### OFFICE NATIONAL DE L'ASSAINISSEMENT

(THE NATIONAL SANITATION UTILITY) 32, rue Hédi Nouira 1001 TUNIS Tel.: 710 343 200 – Fax : 71 350 411 E-mail : boc@onas.nat.tn Web site : www.onas.nat.tn





THE NATIONAL SANITATION UTILITY

ANNUAL REPORT 2004

## O.N.A.S. IN BRIEF

### 1. Establishment

The National Sanitation Utility (O.N.A.S.) is a public company of an industrial and commercial character, serving under the authority of the Ministry of the Environment and Sustainable Development, and enjoying the status of a civil entity and financial independence. It was established by Law N° 73/74, dated August 1974, and entrusted with the management of the sanitation sector.

The Law establishing O.N.A.S. was amended pursuant to Law N° 41/93, dated 19 April 1993, which promoted the Utility from the status of a networks and sewers management authority to the status of a key operator in the field of protection of the water environment.

### 2. O.N.A.S. Mission:

 Combating all forms of water pollution and containing its sources;
 Operation, management and maintenance of all sanitation facilities in O.N.A.S. action zone;

 Promoting the sector of distribution and commercialisation of treated wastewater and sludge;

 Planning and implementation of integrated projects relating to the treatment of wastewater and the drainage of storm water;

Conducting sanitation studies and works on behalf of the State or local government.

### 3. O.N.A.S. Fields of Action

•As regards studies and works: O