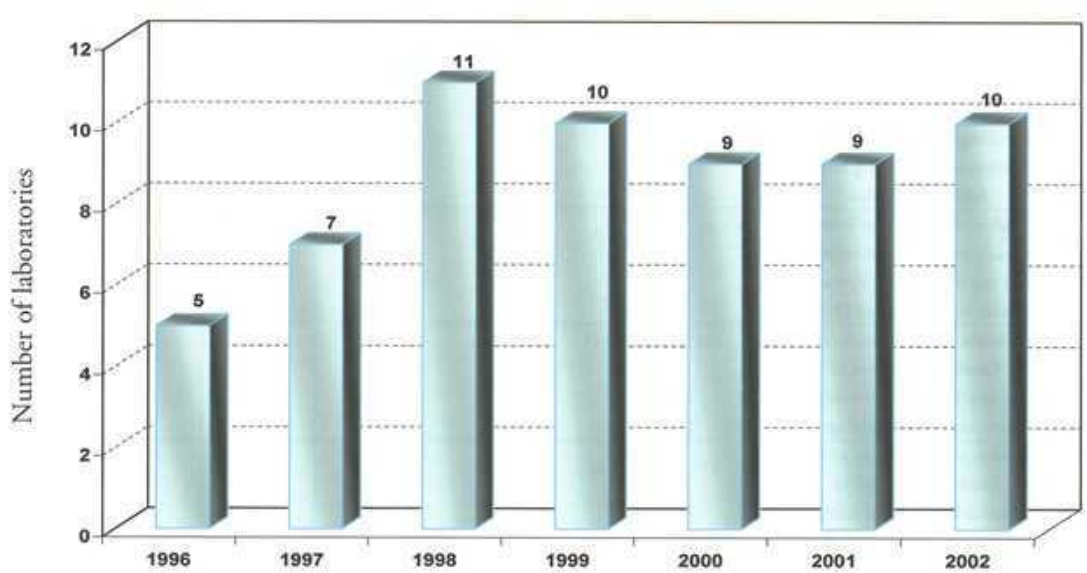
Authorising Private Laboratories

In order to encourage the private sector, and to avoid competition with it, the Central Laboratory Department has authorised a number of privately-owned laboratories to offer certain services, within the framework of carefully-defined specifications. Details are given in the following graphs.

Registered laboratories, 1996 – 2002



Approved laboratories, 1996 – 2002





Testing precious metals

Consumables Laboratory Section

This Laboratory was established to undertake work relating to inspection and quality control of precious stones and precious metals, in particular gold, since the size of Dubai's gold trade means that all consumers, whether UAE citizens, expatriate residents or visitors, as well as the merchants, require protection against possible commercial fraud.

In order to achieve this, a special laboratory was established to test gold, while, at the time this book was prepared, the final touches were being made to plans for testing electrical goods and children's toys.

Work on plans for the Consumables Laboratory Section began on 1997, shortly after the establishment of the Central Laboratory Department, with the purchase of the necessary equipment to set up the Precious Stones and Precious Metals Laboratory. The Unit was officially established in 1998 to implement plans by the Department to implement Federal Law No. 9 for 1993 on the regulation of trade in previous stones and precious metals, the necessary personnel then being recruited and the necessary equipment being purchased.

The Precious Stones and Valuable Metals Unit has three units:

- The Sample Management Unit.
- The Precious Metals Laboratory Unit.
- The Precious Stones Laboratory Unit.

Testing of gold jewellery and other gold items began in 1998, followed by silver and platinum goods in 1999 while hallmarking of gold, silver and platinum items also began in 1999.

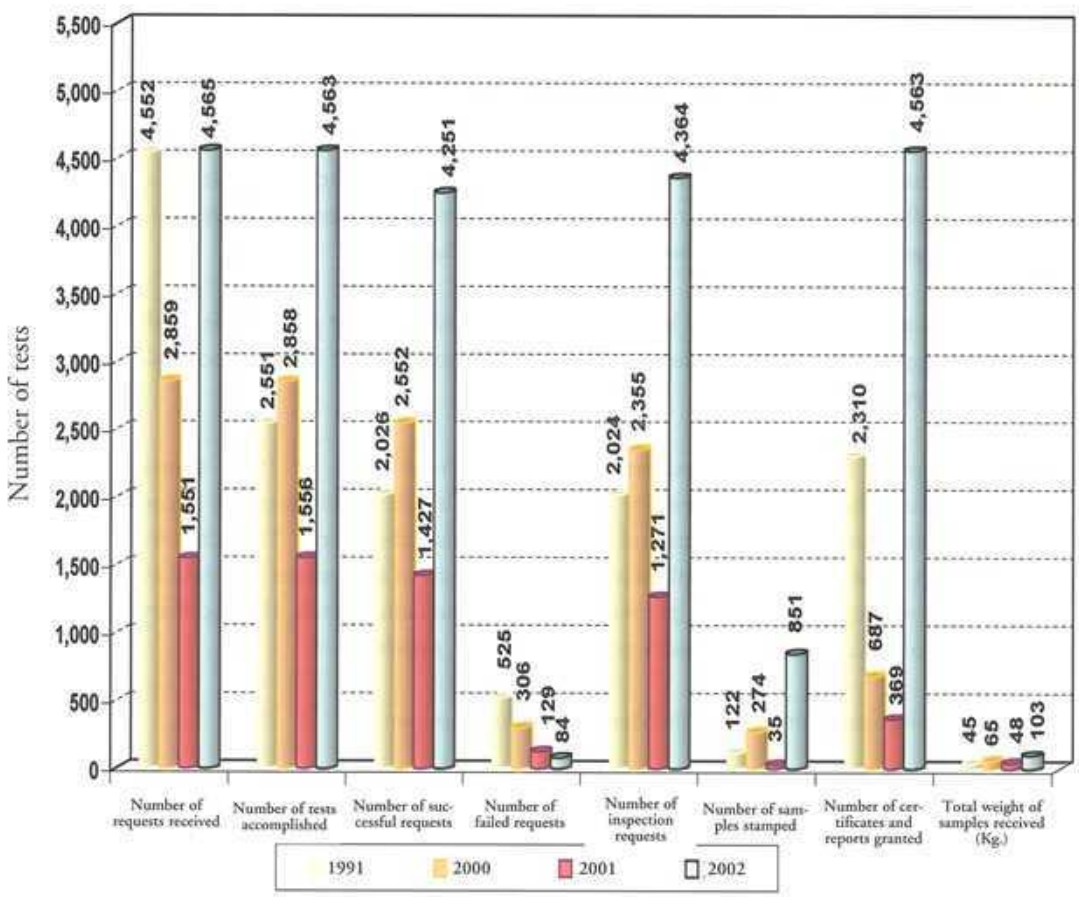
The Section has an X-ray machine for the initial testing of the purity of precious metals, an Inductively-Coupled Plasma machine for the testing of platinum jewellery and other platinum goods, as well as precious metals of 99.99 per cent purity, a potentiometer for measuring silver and a laser machine for the hallmarking of jewellery and other goods made of precious metals.

The following graph shows the number of tests and certificates relating to precious metals samples between 1991 and 2002.

Central Laboratory Revenues, 1988 – 2002

Expenditure by the Central Laboratory was higher than revenues throughout the period from 1988 to 2002, though the two were nearly equal in 1994. The excess of expenditure over revenue grew at a result of the purchase of modern equipment as well as the introduction of new

Tests on precious metals samples, 1991 – 2002



services such as the testing of gold and other precious metals.

As a result of the introduction of Administrative Directive No. 5 for 2001, however, and with the programme of equipment purchase now completed, the gap between revenue and expenditure is expected to shrink.

Emiratisation

The Dubai Central Laboratory has a policy of seeking to attract UAE citizens with university degrees or diplomas so that they can take over posts held by expatriates, fill posts

Revenues for Dubai Central Laboratory, 1988 – 2002, in dirhams

Year	Laboratory Administration	Engineering Material Laboratory Section	Food and Environment Laboratory Section	Authorisation & Standardisation Section	Consumables Laboratory Section	Inspection and Granting Certificates Unit
1988	1,653,438	0	323,991	0	0	0
1989	3,602,569	0	744,400	0	0	0
1990	2,247,022	0	674,700	0	0	0
1991	2,220,245	0	827,550	0	0	0
1992	4,473,091	0	1,019,750	0	0	0
1993	6,795,944	0	1,194,450	0	0	0
1994	9,009,155	0	1,426,550	0	0	0
1995	11,869,273	0	1,848,200	0	0	0
1996	4,584,801	0	2,410,905	0	0	0
1997	6,372,691	0	1,740,200	0	0	0
1998	467,764	6,826,304	80,555	285,740	0	0
1999	13,895	9,177,208	119,855	3,056,032	1,343	0
2000	0	9,822,145	300,008	3,002,585	8,596	0
2001	0	9,080,955	462,575	3,299,686	11,712	0
2002	0	7,861,739	617,582	303,041	41,322	3,179,910
Total	53,309,887	42,768,351	13,791,271	9,947,084	62,973	3,179,910

Expenditure for Dubai Central Laboratory, 1988 – 2002, in dirhams

Year	Laboratory Administration	Engineering Material Laboratory Section	Food and Environment Laboratory Section	Authorisation and Standardisation Section	Consumables Laboratory Section	Inspection and Granting Certificates Unit
1988	3,004,872	0	4,136,265	0	0	0
1989	3,331,247	0	2,545,701	0	0	0
1990	4,759,324	0	2,407,918	0	0	0
1991	6,229,949	0	3,032,234	0	0	0
1992	3,906,686	2,287,027	3,529,862	0	0	0
1993	3,588,476	2,879,041	2,923,029	0	0	0
1994	4,591,297	2,873,505	3,821,771	0	0	0
1995	4,520,274	2,731,323	3,901,867	0	0	0
1996	2,997,606	5,325,003	3,741,060	1,666,770	0	0
1997	4,673,404	4,665,195	5,889,401	1,583,860	24,756	0
1998	4,094,329	7,981,194	4,711,710	2,767,854	1,226,469	0
1999	4,769,175	6,868,405	5,560,801	2,436,125	1,377,359	0
2000	3,816,645	7,010,286	6,663,665	2,952,022	1,719,936	0
2001	5,238,557	10,306,720	7,196,854	4,700,515	2,029,610	0
2002	4,438,158	10,513,705	8,283,067	3,018,617	5,239,370	1,790,520
Total	63,959,998	63,441,403	68,345,203	19,125,763	11,617,500	1,790,520

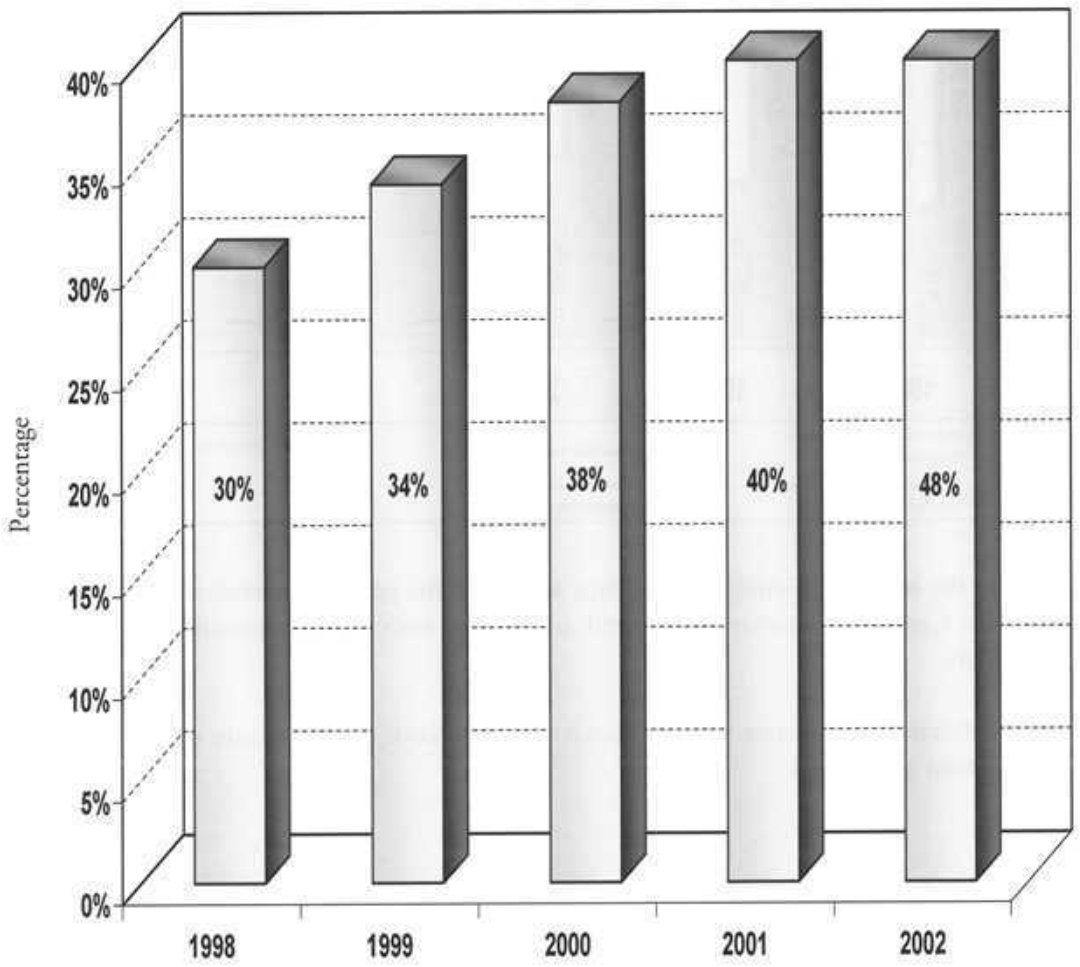
that have been approved but have remained vacant and fill posts that become vacant because of the normal process of the turnover of employees.

The following graph illustrates the increase in the number of UAE citizens in the Central Laboratory Department between 1998 and 2002, as well as the development of Emiratisation. In 1998, 30 per cent of employees were Emiratis, this rising to 34 per cent in 1999, 38 per cent in 2000, 40 per cent in 2001 and 48 per cent in 2002.

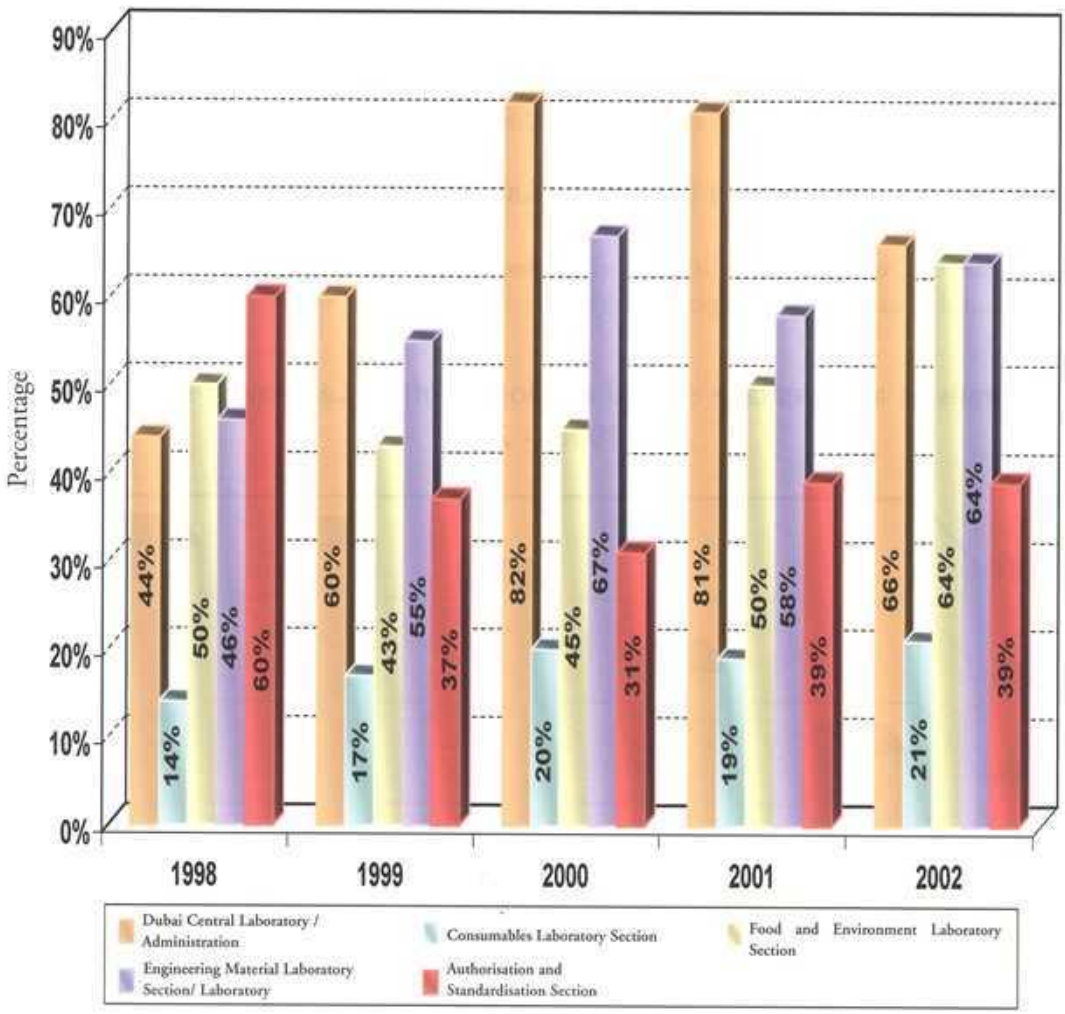
Comprehensive quality in the Central Laboratory

As part of Dubai Municipality's efforts to keep abreast of the latest scientific developments and because of the important role that laboratories of various types play in safe-

Emiratis as a percentage of total employees of the Laboratory Department, 1998 – 2002



Emiratisation of jobs in the Dubai Central Laboratory Department (Grade 11 and above), 1998 – 2002



guarding the health and safety of residents, as well as the general interests of consumers, the Dubai Central Laboratory was created as a unified body to be responsible for testing of all kinds.

The Laboratory's objective is to lay down high standards and to ensure that quality is implemented in all fields.

Thermal Insulation System for Buildings in the Emirate of Dubai



A view of Dubai Creek (Khor Dubai)

The by-law laying down the technical specifications for thermal insulation systems and conservation of energy consumption for air-conditioned buildings in the Emirate of Dubai was approved on 21st April 2001 and came into effect on 1st April 2003.

An integral part of the building regulations system for Dubai, it lays down specifications that will help to reduce the amount of heat travelling from the exterior of buildings to the interior, through the use of heat-resistant materials and thermal insulation for the cladding of internal and external walls. This, in turn, helps to conserve energy and to reduce costs.

Preparations for the introduction of the regulations began with a study carried out by the Dubai Central Laboratory Department on how a thermal insulation system could be devised and introduced. Under the terms of Administrative Directive No. 54 for 2000, a temporary committee was established for the purpose, headed by the Assistant Director-General for Roads and General Projects Affairs and with several Department Directors amongst its members. Known as the Committee for the Study and Implementation of the Thermal Insulation System in Buildings in the Emirate of Dubai, the committee worked together with the Dubai Electricity and Water Authority, DEWA, and organised a number of seminars to study the issue. Among these were:

- A seminar to explain the process of testing for and granting of Certificates of Conformity for materials and thermal insulation systems, held on 12th February 2002,
- A seminar to explain the workflow and basic requirements for revising plans and calculating heat and electrical loads in Dubai, held on 26th March 2002,
- A seminar on the concepts relating to building designs using thermal insulation materials, held on 23rd April 2002,
- A seminar on calculating heat loads and electrical works, held between 11th-22nd May 2003
- A Seminar to explain the various building systems using thermal insulation materials, held on 18th-19th June 2002,
- An exhibition and seminars on thermal insulation materials during the "Big 5 Show", between 26th – 30th October 2002, and
- A seminar on the effect of using thermal insulation systems and materials on choosing air-conditioners, held on 15th October 2002.

This process of intensive study was then followed by the drafting of the by-law and its issuance.

Internal Audit Section

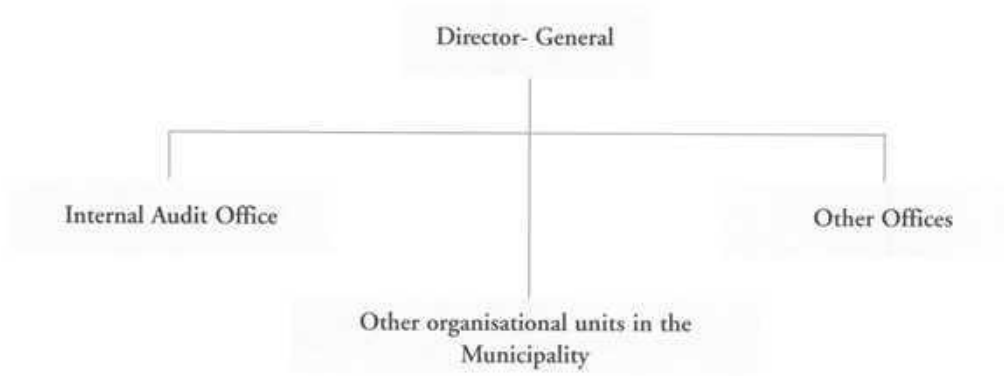
Internal monitoring and audit is an essential component of the administration of any body that seeks to ensure that its various units implement the regulations put in place to protect property, resources and sources of revenue, through a self-monitoring system of high quality.

It involves the laying down of procedures and standards for the carrying out of work in an orderly and efficient manner that takes account of the approved legal, economic, accounting and administrative procedures, with the fewest possible number of mistakes and violations.

After the Municipality Organisation Chart was amended in 1988, it was decided to establish an internal monitoring and audit section. During a transitional period, the work was undertaken by the Administrative Development Office. This was followed by the establishment in 1993 of the Internal Audit Office, which was placed directly under the office of the Director-General, as shown in Chart No.1.

In 1995, Law No. 7 on the financial system for government offices within the Emirate of Dubai provided for internal monitoring and auduting to be carried out throughout all government offices, this already being the case for the Municipality. The duties of the internal monitoring and audit systems were specified by Directive No. 37 for 1996.

Chart No. 1. Organisation Chart for the Administrative Development Office in 1993



Internal monitoring involves self-monitoring of organisational units within the Municipality and serves as an instrument to identify areas of poor performance and a way to allow for rapid action to remedy this. It is also a warning system to alert senior levels of the administration when mistakes occur, thus helping to increase efficiency and the degree to which rules, by-laws, laws and other directives are followed. It also helps to conserve public funds.

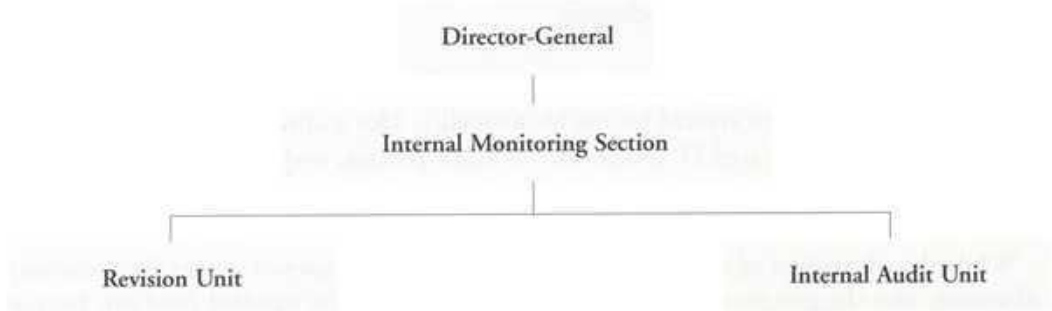
In 1998, the Administrative Development Office and the Internal Audit Office were combined as one Department directly affiliated to the Municipality's Director-General as shown in Chart No. 2.

Chart No. 2. Organisation Chart for the Administrative Development and Monitoring Department in 1998



In order to preserve the independence and confidentiality of monitoring work, the Internal Audit Section was re-organised as shown in Chart No. 3.

Chart No. 3. Organisation Chart for the Internal Monitoring Section in 2000



The main objectives of internal monitoring are to ensure effective self-monitoring in legal, financial and subjective terms during the implementation of the budget, monitoring the effective use of the Municipality's assets, checking the performance of the various organisational units in terms of procedures, laws and local and federal regulations and making recommendations, where appropriate, to correct mistakes or to amend established procedures. Revenues and expenditures are also monitored.

Efforts are co-ordinated externally with bodies such as the Financial Audit Office of the Government of Dubai in order to benefit from their recommendations and to implement or to respond to them.

Development of internal monitoring and audit

Once a series of general laws and regulations was introduced, the Internal Monitoring Section also became responsible for the preparation of a work manual to document workflow, delegated responsibilities and the general structure of the internal monitoring and audit process.

This was comprised mainly of a study of the way in which internal regulations were in keeping with legal requirements and making recommendations, if necessary, for changes as well as identifying any obstacles within the Municipality to the implementation of legislation.

As part of the general effort by the Municipality to improve quality and to upgrade performance, the Internal Monitoring Section has also devoted considerable attention to programmes designed to evaluate efficiency, the effective use of expenditure, the receiving of revenues and the provision of services to the public.

The section also seeks to ensure its own compliance. One example of this is in terms of the percentage of UAE citizens in its workforce, which had reached 43 per cent of the total at the time this book was compiled.

- In 1999, a new position was created for an auditor specialising in project management from the contractual, implementation and financial point of view. Large sums are spent annually by the Municipality on infrastructure projects and the task of this employee is to monitor the cost of projects to ensure that expenditure is in accordance with the agreed budget and schedule.

- In the same year, an IT auditor was appointed to monitor the automated IT programmes and systems created for the Municipality. This auditor was also given the task of preparing a dedicated IT system for the audit process, within the framework of the general movement towards e-Government.

While the advantages of a fully-automated system were recognised, it was also necessary, of course, that the process of introducing this system had to be handled carefully, because of the growing use of computers in the Municipality. This required a tightening-up of procedures on computer usage, to ensure that the systems were properly protected and were not used for illegal purposes.

In order that its work was carried out as efficiently as possible, the Internal Monitoring Section arranged with the external auditors from the Dubai Government's Financial Audit Office to ensure minimum duplication between the work of the internal and external auditors, while carrying out as many checks as possible.

Commercial
Licences
Department

The origins of the system of Commercial Licences in Dubai can be dated back to 1957, when, at an extraordinary session of the Municipal Council on 12th November, a directive was issued stating that no factory, workshop or garage could begin trading unless it first obtained a written licence from the Municipality.

This was followed in 1958 by a decision by the Assistant Municipality Director that tradesmen such as bakers, barbers, tailors, builders and owners of restaurants and cafes should also obtain trade licences from the Municipality.

In 1961, the Dubai Municipality Council issued Municipal Ordinances stating that a range of other small tradesmen such as brokers, laundrymen, porters, shoe-cleaners, newspaper vendors, peddlers, tanners, brokers in the markets, those weighing and packing goods, electricians and radio and watch repairers should also have licences, and that they would be subject to inspection.

Also in 1961, the first Licence Law was issued. Known as the Merchant Licence Law, and issued on the instructions of HH the late Sheikh Rashid bin Saeed Al Maktoum, the law laid down that the fee for a licence issued before 30th June in any year, and expiring on 31st December the same year, should be 100 Indian rupees, the currency then in use in the Emirates. For licences issued in July or later, to cover the remainder of the year, the fee was set at 50 Indian rupees.

In 1967, duties relating to commercial licences were allocated to the Accounts Section, as shown in Chart No. 1. In the same year, Office Order No. 6/1967 was issued relating to the collection of additional fees for various licences, these being used to help those who had suffered that year from the effect of Israeli aggression during the June War.

Office Order No. 7/1967, directed to the Head of the Accounts Section, dealt with the need to produce monthly reports on car licences and commercial licences, while Office Order No.11/1967 stated that no further commercial licences were to be issued to expatriate residents unless they provided a guarantor or financial guarantees.

It was also specified that the fee for commercial licences should be 200 riyals for large-scale merchants and 100 riyals for small-scale merchants, or at an appropriate level as determined by the Municipality Director. By this time, the currency in use in Dubai had become the riyal, and the Indian rupee had gone out of use.

Chart No. 1

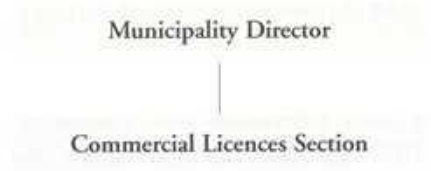


Commercial Licences Section

- In 1968, the Commercial Licences Section was established, under the office of the Assistant Municipality Director, being charged with organising and co-ordinating all matters relating to commercial licences, as shown in Chart No. 2.

- The practice was issued of collecting a fee of two riyals for Commercial Register forms, three of which were given to applicants for licences, in accordance with Administrative Order No. 12/1968.

Chart No. 2



General Inspector of Licences

In 1969, a Head of the Licences Section was appointed while a UAE national was given the post of General Inspector of Licences. Another Emirati was appointed to collect funds for the Palestine Support Committee, which was part of the Accounts Section. Administrative Order No. 21/1969 laid down that no new licence was to be issued and that no licence could be renewed unless a donation of at least 100 riyals was made to the Palestine Support Fund, except for people on a low income, who had to pay a minimum of 30 riyals.

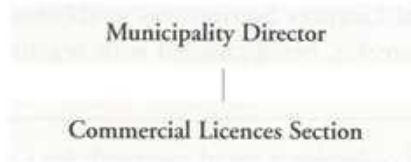
In 1970, a decree issued from the Office of HH the Ruler dealing with the issue of licences to expatriates cancelled the former system of financial guarantees before expatriates were permitted to engage in trade, this move being designed to stimulate free trade and commercial activity. A separate decree defined those professions to be covered.

Another move taken in 1970, under the terms of Administrative Decision No. 1/1970, stipulated that all applications for industrial licences should be sent to the Engineering Section for review and approval.

Administrative Order No. 7.1970 laid down that all merchants applying for licences should first obtain a document from the Boycott of Israel Office stating that they had signed an undertaking not to deal with merchandise that was prohibited under the boycott laws.

In 1974, the Commercial Licences Section was set up, as shown in Chart No. 3.

Chart No. 3



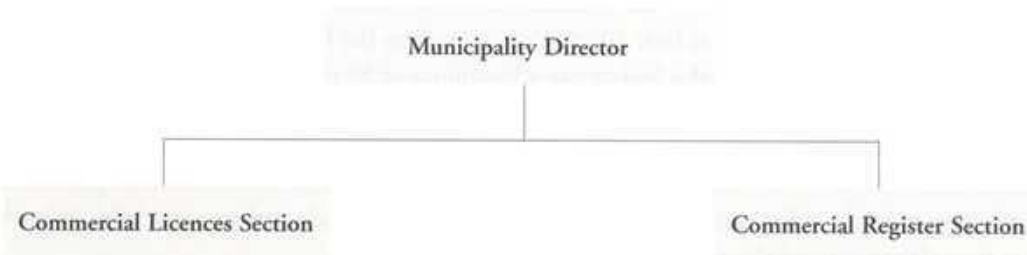
In 1975, a system for collecting licence fees was introduced, under the terms of Administrative Order No. 67/1975, which provided first for the Commercial Licences Section to receive licence applications and then for the applications to be forwarded to the Revenues Section and the Palestine Section for the collection of the specified payments before the licences were issued.

In 1976, Administrative Order No. 19/1976 raised the fee for the three Commercial Licence Application forms from two UAE dirhams (the national currency had been introduced by this time), to 10 dirhams.

In 1977, an order from the Office of HH the Ruler laid down regulations for the granting of and renewal of licences for both individuals and companies operating in Dubai while Administrative Order No. 4/1977 laid down rules for "Lailam" licences.

Administrative Order No. 34/1977 spelt out that foreign companies and merchants applying for licences from the Municipality were not thereby authorised, under the Municipal licence to undertake business, to bring in labour or to obtain residence visas for employees. At the end of this year, the organisation chart for the Commercial Licences Section, shown in Chart No. 4, included two sections, the Commercial Licences Section and the Commercial Register Section.

Chart No. 4



In 1978, the Head of Commercial Licences was authorised on behalf of the Director of the Municipality to sign all documentation relating to assistance on commercial licences such as changes of name, cancellations and the like, while in the same year, another Administrative Directive, issued on 7th February, provided for the issuing of professional licences for companies to work as evaluators and assessors for general insurance and maritime insurance.

Establishment of Application Centres

In 1980, an applications centre for the public was established in the new Municipality head-

quarters, with 28 representatives, from each section of the Municipality, being appointed to work on the issuing of commercial licences, to undertake inspections of commercial premises and to facilitate the completion of the licence application process, as shown in Chart No. 5.

Chart No. 5



Reduced Price Sales Unit

In 1981, the Reduced Price Sales Unit was established as part of the Licences Section, under the terms of Organisational Directive No. 181/1981, and as shown in Chart No. 6. This was given the task of examining the eligibility of persons applying for permission to sell goods at reduced prices.

Chart No. 6



In 1982, regulations were drawn up relating to the contribution of national capital in industrial projects, as stated in Administrative Order No 17/1982 and in accordance with the terms of Directive No. 19 for 1981 issued by the Minister of Finance and Industry.

In 1982, the process for referring applications for commercial licences through the Applications Centre was revised in order to ensure that they were dealt with as quickly as possible, the new methodology being laid down in Administrative Orders No. 9/1982 and No. 55/1982. Administrative Order No. 19/1982 also laid down that no commercial or professional licence should be issued to expatriate applicants unless they had a valid UAE residence visa,

while an agreement was made with the Dubai Chamber of Commerce and Industry that all applicants for commercial and professional licences should complete their applications at the Chamber.

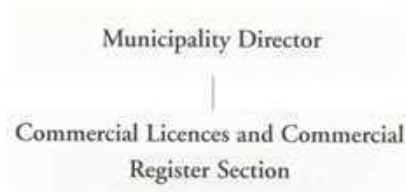
In 1983, rules were issued by a further Administrative Order in respect of requirements pertaining to licences for the money exchange trade, while in the same year Administrative Order No. 76/1983 re-organised the procedures for new applications and also laid down rules relating to old licences which had not been renewed for a period of at least two years.

Another step, taken in 1984, was the issuing of instructions to ensure that no licences were to be issued to persons working in Federal Ministries or local Government departments unless they had prior approval from these bodies.

Licences and Commercial Register Section

In 1985, it was decided to unify the work of the existing Commercial Licences and Commercial Register sections, so as to improve performance. This was done under Administrative Order No. 38, with the new organisation chart being as shown in Chart No. 7, below.

Chart No. 7



Administrative Order No. 51 was also issued as part of the executive rules for Municipal Ordinance No. 26 for 1984, relating to sales of products at reduced prices. This Order transferred the Reduced Price Sales Unit to the Finance Department.

At the end of 1985 and further to Administrative Order No. 38 combining the Commercial Register and Commercial Licences sections, another order, Administrative Order No. 112 was issued, appointing an Assistant Head of Section for Commercial Register Affairs. At the beginning of the next year, 1986, two Assistant Heads of the Licences and Commercial Register Section were appointed, under the terms of Administrative Order No. 35.

Licencing and Commercial Registration Section

Further changes were made to the administrative structure at the end of 1986, under the terms of Administrative Order No. 332. As shown in Chart No. 8, this also involved the introduction of new activities and changed the name to the Licencing and Commercial Registration Section.

Chart No. 8



The Assistant Head of the Licences Section was promoted to the position of Deputy Head of Licencing and Commercial Registration Section and Head of Inspection Unit. The other Assistant Head was promoted to the post of Deputy Head of Commercial Licencing Section and Head of Licencing Unit, as stated in Administrative Order No. 335/1986.

In 1987, the duties of the Licencing Unit were merged with the duties of the Commercial Licencing Unit, under the terms of Administrative Order No. 11/1987, which formed the Licencing Procedures and Commercial Registration Unit.

Public Applications Section

On 23rd March 1987, the Public Applications Section was established and affiliated directly to the Director's office, under the terms of Administrative Order No. 41/1987. It had three Units, Technical Applications, Licencing and Commercial Registration and Public Health Applications, as shown in Chart No. 9.

Chart No. 9



In 1988, the authority of employees in the Licencing and Commercial Registration Section was defined, and computers were introduced, regulations for the use of these being compiled with help from the Information Technology Centre.

Several Administrative Orders were issued during the year of relevance to the work of the Section, including Nos. 50, 51 and 59 for 1988, as well as Circular No. 24/1988 dealing with the work of the inspectors in the Licencing and Commercial Registration Section.

The organisation chart of the section was also amended under the terms of Administrative Order No. 59. Among items covered in this order were the supervision of the Municipality's General Markets Department, supervision of recreational and electronic games centres, follow-up of recreational activities, and all duties relating to the Advertisement Monitoring Section, as shown in Chart No. 10.

Chart No. 10



Administration of Licencing and Commercial Registration

In 1989, the name of the Licencing and Commercial Registration Section was amended to the Licencing and Commercial Registration Department, under the terms of Administrative Order No. 208, as shown in Chart No. 11, while the separate Units were raised to Section level.

The new Licencing Procedures and Commercial Registration Section was charged with fast and accurate processing of new licence applications, renewals, commercial registration, making the necessary amendments to applications and the issuing of permits as well as checking the classification of commercial activities, the basis for licencing. It was also given the responsibility of simplifying procedures, unifying standards and specifying the scope of activities.

The old Inspection Unit became the new Inspection and Monitoring Section. Because of the increasing number of licences being issued, the old inspection system was scrapped and a new one was introduced, helping to reduce the amount of time required for the issue of new licences.

This Section was divided into two Units, one for Dubai and one for Deira, which undertook daily, planned inspections and also carried out random, unannounced, inspections so as to ensure that licence-holders were adhering to laws and licencing regulations

In 1989, the Commercial Monitoring Section was merged with the Licencing and Commercial Registration Department, which, in turn, was linked to the Administrative Affairs Department. This was responsible for the issuing of permits for hotels and other premises which organise commercial entertainment shows and for the issuing of permits to advertising establishments, calligraphers and artists as well as for the collection of fees and fines.

In 1989, the Markets Section in the Administrative Affairs Department was transferred to the Commercial Licencing Department.

Chart No. 11

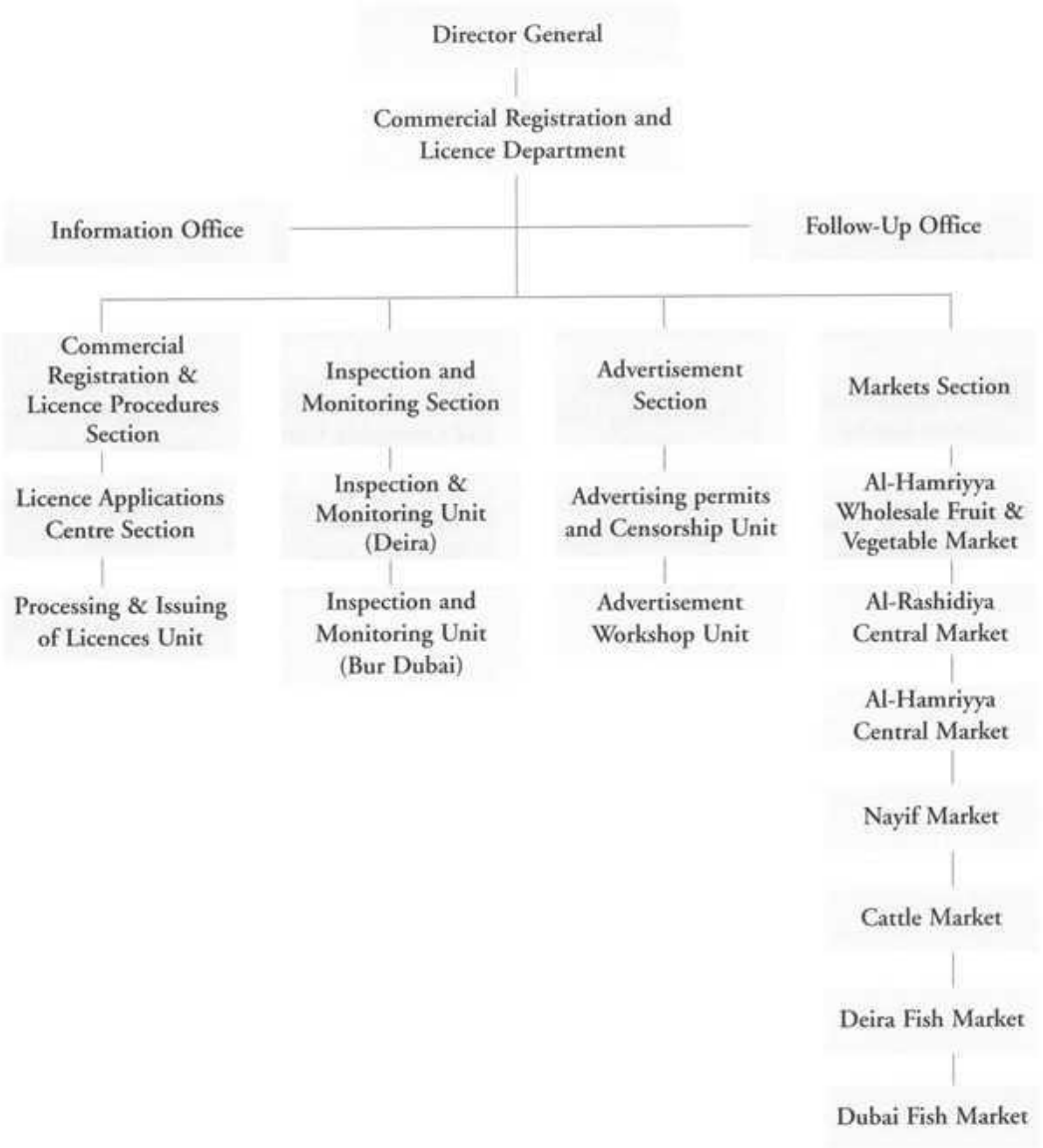
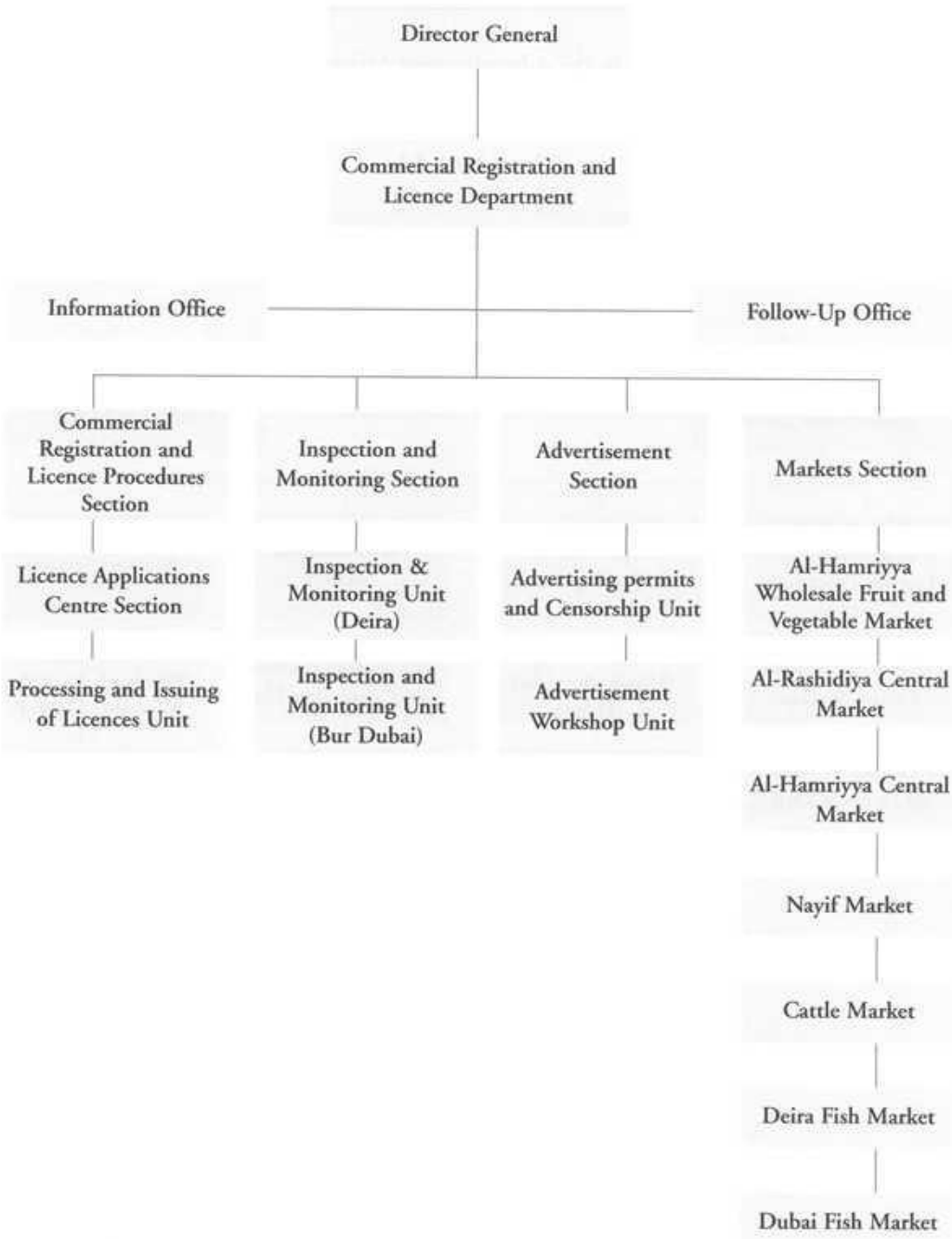


Chart No. 12 shows the organisation chart for the Commercial Licencing Department in 1992, prior to its transfer, with the exception of the Markets Section, to the Economic Department.

Chart No. 12



Revenue and Expenditure of the Commercial Licencing Department, 1988 – 1994, in UAE dirhams

Item	1988	1989	1990	1991	1992	1993	1994
Expenditure	2,034,421	3,396,851	5,278,869	694,191	695,077	353,110	123,800
Revenue	9,091,092	10,759,222	10,915,730	25,695,529	32,646,501	13,039,884	348,545

Development in Revenue and Expenditure of the Commercial Licencing Department, 1988 – 1994

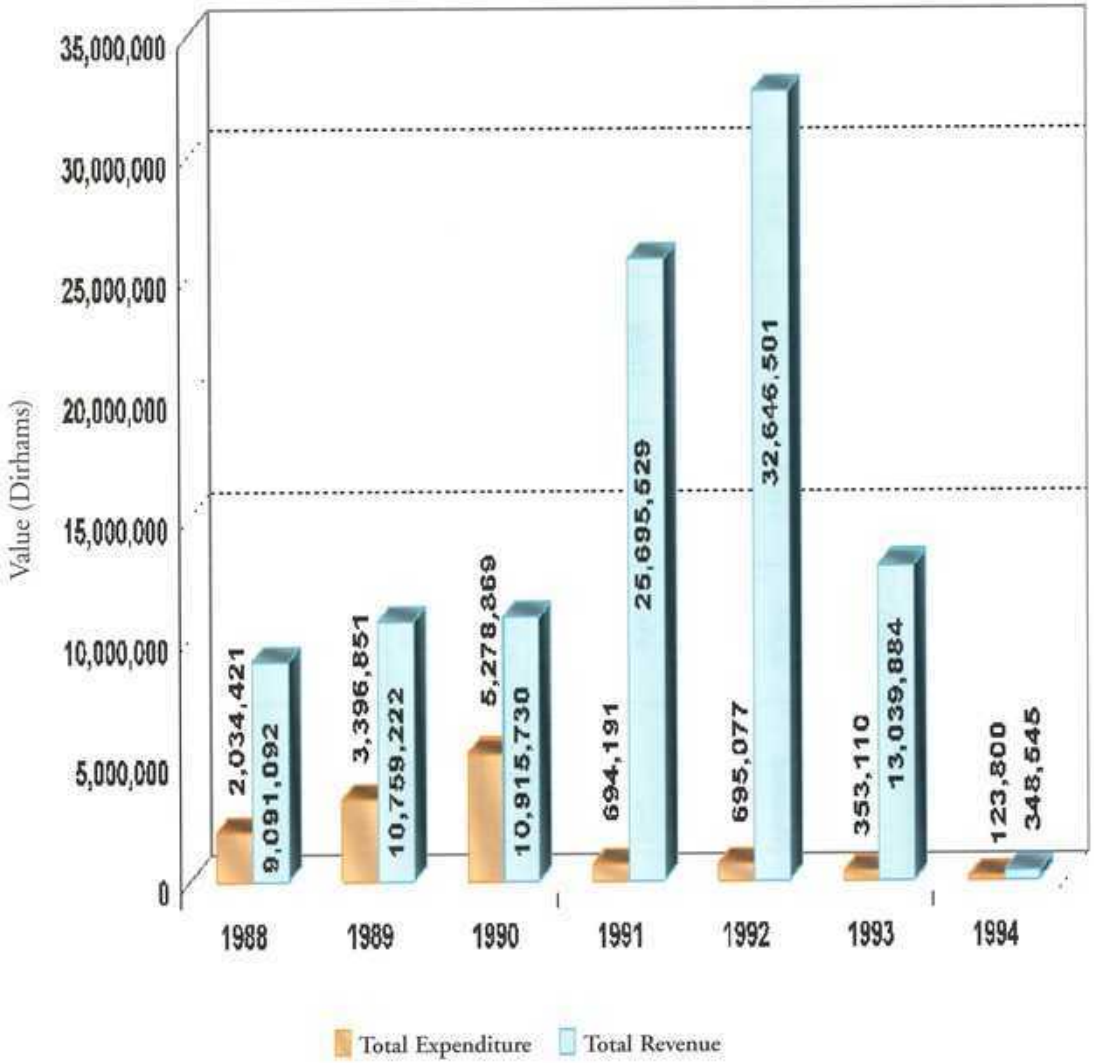


Table No. 1. Licences issued by the Licencing and Commercial Registration Department according to type of licence 1985 – 1992

Type of Licence		1985	1986	1987	1988	1989	1990	1991	1992
Commercial Licences	New	794	971	931	2,290	3,353	2,327	2,631	2,955
	Renewal	6,843	7,111	7,354	8,856	11,272	12,085	13,251	14,690
	Amendment	-	-	-	1,526	1,404	1,218	1,371	16,241
	Cancellation	142	149	184	312	364	445	559	139
Professional Licences	New	938	1,191	1,138	1,368	1,635	1,485	1,398	1,602
	Renewal	6,524	6,911	6,957	7,581	7,520	7,311	7,462	7,542
	Amendment	-	-	-	576	617	469	499	562
	Cancellation	134	87	177	843	14,094	723	1,185	1,860
Local Licences	New	8	5	15	145	5	6	4	13
	Renewal	285	284	281	2,977	373	362	373	349
	Amendment	-	-	-	-	9	3	2	3
	Cancellation	1	-	2	6	66	55	5	5
Industrial Licences	New	13	925	8	30	93	51	83	93
	Renewal	213	-	214	28	321	308	343	391
	Amendment	-	-	-	28	46	36	31	34
	Cancellation	2	1	4	4	11	6	14	28

Future Plans

The mission of the Dubai Municipality is to implement Government directives to make Dubai into one of the fastest-developing cities in the world. In order to achieve this objective, it has drawn up medium and long-term strategic plans, covering the period from 2000 to 2015. At the time this book was being prepared, a number of plans had already been approved and completed, or were under way.

Infrastructure

Around 780 million UAE dirhams is being spent on roads and interchanges. These cover most of the area of the Emirate, and include roads in the following areas: Zabeel, Jumeirah, Al-Satwa, Al-Khaseiba, Al-Quoz, Al-Mizher, Ra's al-Khor (Industrial Zone), the Knowledge Village, the Al-Warsen area, the Al-Sufouh area and Hatta.

The main interchange is being built on the Al-Nakheel Road, behind Sheikh Zayed Road, and is due for completion by the end of 2003, at a cost of approximately 115 million dirhams.

Dubai Ring-Road

The Dubai Ring-Road is a two-phase project.

The first phase, from Al-Amerdi roundabout to the Al Ruwayyah interchange with the Dubai – Al Ain road, is expected to cost 63 million dirhams, and is 18.5 km. long. Due



Bu Khadra / Ra's Al-Khor Interchange

to be completed in 2003, it has three camel underpasses and is provided with street lighting.

The second phase extends from the Al Ruwayyah bridge on the Dubai to Al Ain road to the junction with the Jebel Ali to Lihbab road, and is estimated to cost Dh 60 million. Due to be completed in 2004, it is 23 km. in length.

Future road projects

As part of the Municipality's continuing programme to provide new roads, to alleviate congestion in Dubai and to improve the flow of traffic, a number of new projects are being planned for future implementation.

One of the most important of these is that of expanding the Al-Garhoud bridge and building new interchanges or, as an alternative, building a new bridge. Initial studies were under way at the time this book was being prepared, and a final decision had not yet been taken, but the overall cost of the project was expected to be in the region of 500 million dirhams.

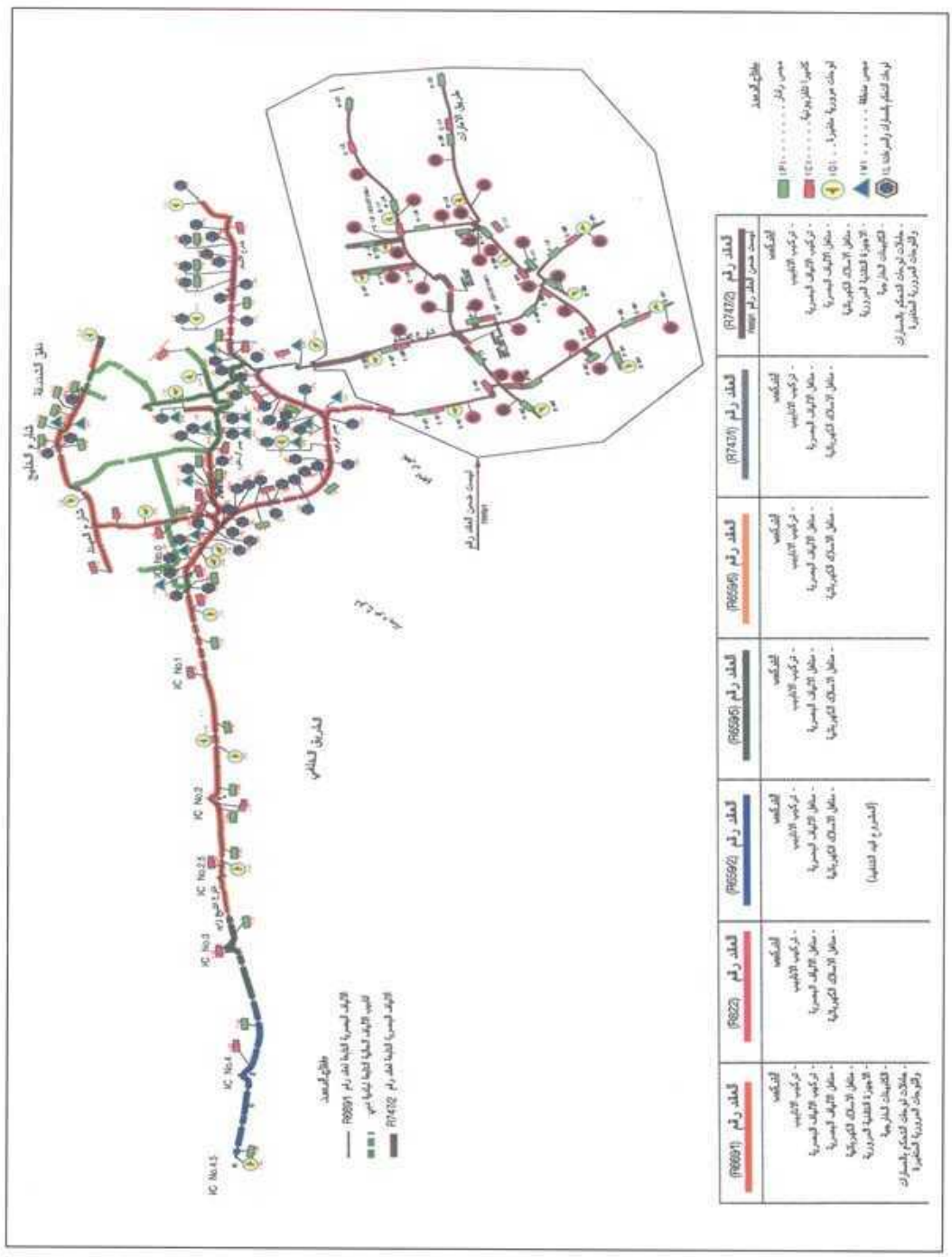
Another project, due to be completed in 2005, at an estimated cost of 690 million dirhams, is the 1.5 km. long Airport Underpass. This will provide a link between Beirut Street and Nad al-Hamar Street, and will also permit traffic to pass through it from the Al-Qusais area to Bur Dubai.

More generally, a major project is being planned for the control of traffic throughout



Al-Garhoud Bridge

Dubai Traffic System Project through a linked control network for all traffic lights. This is designed to permit a quick response to any congestion as it develops, and is estimated to cost a total of 66 million dirhams. Work on the project began in 2003 and is expected to be completed by the end of 2005.



General Services Projects

A number of other projects were being planned as this book was being prepared, some of which have now been wholly or partly completed.

One major scheme is for the development of Zabeel Park. Due to be completed by the end of 2005 and covering 52 hectares, the scheme was expected to cost a total of 180 million dirhams. It includes the building of an open-air theatre for mass weddings, an Imax cinema, a technology park and an energy park, an artificial lake, a sports area with a club building, a games area, a tower providing a panoramic view and display areas, as well as a restaurant and space for exhibitions.

A project to take excess recycled irrigation water from the sewage plant for injection into the groundwater was due to be completed at the end of 2005, at an estimated cost of 44 million dirhams while another project related to water resources was the building of a new dam at the inland town of Hatta. This was due to be completed in late 2003, at a cost of 37 million dirhams.

In Jebel Ali, one major project still under way in mid-2005 was the construction of a sewage plant. This is expected to be completed in 2006, at a cost of 600 million dirhams.

As mentioned elsewhere, a large Wholesale Vegetable Market has been built adjacent to the Emirates Highway, at the Al-Aweer interchange. Completed in 2003, the market has four sections, a wholesale section, with 400 shops, a retail market with 150 shops, a section for sales by truck-load and a section for sale in bulk of local and imported produce. The market also has accommodation for workers and for long distance lorry-drivers, as well as other facilities and services.



Wholesale Fruit and Vegetable Market

By the end of 2005 or early 2006, the first phase of a new Zoological Garden is expected to be completed, with the cost of the first phase being estimated at 350 million dirhams. Covering a total of 500 hectares, it will include an entrance area of 33 hectares, an open park of 35 hectares, a safari park of 156 hectares, a wildlife reserve, covering 156 hectares, a buffer zone of 100 hectares and 14 hectares for a service zone.

University City

In 2000, the Municipality drew up plans for the construction of a University City in the Al Ruwayyah area, on the outskirts of Dubai. This is designed to provide facilities for the construction of both government and private higher education institutions.

One major project for this area is the campus for the Dubai Women's College, part of the Higher Colleges of Technology network. Due for completion in 2003, at a cost of 114 million dirhams, the campus covers an area of 402,000 sq. metres, of which 255,000 sq. metres is allocated for educational and administrative buildings, sports facilities and service areas. The campus has classrooms, laboratories, conference rooms and a library as well as a gymnasium, a swimming pool and open areas, as well as extensive areas for car-parking.



The Dubai Women's College building



Design for Zayed University campus

Zayed University campus

Another educational institution in the University City is the Dubai campus of the women-only Zayed University, which has facilities covering an area of 110,000 sq. metres, out of a total project area of 710,000 sq. metres. Design and construction is being co-ordinated with the Zayed University administration, and work on the first phase was scheduled to start in 2004, with completion, at a cost of around 300 million dirhams, due in 2006.

The first phase will have a capacity for 5,000 students, all female, to cope with expected demand up to the year 2010, while this can later be expanded to a capacity of 7,000 students, to cover projected demand to 2017. The campus may eventually house some 10,000 students.

Another major project for the first few years of the new millennium has been the relocating of the shipyards in the Al-Jadaf area to Port Rashid. This project, costing an estimated 650 million dirhams, and covering an area of 67 hectares, was due to be completed by late 2004.



Plans for the Al-Jadaf area in Dubai

New plans for the whole of the Al-Jadaf area, covering around 600 hectares from the Al-Garhoud bridge to Ra's al-Khor, have been completed, for implementation once the move of the shipyard and associated facilities has been completed.

Looking to the future

The rapid projected expansion in Dubai, both in terms of its population and in terms of construction and commerce, requires that the Municipality looks many years ahead in terms of future planning. The projects mentioned below are only some of those being prepared to meet future needs up to the year 2025

The Deira Corniche is to be completely re-designed, covering an area of 297 hectares, from the entrance to the Creek, near the Hyatt Regency Hotel, up to Al-Hamriyyah port. Detailed plans for this have already been completed.

Plans for the remaining section of the Sheikh Zayed Highway, in the Al-Qasl area and in the area formerly occupied by the facilities of Central Military Command, covering 540 hectares, have been completed.

In the coastal part of the Jebel Ali area, covering 6,000 hectares, plans for a first phase of work, covering 800 hectares, have been completed.

Finally, the Municipality has drawn up plans for the building of an above-surface light railway network, the Dubai Metro. These will be implemented in two phases, the first due to begin in 2005 and to be completed by 2010, at an estimated cost of 8.5 billion dirhams.

The Role of Local Authorities

Over the course of the last twenty five years, the role of local authorities has expanded around the world as Governments have come to recognise that effective local authorities are the best way of tackling economic and social problems, particularly in urban areas.

Such authorities play a vital role in decision-making, because they are closer to the people. Decentralisation of government and of the management resources is an effective way of handling issues related to the improvement of living conditions and the protection of the environment.

The United Nations Human Settlements Programme has worked to narrow the gap between central governments and local authorities. The objective is to improve the standards of living of the urban population through collaboration between Governments, political parties, non-governmental organisations and the private sector. This has helped to stimulate the development of ideas proposing an expansion of the role of local authorities and the giving to them of wider authority to take decisions on implementing Government policies.

The idea of a World Charter of Local Self Government came clearly to the fore at the Second UN Habitat conference held in 1996 and attended by all UN member states, represented by heads of state and their delegates and by delegates from local authorities. The result was the Istanbul Declaration of the importance of partnership between central and local governments.

In the same year, the World Association of Cities and Local Authorities, WACLA, was established, holding a meeting on the sidelines of the Istanbul summit. The WACLA governing body is its General Assembly, whose founding members were the Arab Towns Organisation, ATO, based in Kuwait; Citynet (Asia and Pacific), based in Malaysia and Japan; Eurocities (Belgium), Fédération Mondiale des Cités Unies (FMCU) ñ France; International Union of Local Authorities (IULA) – Netherlands; Major Local Government Associations of North America – Canada; Association Mondiale des Grandes Métropoles (METROPOLIS) – France; Asociaciones de Municipios de America Latina - Chile; Summit Conference of Major Cities of the World (SUMMIT) – Japan; and Union des Villes Africaines (UVA) – Morocco.

WACLA also has a rotating Council of Presidents, while its General Secretariat alternates between Geneva, Barcelona and The Hague.

The financial resources of the Council are made up of members' contributions, while it also receives grants and support from other international organisations and the like.

WACLA is a coordination body through which local authorities can unify their efforts, so as to have a more effective voice in arenas such as the United Nations. This allows members to negotiate more effectively, with regards to their areas of responsibility and to the

obtaining of financial and other resources.

The World Associations of Cities and Local Authorities, WACLA, has four main objectives.

These are the promotion of local self-government, including advocacy of a World Charter of Local Self-Government; strengthening the voice of cities and local authorities on the international stage, through, for example, seeking official status for local government with the UN Economic and Social Council and playing active part in the policy formation bodies of the UN dealing with urban issues, such as the Commission on Human Settlements and the Commission on Sustainable Development; strengthening the role of cities and local authorities in international cooperation, through such means as pressing for increased allocation of development aid to urban development, the formation of an inter-city solidarity fund; and obtaining greater effectiveness from aid programes by building upon direct local-to-local cooperation mechanisms; and, fourthly, seeking to develop a new capacity at an international level for the monitoring of developments in local autonomy and governance and the implementation of the Habitat (21) agenda.

The World Charter of Local Self-Government was drawn up by a group of experts, representatives of local self-government institutions and specialists from the United Nations Human Settlements Programme. Regional consultation meetings were held to present the initial draft of this project to representatives of local authorities and central governments.

Several such regional meetings were held in 1999, including one for Municipality Councils and European regions in Strasbourg, France, one for Organisations and Local Authorities in Santiago, Chile, a meeting of the Union of Local Authorities in Kampala, Uganda, a Citynet conference in Japan and a Union of African Cities Conference in Rabat, Morocco. In 2000, there were further meetings in Central America, the Caribbean and through the South Asia and North America Network and North American Cities Network.

With regard to the Arab Cities, the first Consultation Conference pertaining to the World Charter of Local Self-Government was held in Agadir, Morocco on 6th-9th June 1999 at the invitation of the United Nations Human Settlements Programme, the Council of World Cities and Towns and the local authorities. A committee was formed to study the proposed Charter and to review and evaluate its articles while respecting the cultural and social heritage of the Arab Nations. This was followed by a committee meeting in Dubai from 31st July to 2nd August 1999, at which several amendments were proposed relating to the special characteristics of Arab countries and cities.

The comments and suggestions for amendments or additional articles that were received were then referred to the group of experts for incorporation. The draft of the Charter was presented to the United Nations General Assembly in June 2001.

The main points in the World Charter of Local Self-Government, include the following:

Article 3 - Concept of local self-government

1- Local self-government denotes the right and the ability of local authorities, within the limits of the law, to regulate and manage a substantial share of public affairs under their own responsibility and in the interests of the local population.

2- This right shall be exercised by councils or assemblies composed of members freely elected by secret ballot on the basis of direct, equal, universal suffrage and which may possess executive organs responsible to them.

Article 4 - Scope of local self-government

1- Local authorities shall have full discretion to exercise their initiative with regard to all matters that are not excluded by law from their competence nor assigned to any other authority.

2- The basic powers and responsibilities of local authorities shall be prescribed by the constitution or by law. However, this provision shall not prevent the attribution to local authorities of powers and responsibilities for specific purposes.

3- In accordance with the principle of subsidiarity, those authorities that are closest to the citizen shall generally exercise public responsibilities. In the same spirit, any allocation of responsibility to another authority must be based on the requirements of technical or economic efficiency.

4- Powers given to local authorities shall normally be full and exclusive. They should not be undermined and may not be limited by another authority except as provided for by law.

5- Where a central or regional authority delegates powers to them, local authorities shall be given discretion in adapting their implementation to local conditions.

6- Local authorities shall be involved in due time and in an appropriate way in the planning and decision-making processes for all matters which affect them.

Article 10 - Participation of citizens and partnership

1- Local authorities shall be entitled to define appropriate forms of popular participation and civic engagement in decision-making and in fulfillment of their function of community leadership.

2- Local authorities shall be empowered to establish and develop partnerships with all actors of civil society, particularly non-governmental organisations and community-based organisations and with the private sector and other interested stakeholders.

Article 14 - Undertakings

1- Each State Party undertakes to consider itself bound by at least twenty paragraphs of Part I of the Charter, at least ten of which shall be selected from among the following paragraphs:

- – Article 2,
- – Article 3, paragraphs 1 and 2
- – Article 4, paragraphs 1,2 and 4,
- – Article 5,
- – Article 7, paragraph 1,
- – Article 8, paragraph 2,
- – Article 9, paragraphs 1, 2 and 3
- – Article 11, paragraph 1,
- – Article 13.

2- Each State Party, when depositing its instrument of ratification or accession, shall notify to the Secretary-General of the United Nations the paragraphs selected in accordance with the provisions of paragraph 1 of this Article.

3- Any State Party may, at any later time, notify the Secretary-General that it considers itself bound by any paragraphs of this Charter which it has not already accepted under the terms of paragraph 1 of this Article.

3- Such undertakings subsequently given shall be deemed to be an integral part of the ratification or accession of the State Party so notifying, and shall have the same effect as from the thirtieth day after the date of the receipt of the notification by the Secretary-General.

It was originally hoped that the Charter would be signed at UN Headquarters during the General Assembly meeting held between 6th-8th June 2001 to review and evaluate the

results of the second Habitat Conference. This proved, however, not to be possible because of comments from some member states.

During the General Assembly meeting, UN member states presented reports on accomplishments over the past five years in respect of improving living conditions while the Human Settlements Administration presented the outlines of a project on cities and human settlements during the new millennium.

The presentation made by the United Arab Emirates noted that, under the leadership of President His Highness Sheikh Zayed bin Sultan Al Nahyan, the country had made significant steps towards the implementation of a process of devolved government and on promoting development through free trade. In terms of human settlements, it was noted that the UAE's housing programme was designed to ensure that a stable and comfortable standard of living was provided to all citizens and other residents

Awards



General H.H. Sheikh Mohammed bin Rashid Al-Maktoum receiving the Cannes International Water Award (2001)

Cannes International Water Award, 2001

This award was presented by the Mediterranean Organisation to the city of Dubai during its third meeting. The prize was received by H.H. Sheikh Mohammed bin Rashid Al-Maktoum then Crown Prince of Dubai and UAE Minister of Defence during an awards ceremony held in Cannes, France. This award was in recognition of the Municipality's efforts in conserving water and turning Dubai into a green oasis, despite the scarcity of water in the desert region in which Dubai is situated, in addition to its efficiency in recycling wastewater for irrigating the landscape projects in and around Dubai. This has contributed to the best use of the available drinking water and to an efficient use of water for irrigation and agriculture.



Cannes International Water Award Trophy



The King Abdullah II Award for Innovation (2002)

King Abdullah II Award for Innovation, 2002

Dubai Municipality received this award for a detailed study on pollution control in Dubai and for tackling environmental problems through successful administration and good planning, so as to maintain a pollution-free environment. This study was ranked top of a total of 26 such studies from various Arab cities.

Arab Housing & Urban Ministries Council Award for the Best Housing Project, 2000

Dubai Municipality received this award, established by the Arab League, for the design and implement of a government housing complex of 88 houses in the Hatta heritage area, which consisted of modern housing units that were in keeping with the beautiful surroundings and the local mountainous environment.

Writing, Ascertaining or Translation Award, 2000

Dubai Municipality won this award, instituted by the Organisation of Islamic Capitals and Cities, for winning second place in the category of organisation and municipal legislation and

for a traffic guide prepared by the Municipality to educate the public and raise traffic awareness for residents of Dubai.

Hatta Heritage Village Award, 2000

This award, in the category of Municipal Projects and Services, was won by Dubai Municipality for the restoration of the mountain village of Hatta at a total cost of Dhs 15 million. The village has become a major tourist and heritage attraction.

Pioneer Award, 1999

The Pioneer Award of the International Council for Caring Communities, for outstanding achievement and contribution to the improvement of living conditions on a global scale, was won by Dubai Municipality for its institution of the Dubai International Award for Best Practices to Improve the Living Environment. The late His Highness Sheikh Maktoum bin Rashid Al-Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, established this award to enhance awareness of the pressing needs of urban and rural settlements for people everywhere. The award was a tribute to the excellent work and dedication of H.E the Director General of Dubai Municipality to improvements in human settlements at a global level. The Dubai Declaration and Best Practices were central foci of the United Nations Conference for Human Settlements (HABITAT II Conference), and the World Assembly of Cities and Local Authorities, WACLA, held in Istanbul in 1996.

Environment Awareness Award, 1998

This award was presented to Dubai Municipality by the Arab Towns Organisation



Hatta Heritage Village Award Shield, (2000)

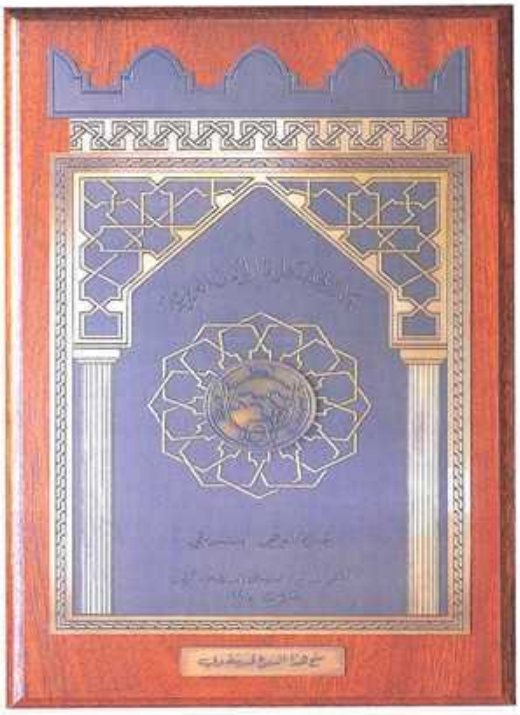


Pioneer Award Trophy, 1999

for its role in spreading environment and health awareness in the emirate of Dubai as well as for its strategies to maintain general cleanliness within the Emirate, its promotional campaigns, undertaken using all types of media, for its care of the marine and terrestrial nature reserves and for its work to preserve bio-diversity so as ensure continued environmental sustainability.

Architectural Heritage Award, 1998

This award was presented to Dubai Municipality by the Arab Towns Organisation in recognition of its outstanding role in preserving the architectural heritage of Dubai, including both buildings of architectural merit and its continued use of the traditional methods used in their construction, which, in turn, stimulated and helped to preserve old craftsmanship.



Environment Awarencess Award Shield (1998)

Award for Conservation of Architectural Heritage, 1988

This award was presented by the Arab Towns Organisation to Dubai Municipality in recognition of its efforts in restoring the Sheikh Saeed House. The house, which dates back to 1896, has a floor space of 3,600 sq. matres and cost a total of 8 million dirhams to renovate.. It has a number of rooms and large terraces, showing evidence of the architectural skills of the past in its construction. The building now houses an impressive exhibition of photographs and documents which vividly portray the early development of the emirate.

Innovation Award, 1996

This was awarded to Dubai Municipality by the Dubai Department of Economic Development for its outstanding contribu-



Innovation Award, Trophy 1996

tion to the Dubai Shopping Festival (DSF), in its launch year of 1996 and then in 1997, 2000 and 2001.

Environment Safety Award, 1995

This was awarded to Dubai Municipality by the Arab Towns Organisation, to recognise it as being the top Arab civic body in the field of environmental management. Dubai city is notably clean and pollution-free in accordance with international standards.

City Plantation Award, 1995

This was awarded to Dubai Municipality by the Arab Towns Organisation in recognition of its efforts to spread greenery in the emirate. Major work, undertaken as part of this landscaping, includes planting trees across the Emirate and the planting of parks and gardens to enhance the appearance of the city. The work has also contributed to the Municipality's efforts to curb atmospheric pollution. The landscaping has also helped fix the soil and to reduce the transport of sand by the wind.

Cultural Personality of the Year Award, 1994

In 1994, Dubai Municipality won the Al-Owais Award for Studies and Scientific Innovation for the category of Cultural Personality of The Year, awarded by the Culture and Science Council. The Municipality was the first government organisation to receive this award, presented in recognition of its efforts to build public libraries for various age groups throughout Dubai and for its support for cultural activities within the community.



City Plantation Award (1995



Cultural Personality of the Year Award (1994)



H.E. Qassim Sultan receiving the Certificate of Membership of the United Nations Advisory Committee of Local Authorities UNACLA (2000)

Membership of the United Nations Advisory Committee of Local Authorities UNACLA, 2000

H.E. the Director General of Dubai Municipality was chosen to be a member of the United Nations Advisory Committee of Local Authorities UNACLA, part of the United Nations Human Settlements Programme . The committee has twenty members.

Director General of Dubai Municipality selected as a Goodwill Ambassador, 2000

Following the receipt of approval from the late H.H. Sheikh Maktoum bin Rashid Al-Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, H.E. the Director of Dubai Municipality was chosen as a Goodwill Ambassador by the United Nations Human Settlements Programme (Habitat). The selection was made because of the outstanding role he had played over a fifteen year period in in pioneering an internationally-recognised urban development programme.

H.E. Mr. Qassim Sultan had previously been presented with the United Nations Human Settlements Programme Medal for organising the Second Habitat



Goodwill Ambassador Certificate 2000

Conference in 1995. This ended with the Dubai Declaration and the launch of the Dubai International Award for Best Practices to improve the living environment.

Environment Award, 2001

Dubai Municipality's Director General was chosen in 2001 as one of the ten individuals selected annually to receive this award, which is presented to people deemed to have played an important role in protection the environment from pollution, at both a regional and a global level.

He received the award during the annual conference on Protecting the Environment, held in Alexandria by the Arab-European Cooperation Centre This award is testimony to Dubai's outstanding efforts in protecting the environment and maintaining the cleanliness of the city.

American Business Award, 1997

This was awarded to H.E. Director General of Dubai Municipality in recognition of his role and that of the Municipality in supporting the activities of the American Business Council of Dubai and the Northern Emirates.



American Business Award Trophy (1997)

Habitat Scroll of Honour Award, 1994

The United Nations Human Settlements Programme granted the Habitat Scroll of Honour Award to H.E. the Director General in 1994. He was the first Arab to be so honoured, and received the award in recognition of his vital role in drawing up and implementing comprehensive and sustainable development plans for the city of Dubai.



H.E. Qassim Sultan receiving the Habitat Scroll of Honour Award from the UN Assistant Secretary General and Executive Director of the United Nations Human Settlements Programme, in 1994,watched by Mr. Jassim Darweesh, Secretary General of the UAE Municipalities.

Dubai Government Excellence Awards Programme



General H.H. Sheikh Mohammed bin Rashid Al-Maktoum during the ceremony to honour Dubai Municipality as best Government Department in the Dubai Government Excellence Awards Programme 1998

The Dubai Government Excellence Awards Programme

1- Award for the Excellent Government Department

- In 1998, this award was won by Dubai Municipality because of its role as one of the Government departments playing an active and significant role in serving the environment and community through its planning and implementing of policies. These seek to develop the Emirate of Dubai and to preserve its heritage, thus creating a harmonious relationship between past and present.



Award Trophy for the Excellent Government Department

2- Award for the Excellent Government Employee

- In 1998, this award was won by Engineer Rashad Mohammed

Bukhash, Head of the Historical Buildings Section of the Municipality. He received it for his dedicated efforts, ever since he was appointed, to restore and preserve the architectural heritage of Dubai. He has also taken part in a number of local and international exhibitions, at which the efforts of Dubai Municipality in this field were displayed, in accordance with directives from the Dubai Government.

- In 2001, this award was won by Engineer Hassan Mohammed Mekki of the Municipality's Environment Department. He was selected for the award for his successful efforts to implement and to follow up an administrative programme to ensure the provision of effective services relating to the administration of refuse collection and general public cleanliness in Dubai.
- In 2002, this award was again won by a Municipality employee, this time Engineer Nassir Ahmed Saeed, Director of the Roads Department, who was selected because of his success in achieving significant progress in projects and because of his introduction of the highest possible standards while, at the same time, ensuring that a process of strategic planning, involving comprehensive solutions, was introduced, rather than relying on an approach based on immediate reactions. He was also selected because of his introduction of modern technical and administrative methods and procedures in fields such as quantity engineering).

3- Award for the Excellent Employee in an Supervisory Position

- In 1999, this award was won by Engineer Rashad Mohammed Bukhash, Director of the General Maintenance Department.
- In 2001, this award was won by Mohammed Mohammed Salim Bedri from the Dubai Central Laboratory Department for his accomplishments in developing and introducing innovative systems such as the inspection system for shops selling motor oils and for ensuring that these systems meet Municipality and international specifications.

4- Award for the Excellent Employee in an Administrative Position

- In 1999, this award was won by Ms. Fahima Ali Sabir who excelled in her administrative post in the Public Relations Section of the Dubai Municipality, providing constructive suggestions and making a distinguished contribution to the Section's performance.

5- Award for the Best Technical Project

- In 1999, this award was won by the Municipality's project to implement controls on car-parking in the city of Dubai. This project achieved the objectives of providing sufficient car-parking for the public, using parking meters operated by solar energy while, at the same time, ensuring that sufficient spaces were available for the disabled. The use of pre-paid 'smart' cards also provided sufficient revenues to cover the expenses incurred.
- In 2000, this award was won by the Environment Department of the Municipality for a project at Jebel Ali for hazardous waste management, one of the most important achievements of the Municipality. Hazardous waste management is a key part of the comprehensive strategy to

protect the environment, and the public, from the hazardous waste being produced as part of Dubai's continuing industrial development.

- In 2001, this award was won by the Projects Department of the Projects Implementation Section of the Marine Projects Division for its Monitoring and Sampling Project designed to contribute towards the sustainable development of Dubai's coastal zone.

6- Award for the Excellent Employee in a Specialised Job

- In 1999, this award was won by Engineer Dr. Turki Ibrahim Al-Sulaiman, PhD, a Specialist Road Planner.
- In 2000, this award was won by Dr. Hamid Hatil, a Specialist Planner in the Planning Studies Section.



Award for the Excellent Employee Trophy

7- Award for New Employees

- In 1999, this award was won by Ms. Khadija Yaqoub Mohammed Abdulla, a Computer Training Administrative Officer.

8- Award for Excellent Work Team

- In 1999, the award was won by the Municipality work team studying the implementation of the Thermal Insulation System for Buildings for the Roads Sector and general projects.
- In 2000, this award was won by the work team in the Planning Studies Section of the Planning and Survey Department for its work on the project to develop the area of Hatta village.

9- Award for the Best Administrative Experience

- In 2000, this award was won by the Food Monitoring Section of the Health Department for its programme of inspecting food establishments using hand-held computers. This programme permitted the Municipality to improve the standard of food establishments quickly, and also reduced the need for more inspectors to cope with the growing number of outlets selling food in Dubai.

Epilogue

In this book I have tried to present a summary of the developments during Dubai's years of construction and transformation and, in particular, of the role in that process played by the Dubai Municipality and its various departments.

The transformation of Dubai has been the result of many years of hard work, effort, determination, will and creativity dedicated to serving the community. The result has been the laying down of the basic foundations of development for the generations to come, doing this in such a way as to ensure that the achievements of our forefathers and our forefathers have been preserved.

If Dubai is to maintain the development has so far achieved, and is to build upon it for the future, it is necessary to make further progress in terms of the following fields. These themselves reflect the development that has been achieved so far, and represent the basis elements of a strategy for the future.

It is necessary for a clear policy on the population and its rate of growth to be laid down, in accordance with the stated national policy of the United Arab Emirates, and for a maximum ceiling for the population over the course of the next fifteen years to be defined

There needs also to be a focus on the development of the tourist industry, partly in terms of encouraging further investment and partly in terms of working to prepare a suitable environment while, at the same time, a multi-faceted approach must be drawn up which looks at ways of expanding various tourist-related sectors, including those related to business and leisure as well as others.

At the same time, there should be a parallel focus on the development of the industrial sector, paying particular attention to creating an environment in which highly-mechanised or technologically-based industries can be encouraged, thus reducing the need for a large unskilled labour force, which can have a harmful effect upon society.

We need to continue to support the commercial and industrial sectors by encouraging further private investment, so as to support Dubai as it emerges as a major business and finance centre for the Middle East.

Services and public utilities need to be maintained and further developed, so as to facilitate the attracting of foreign investment and, at the same time, to create opportunities for employment for Emiratis in the private sector, this itself being something which requires the drawing up and implementing of a special strategy.

The support given to our police needs to be increased. This body is a crucial element in the maintaining of a healthy and secure society.

Areas of environmental significance which are themselves also of economic importance, such as agricultural land and groundwater resources, need to be protected and preserved.

We need to ensure that the future development of Dubai's programme of construction is guaranteed by re-assessing the land use for areas that are not included in the current planning framework

Within the framework of preserving the infrastructure and developing public services and utilities, it is important that the appropriate regular maintenance programmes are carried out for national assets such as Dubai's buildings, roads, bridges, drainage and irrigation networks and electricity and water networks.

The environment needs to be protected from pollutants and refuse, and it is essential that an

effective programme of recycling waste is carried out. The appropriate environmental monitoring procedures for factories and industry need, therefore, to be developed, so as to guard against pollution, and the number of air pollution monitoring stations both in the city and outside it needs to be increased.

Another important factor in terms of the protection of public health is the development of the right procedures for monitoring food establishments, factories, schools and housing for labourers, to guard against dangerous and contagious diseases. A proper system of quarantine for imported livestock must be maintained.

More generally, a comprehensive and forward-looking plan needs to be prepared on the preservation and development of the various aesthetic and cultural aspects of the city.

At a Government level, there is a need for the rationalisation of expenditure and for the further enhancement of quality in government offices. This should be done through the continuation of a system of incentives and through encouraging such offices to use tools such as the Dubai Government Excellence Award to strive for further progress. Our human resources, too, need to be further developed..

Finally, it is important that popular, non-governmental organisations should emerge, fully equipped with the information and technological resources to enable them to monitor the performance of the various government institutions.

Such an overall strategy for future development will help us to create a model city that can make the fullest possible use of its capabilities in providing all that is needed by the generations to come.

For that to be achieved, all government offices must work effectively together, so as to draw the proper benefits from the new projects ahead of us and to provide the appropriate level of services to Emiratis and other residents.

I would like to conclude this book by citing a saying by Prophet Mohammed (Peace Be Upon Him):

"Even if your endeavour is dependent upon on the Pleiades, it is attainable."

Municipal Ordinances and Legislation

List Number 1. Legislation relating to Dubai Municipality issued by H.H the Ruler of Dubai

No.	Date of Issue	Subject
1	20/02/1993	Decree No. 2 of 1993 on the formation of a special judicial committee to settle disputes between landlords and tenants.
2	20/09/1994	Decree relating to land granted to Emiratis
3	20/09/1994	Instructions relating to land granted by the Government to Emiratis in the Emirate of Dubai
4	09/12/1995	Order relating to fees for drainage operations
5	14/02/1996	Order granting Dubai Municipality the authority to ratify and implement requests for maintenance of or additions to low income housing.
6	25/05/1997	Order authorising Dubai's legal consultant Mr. Abdulqadir Mohammed Al-Jissmi to represent the Municipality before the courts.
7	12/06/1997	Order relating to the land granted for petrol stations
8	01/12/1998	Order authorising the Municipality's Director General to take action on the import of items, on implementing projects and on services offered to Dubai Municipality.
9	14/02/1999	Explanatory Decree No. 1 of 1999 regarding the jurisdiction of the judicial committee for the settlement of disputes between landlords and tenants.
10	07/01/2001	Order authorising Dubai Municipality's Director-General to delegate some of the authority entrusted to him under the terms of the Contracts for Government Offices Law of 1997.
11	16/07/2001	Law No. 6 of 2001 regarding the GeographicInformation System Centre in Dubai Municipality.
12	04/11/2001	Instructions to amend some articles of the instruction issued on 12 December 1989 on the implementation of Orders and Decrees issued by the judicial committee for the settlement of disputes between landlords and tenants in the Emirate of Dubai
13	18/11/2001	Law No. 7 of 2001 regarding the Remote Sensing Centre of Dubai Municipality
14	21/11/2001	Decree No. 23 of 2001 regarding the fees for services and utilities in public parks.
15	21/11/2001	Decree No. 22 of 2001 on the preservation of the coastline of the Emirate of Dubai
16	21/11/2001	Order regarding the preservation of open beaches in the Emirate of Dubai
17	27/10/2002	Law No. 7 of 2002 regarding the organisation of roads in the Emirate of Dubai.

List Number 2. Legislation relating to Dubai Municipality issued by H.H the Deputy Ruler of Dubai

No.	Date of Issue	Subject
1	01/10/1995	Organisational Decree No. 9 of 1995 specifying those in charge of supervising the regulations pertaining to Municipal Ordinance No. 28 of 1985 and its amendments and granting to them the status of judicial officers
2	27/10/1996	Decree No. 13 of 1996 regarding the renting of government land for the construction of housing for labourers in the Emirate of Dubai.
3	02/11/1996	Organisational Decree No. 15 of 1996 specifying those in charge of supervising the regulations pertaining to Municipal Ordinance No. 28 of 1985 and its amendments and granting to the status of judicial officers
4	22/02/1998	Decree No. 1 of 1998 regulating the use of the beach in the Al-Sofouh area of the Emirate of Dubai.
5	03/02/2000	Order regarding the implementation of legislation to eradicate begging in the Emirate of Dubai.
6	20/02/2000	Organisational Decree No. 1 of 2000 to amend the title of the Garage Department to the Transportation Department
7	20/02/2000	Order relating to land granted to cooperatives
8	21/02/2000	Decree No. 3 of 2000 to form a committee to allocate industrial land in the Emirate of Dubai.
9	02/05/2000	Instructions issued by H.H. the Municipality Chairman to exempt some authorities from the payment of building fees and deposits.
10	21/05/2000	Instructions issued by H.H. the Municipality Chairman on the levying of market fees on factories, stores, depots, petrol stations and workshops operating in the Emirate.
11	06/02/2001	Organisational Decree No. 5 of 2001 to form a Geographic Information System Centre in Dubai Municipality.
12	11/02/2001	Decree No. 7 of 2001 granting some of the Dubai Municipality's employees the status of judicial officers.
13	28/04/2001	Order authorising Dubai Municipality to audit and approve designs, plans and technical consultations relating to fire prevention systems.
14	30/09/2001	Decree No. 16 of 2001 amending Decree No. 13 of 1996 on the renting of government land for housing for labourers in the Emirate of Dubai.

List Number 3. Legislation relating to Dubai Municipality issued by H.H the Crown Prince of Dubai

No.	Date of Issue	Subject
1	31/05/1995	Order on the need to adhere to the building system in the Emirate of Dubai.
2	13/02/2000	Order relating to residential land granted to Emiratis in the Emirate of Dubai.
3	23/02/2000	Order on the need to adhere to environment protection legislation in the Emirate of Dubai.

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
1	12/4/1961	Regulating the use of special areas for parking cars and other vehicles as well as areas for the tying up of horses	-	Roads Department	-
2	12/4/1961	Licencing and monitoring of craftsmen practicing simple crafts	-	Licencing & Commercial Registration Department & Finance Department	-
3	12/4/1961	Cleaning and organising use of public roads, bridges, streets, public squares and open areas	-	Roads Department & Health Department	-
4	12/4/1961	Licencing of, good administration of and cleaning of public resting areas and closing times for these areas	-	Health Department & Licence and Commercial Registration Department	-
5	12/4/1961	Construction and monitoring of slaughter locations, private & public markets, renting places in markets, organising and monitoring slaughter of animals as well as the sale and movement of animals.	-	Health Department	Cancelled by Municipal Order No. 107 of 1997 regarding the organisation of Municipality Markets
6	12/4/1961	Safeguarding of public health Limiting noise	-	Health Department & Drainage and Irrigation Department	-
7	12/4/1961	Limiting noise	-	Roads Department, Health Department & Administrative Affairs Department	-
8	12/4/1961	Keeping neglected animals in special enclosures	-	Health Department	Cancelled by Municipal Ordinance No. 4 of 1983 regarding the presence of animals in public and inhabited areas
9	12/4/1961	Preparation and contracting out of care of trees in streets, public gardens, open areas, parks, sports fields and public halls.	-	General Parks and Horticulture Department	-
10	12/4/1961	Monitoring of begging	-	Administrative Affairs Department	-
11	12/4/1961	Examination of donkeys and other animals used for hire to pull carts or buggies.	-	Health Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
12	12/4/1961	Prevention of fire and flooding	-	Licence and Commercial Registration Department	Cancelled due to conflict with the Building System regulation in Dubai, 1970
13	25/3/1973	Organising the collection of money from the public	Administrative Directive No. 245 of 1988	Finance Department & Licence and Commercial Registration Department	-
14	25/3/1973	Organising of public exhibitions, dancing and parties	-	Licence and Commercial Registration Department & Administrative Affairs & Finance Department	Amended by Municipal Ordinance No. 36 of 1988
15	7/11/1971	Licencing of Social Clubs	-	Licence and Commercial Registration Department & Administrative Affairs	Cancelled by Municipal Ordinance No. 96 of 1995
16	7/11/1971	Licensing and organising of seasonal sales	-	Licence and Commercial Registration Department & Finance Department	Cancelled by Municipal Ordinance No. 19 of 1978 regarding the organisation of reductions for sales
17	22/1/1972	Preserving the beauty of the city and preventing damage to the Municipality's public property	-	Buildings and Housing Department, Public Health Department & Finance Department	-
18	27/6/1967	Various Municipal Ordinances	-	Health Department & Drainage, Irrigation Department, Roads Department, Buildings and Housing Department & Licence and Commercial Registration Department	-
19	01/04/1978	Organising sales at reduced prices	-	Licence and Commercial Registration Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
20	1980	Organisation of waiting by vehicles	-	Finance Department & Roads Department	-
21	1981	Procedures for laying service lines on public roads	Administrative Directive No. 16 of 1987, subsequently amended by Administrative Directive No. 22 of 1990	Roads Department	Amended by Municipal Ordinance No. 29 of 1986 and Municipal Ordinance No. 84 of 1993
22	08/05/1982	Regarding the implementation of the law on selling transferable assets by public auction	-	Finance Department & Licence and Commercial Registration Department	-
23	11/08/1983	Regarding coupons for food items	Administrative Directive No. 20 of 1992	Finance Department & Health Department	-
24	11/8/1983	Presence of animals in public and residential areas	-	Health Department, Public Parks and Horticulture Department & Finance Department	Amended by Municipal Ordinance No. 85 of 1993
25	1983	Renting government land in the Emirate of Dubai	-	Planning and Survey Department & Buildings and Housing Department	-
26	11/3/1985	Sales at reduced prices	Administrative Directive No. 51 of 1985	Finance Department & Licence and Commercial Registration Department	Cancelled in accordance with Municipal Ordinance No. 114 of 1997 regarding the organisation of sales in the Emirate of Dubai
27	08/05/1985	Storage, distribution and sale of gas cylinders in the Emirate of Dubai	Administrative Order No. 96 of 1985	Licence and Commercial Registration Department	-
28	08/05/1985	General Cleanliness in the Emirate of Dubai	Administrative Directive No. 155 of 1985, subsequently amended by Administrative Directive No. 335 of 1991	Health Department & Finance Department & Administrative Affairs Department	Amended by Municipal Ordinance No. 46 of 1990, Municipal Ordinance No. 86 of 1993 and Municipal Ordinance No. 111 of 1997
29	19/10/1986	Amendment of Municipal Ordinance No. 21 of 1981 regarding procedures for laying service lines on public roads	Administrative Directive No. 16 of 1987, subsequently amended by Administrative Directive No. 22 of 1990	Roads Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
30	16/12/1986	Monitoring of advertisements in the Emirate of Dubai	Administrative Directive No. 334 of 1986	Planning and Survey Department, Licence and Commercial Registration Department and Finance Department	-
31	18/12/1986	Naming of some areas in Dubai	-	Planning and Survey Department	-
32	29/8/1987	Organising intermediary services for sale, purchase or rental of properties in Dubai	Administrative Directive No. 179 of 1987	Finance Department & Licence and Commercial Registration Department	-
33	08/05/1988	Implementation of the building system for all pieces of land and the need to adhere to boundaries and car parks, as stipulated in the Building System for Dubai, without exception	-	Buildings and Housing Department & Planning and Survey Department	-
34	11/5/1988	Naming of some areas in Dubai	-	Planning and Survey Department	-
35	12/06/1988	Issue of prizes for commercial advertising purposes	Administrative Directive No. 163 of 1988	Finance Department & Licence and Commercial Registration Department	-
36	29/09/1988	Amendment of some articles of Municipal Ordinance No. 14/1973	Administrative Directive No. 245 of 1988	Finance Department & Administrative Affairs Department	-
37	04/02/1989	Issue of fixed fees for connecting buildings to the main sewage network in Dubai	Administrative Directive No. 53 of 1989	Drainage and Irrigation Department, Buildings and Housing Department & Finance Department	Cancelled by Municipal Ordinance No. 99 of 1996 regarding the issue of a fixed fee for some uses of the sewage network in Dubai
38	06/04/1989	Health and technical requirements for the storage of food stuffs for human consumption in Dubai	-	Health Department & Finance Department	-
39	06/04/1989	General Rules for the slaughter, storage and marketing of refrigerated and frozen poultry in Dubai	-	Health Department & Finance Department	-
40	06/04/1989	The conditions required for local and imported organic fertilisers	Administrative Directive No. 297 of 1990	Public Parks and Horticulture Department & Health Department	Amended by Municipal Ordinance No. 69 of 1992

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
41	18/04/1989	Licencing system for car rental offices in Dubai	Administrative Directive No. 100 of 1989	Finance Department & Licence and Commercial Registration Department	-
42	13/05/1989	Fees for special notifications relating to rental disputes, inspections or special expertise related to such	-	Rents Committee, Finance Department & Legal Affairs Department	Amended by Municipal Ordinance No. 47 of 1990 and Municipal Ordinance No. 2 of 2001 was cancelled.
43	07/06/1989	Eradication of begging	-	Administrative Affairs Department	-
44	01/05/1990	Standard specifications for concrete blocks used in Dubai	Administrative Directive No. 108 of 1990 and Administrative Directive No. 171 of 1990	Finance Department, Dubai Central Laboratory Department, General Projects Department & Maintenance Department	-
45	30/9/1990	Conditions for the digging of artesian wells in Dubai	Administrative Directive No. 52 of 1991	Buildings and Housing Department	-
46	02/10/1990	Amendment to some articles in Municipal Ordinance No. 28/1985 regarding cleaning in Dubai	Administrative Directive No. 251 of 1990	Health Department & Finance Department	-
47	02/10/1990	Amendment of some articles in Municipal Ordinance No. 42/1985 regarding the levying of fees for special notifications relating to rental disputes and inspections or special expertise related to such	-	Rents Committee, Finance Department & Buildings and Housing Department	Cancelled by Municipal Ordinance No. 2 of 2001
48	02/10/1990	Charging and amending some fees relating to the Building System of 1970 for the Emirate of Dubai	-	Central Laboratory Department, Buildings and Housing Department, General Projects Department, Maintenance Department & Finance Department	-
49	02/10/1990	Specifying fees for services offered by the Planning Department of Dubai Municipality	-	Finance Department & Planning and Survey Department	Cancelled by Municipal Ordinance No. 95 of 1995 regarding the specification of fees for survey services offered by Dubai Municipality.

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
50	02/10/1990	Imposing financial penalties for pharmacies and petrol stations violating rules on night shifts, weekends or official holiday schedules.	Administrative Directive No. 11 of 1991	Administrative Affairs Department & Finance Department	-
51	06/10/1990	Monitoring food and organising its handling in Dubai	Administrative Directive No. 20 of 1992	Health Department & Finance Department	-
52	01/12/1990	Pre-requisites for the licencing of laboratories operating in Dubai	Administrative Directive No. 51 of 1991	Licence and Commercial Registration Department, Health Department, Dubai Central	-
53	12/01/1990	Specifying fees for laboratory tests and services provided by the Municipality laboratories to other parties	Administrative Directive No. 51 of 1991	Laboratory Department & Finance Department	Amended by Municipal Ordinance No. 71 of 1992 and Municipal Ordnance No. 5 of 2001
54	01/12/1990	Organising and licencing companies operating in the Agriculture sector in Dubai	Administrative Directive No. 307 of 1990	General Parks and Horticulture Department, Finance Department & Licence and Commercial Registration Department	-
55	01/12/1990	Requirements and specifications for infant and baby food manufactured for distribution in the Emirate of Dubai	Administrative Directive No. 141 of 1991	Health Department & Finance Department	-
-	1991	Specifying fees and Dubai Municipality's revenue for the issue of licences for economic activities in Dubai Emirate	-	Finance Department	-
56	03/01/1991	Specifying fees for services of the Municipality Health Department	Administrative Directive No. 12 of 1991	Health Department & Finance Department	-
57	30/01/1991	Monitoring pest control operations relating to insects, animals and plants in Dubai	Administrative Directive No. 49 of 1991	Health Department & Finance Department	-
58	15/05/1991	Monitoring the sale of insecticides to the public in general retail shops in Dubai Emirate	Administrative Directive No. 137 of 1991	Health Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
59	06/07/1991	General requirements for chemical fertiliser depots and organic fertiliser factories in Dubai	Administrative Directive No. 200 of 1991	General Parks and Horticulture Department, Health Department & Finance Department	-
60	15/07/1991	Amendment of fees for vehicle licences or for their renewal as listed in the table attached to the Traffic Law of 1967	-	Finance Department & Roads Department	Amended by Municipal Ordinance No. 90 of 1994 and subsequently cancelled in accordance with Municipal Ordinance No. 104 of 1996 regarding vehicle fees in the Emirate of Dubai.
61	15/07/1991	Environment protection rules in the Emirate of Dubai	Administrative Directive No. 211 of 1991	Licence and Commercial Registration Department, Drainage and Irrigation Department & Health Department	-
62	19/09/1991	Regarding the system to licence driving institutes/schools within Dubai	Administrative Directive No. 227 of 1991, subsequently amended in accordance with Administrative Directive No. 308 of 1991	Licence and Commercial Registration Department & Finance Department	-
63	04/12/1991	Licencing traders and craftsmen within Dubai	-	Licence and Commercial Registration Department	-
64	01/03/1992	Organising the practice of general commercial activities in Dubai	Administrative Directive No. 84 of 1992, subsequently amended according to Administrative Directive No. 186 of 1993	Licence and Commercial Registration Department & Finance Department	Amended in accordance with Municipal Ordinance No. 80 of 1993
65	15/03/1992	Prohibiting fishing in the sea using fixed nets in the Emirate of Dubai	Administrative Directive No. 371 of 1993	Assistant Director-General for Environment and Public Health Affairs & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
66	30/03/1992	Prohibiting car accessory shops from tinting car windows without prior consent from Dubai Police Headquarters	Administrative Directive No. 268 of 1992	Finance Department & Licence and Commercial Registration Department	-
67	25/04/1992	Specifying sale prices for seedlings produced by Dubai Municipality	Administrative Directive No. 74 of 1992	General Parks and Horticulture Department & Finance Department	-
68	10/05/1992	Regarding advertisements published in daily newspapers in which licence owners seek to lease their licences to others as an investment	Administrative Directive No. 103 of 1992	Licence and Commercial Registration Department	-
69	17/06/1992	Amendment of some articles in Municipal Ordinance No. 40 of 1989 regarding the specifications required for local and imported organic fertilisers	Administrative Directive No. 129 of 1992	General Parks and Horticulture Department, Health Department & Central Laboratory Department	-
70	23/11/1992	General conditions for use and rental of jet-skis in Dubai	Administrative Directive No. 62 of 1993	Licence and Commercial Registration Department & Finance Department	Cancelled by Municipal Ordinance No. 4 of 1998
71	24/11/1992	Amendment of Municipal Ordinance No. 53 of 1990 regarding the specification of fees for laboratory tests and services carried out in the Municipality Laboratories for other parties	-	Dubai Central Laboratory Department & Finance Department	Amended in accordance with Municipal Ordinance No. 5 of 2001
72	06/12/1992	Regarding the approval of validity periods for some foodstuffs within the Emirate of Dubai	Administrative Directive No. 72 of 1993	Health Department & Finance Department	-
73	10/12/1992	Regarding general conditions for manufacture, import, storage and sale of pet food in the Emirate of Dubai	Administrative Directive No. 291 of 1992	Health Department & Licence and Commercial Registration Department	-
74	10/12/1992	Regarding general conditions required in hairdressing and beauty salons operating in Dubai	Administrative Directive No. 293 of 1992	Health Department & Licence and Commercial Registration Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
75	12/12/1992	Regarding health requirements for all employees working in shops associated with public health	Administrative Directive No. 294 of 1992	Health Department & Finance Department	Amended in accordance with Municipal Ordinance No. 1 of 2001
76	20/12/1992	Regarding conditions required in schools, kindergartens and nurseries operating in Dubai	Administrative Directive No. 70 of 1993	Health Department & Licence and Commercial Registration Department & Finance Department	-
77	28/12/1992	Regarding conditions required in pharmacies and private medical clinics operating in Dubai	Administrative Directive No. 71 of 1993	Health Department & Licence and Commercial Registration Department, Finance Department & Buildings and Housing Department	-
78	09/02/1993	Regarding specifying the values of trees and plants damaged by road accidents and the cost of services and labour, machinery and tools	Administrative Directive No. 48 of 1993	General Parks and Horticulture Department & Finance Department	Amended in accordance with Municipal Ordinance No. 113 of 1997
79	26/04/1993	Regarding the transportation fees on some internal public transportation routes in Dubai	Administrative Directive No. 131 of 1993	Public Transportation Department & Finance Department	-
80	08/05/1993	Amendment of some articles in Municipal Ordinance No. 64 of 1992 regulating public commercial activities in Dubai	-	Licence and Commercial Registration Department	-
81	20/05/1993	Regarding the creation of four new public transport routes in Dubai	Administrative Directive No. 200 of 1993	Roads Department & Public Transport Department	-
82	06/07/1993	Regarding the eradication of public health pests in Dubai	Administrative Directive No. 593 of 1993	Health Department & Finance Department	-
83	06/07/1993	Regarding the issue of reduced-rate monthly bus tickets for public transport passengers in Dubai	Administrative Directive No. 283 of 1993	Finance Department	-
84	29/07/1993	Amendment of articles in Municipal Ordinance No. 21/1981 regarding the laying of service lines on public roads in Dubai	Administrative Directive No. 372 of 1993	Roads Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
85	02/08/1993	Regarding the amendment of articles of Municipal Ordinance No. 24/1983 relating to the presence of animals in public and residential areas.	-	Health Department	-
86	04/08/1993	Amendment of articles of Municipal Ordinance No. 28/1985 regarding public cleanliness in Dubai	-	Health Department & Finance Department	-
87	08/08/1993	Specifying fees for re-asphalting roads and repairing damage from road accidents	Administrative Directive No. 538 of 1993	Roads Department & Finance Department	Amended in accordance with Municipal Ordinance No. 109 of 1997
88	16/11/1993	Regarding fees for Public Parks in the Emirate of Dubai	-	Public Parks and Horticulture Department & Finance Department	Amended in accordance with Municipal Ordinance No. 91 of 1994, Municipal Ordinance No. 101 of 1996 and Municipal Ordinance No. 110 of 1997.
89	22/1/1994	Regarding the organisation of Engineering Consultancy Offices in the Emirate of Dubai	Administrative Directive No. 51 of 1998	Buildings and Housing Department	Amended in accordance with Municipal Ordinance No. 106 of 1998 and Municipal Ordinance No. 4 of 1999
90	01/03/1994	Regarding the amendment of fees for vehicle licences or for their renewal as listed in the table attached to the Traffic Law of 1967	-	Finance Department	Cancelled in accordance with Municipal Ordinance No. 104 of 1996 on the issue of fees for vehicle licences in the Emirate of Dubai
91	19/4/1994	Amendment of Municipal Ordinance No. 88 of 1993 regarding fees for Public Parks in the Emirate of Dubai	-	General Parks and Horticulture Department & Finance Department	-
92	05/06/1995	Organising the use of public parking in Dubai	-	Roads Department & Finance Department	-
93	10/06/1995	Fixing the price of tickets for some public transport routes in Dubai	-	Public Transport Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
94	21/6/1995	Issue and amendment of fees for some of the services offered by Dubai Municipality	-	Finance Department	Amended in accordance with Municipal Ordinance No. 100 of 1996
95	21/10/1995	Specifying fees for survey services offered by Dubai Municipality	-	Planning and Survey Department & Finance Department	-
96	09/11/1995	Licencing and organising of social clubs in Dubai	Administrative Directive No. 983 of 1995	Administrative Affairs Department, Licence and Commercial Registration Department & Finance Department	-
97	26/12/1995	Approving the price of tickets for public transport on the Al-Sabkha – Hatta route	-	Public Transport Department & Finance Department	-
98	21/1/1996	Prohibiting betel leaf (paan) in the Emirate of Dubai	-	Health Department & Finance Department	-
99	18/2/1996	Imposing a fixed fee for some uses of the drainage network in Dubai	-	Drainage and Irrigation Department & Finance Department	-
100	03/03/1996	Amendment of some articles of Municipal Ordinance No. 94 of 1995 regarding the imposing and amending of some fees relating to services offered by Dubai Municipality	-	Health Department & Finance Department	-
101	03/04/1996	Amendment of fees for services offered at Jumeirah Beach Park in Dubai in accordance with Municipal Ordinance No. 91/1994	-	General Parks and Horticulture Department & Finance Department	-
102	11/5/1996	Regarding the imposing of a fee for housing for labourers in the Emirate of Dubai	-	Municipal Council & Finance Department	-
103	21/5/1996	Regarding the creation of a new public transport route from Deira to Al-Mamzar Park	-	Public Transport Department & Finance Department	-
104	25/5/1996	Regarding the imposition of vehicle licence fees in Dubai	-	Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
105	23/11/1996	Regarding imposing fees on cinemas in Dubai	Administrative Directive No. 932 of 1996	Finance Department	-
106	25/1/1997	Amendment of Municipal Ordinance No. 89 of 1994 regarding regulation of the Engineering Consultancy profession in Dubai	-	Buildings and Housing Department	-
107	29/1/1997	Regarding organisation of the Municipality markets in Dubai	Administrative Directive No. 82 of 1997	Markets and Abattoirs Department, Administrative Affairs Department & Finance Department	-
108	07/02/1997	Regarding the establishment of three new public transport routes in Dubai	-	Public Transport Department & Finance Department	-
109	16/6/1997	Amendment of some articles of Municipal Ordinance No. 87 of 1993 regarding specifying fees due for re-asphalting roads and repair of damage caused by accidents	-	Roads Department & Finance Department	-
110	16/7/1997	Regarding amendment of some fees for services offered in public parks in Dubai in accordance with Municipal Ordinance No. 88 of 1993	-	General Parks and Horticulture Department & Finance Department	-
111	26/7/1997	Amendment of articles of Municipal Ordinance No. 28 of 1985 regarding general cleaning in Dubai	-	Health Department	-
112	14/9/1997	Regarding paving of roads and external areas of buildings and commercial shops in Dubai	-	Roads Department & Finance Department	-
113	23/10/1997	Regarding amending some articles of Municipal Ordinance No. 78 of 1993 regarding specifying prices of trees and plants affected by road accidents and the cost of services, labour, machinery and tools.	-	General Parks and Horticulture Department & Finance Department	-
114	02/11/1997	Organising reduced price sales in Dubai	Administrative Directive No. 1315 of 1997	Finance Department	-
115	02/11/1997	Administration of medical waste in Dubai	Administrative Directive No. 1316 of 1997	Health Department & Finance Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
98/1	07/02/1998	Regarding the collection of financial guarantees for temporary import of food stuffs which do not meet health requirements	Administrative Directive No. 15 of 1998	Health Department & Finance Department	-
98/2	02/03/1998	Designating some areas in Dubai as nature reserves	-	Assistant Director-General for Environment and Public Health Affairs	-
98/3	02/05/1998	Naming of some areas in Dubai	-	Planning and Survey Department & Finance Department	Amended in accordance with Municipal Ordinance No. 4 of 2000
98/4	27/10/1998	Regarding monitoring and rental of jet-skis in Dubai	Administrative Directive No. 289 of 1998	Health Department, General Parks and Horticulture Department & Finance Department	-
98/5	01/11/1998	Establishment of a new public transport route in Dubai	-	Public Transport Department	-
98/6	02/11/1998	Organising the operation of Abras in Dubai Creek	Administrative Directive No. 299 of 1998	Public Transport Department	-
99/1	05/06/1999	Amendment of Municipal Ordinance No. 3 of 1998 regarding approving names for some areas in Dubai	-	Planning and Survey Department	-
99/2	14/11/1999	Classification and rationing of land use in Dubai	-	Planning and Survey Department	-
99/3	15/11/1999	Organising building work in the Emirate of Dubai	-	Buildings and Housing Department	Amended in accordance with Municipal Ordinance No. 1 of 1999
99/4	15/11/1999	Amendment of Municipal Ordinance No. 89 of 1994 regarding the regulation of the Engineering Consulting profession in Dubai	-	Buildings and Housing Department	-
99/5	27/12/1999	Approving fish production establishments exporting produce to the European Union	-	Health Department	-
99/6	29/12/1999	Creation of a new public transport route in Dubai	-	Public Transport Department	Amended in accordance with Municipal Ordinance No. 6 of 2000

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
2000/1	02/05/2000	Creation of new public transport routes in Dubai	-	Public Transport Department	-
2000/2	23/05/2000	Regarding market fees imposed on hotels in Dubai	-	Finance Department	-
2000/3	23/05/2000	Regarding Municipality fee imposed on furnished apartments and hostel in Dubai	-	Finance Department	-
2000/4	10/7/2000	Exempting commercial shops from paying deposits when applying for sale permits	-	Finance Department	-
2000/5	07/10/2000	Specifying the fee for one of the entertainment rides at Mushrif Park	-	General Parks and Horticulture Department & Finance Department	-
2000/6	15/10/2000	Amendment of Municipal Ordinance No. 3 of 1999 regarding the organisation of building work in Dubai Municipality	Administrative Directive No. 301 of 2000	Buildings and Housing Department	-
2000/7	08/11/2000	Organising membership of and booking of spaces in public car parks owned by Dubai Municipality	Administrative Directive No. 300 of 2000s	Roads Department & Finance Department	Amended in accordance with Municipal Ordinance No. 3 of 2001
2000/8	22/11/2000	Organising public transport in Dubai	-	Public Transport Department	-
2000/9	26/12/2000	Prohibiting the display of cars for sale or rent in public car parks in Dubai	-	Roads Department	Amended in accordance with Municipal Ordinance No. 3 of 2001
2001/1	17/3/2001	Amendment of Municipal Ordinance No. 75 of 1992 regarding health requirements required of all employees working in premises related to public health	-	Health Department	-
2001/2	15/4/2001	Fees for Rents Committees in the Emirate of Dubai	-	Municipal Council & Legal Affairs Department	-
2001/3	26/5/2001	Amendment of Municipal Ordinance No. 8 of 2000 regarding organisation of public transport in the Emirate of Dubai	-	Public Transport Department	-

Municipal Ordinances

Municipal Ordinance	Date of Issue	Subject	Regulation Number	Department concerned with implementation	Regulation Number
2001/4	08/08/2001	Amendment of some articles of Municipal Ordinance No. 9 of 2000 regarding prohibiting the display of cars for sale or rent in public car parks in Dubai	-	Markets and Abattoirs Department & Roads Department	-
2001/5	08/08/2001	Amendment of fees for laboratory tests and services in Dubai Municipality laboratories carried out for other parties	-	Health Department & Dubai Central Laboratory Department	-
2001/6	11/11/2001	Approving the names of some streets in Dubai	-	Planning and Survey Department	-
2002/1	23/03/2002	Approving the names of some streets in Dubai	-	Planning and Survey Department	-
2002/2	11/5/2002	Fees for rent dispute cases in the Emirate of Dubai	-	Municipal Council, Finance Department & Legal Affairs Department	-
2002/3	18/6/2002	Regarding the evading of payment of Municipality fees	-	Finance Department	-
2002/4	18/6/2002	Approval of names and geographical boundaries for some areas in Dubai	-	Planning and Survey Department	-
2002/5	04/11/2002	Collection of only half of the agreed slaughter fees for cattle and other livestock from charity organisations	-	Markets and Abattoirs Department	Refer to Municipal Ordinance No. 6 of 2001
2002/6	04/11/2002	Regarding Municipality fees imposed on hotels	-	Finance Department	-
2002/7	04/11/2002	Locations for disposal of waste in the Emirate of Dubai	-	Environment Department	-
2002/8	16/11/2002	Regarding drainage, irrigation and rainwater in the Emirate of Dubai	-	Drainage and Irrigation Department	-

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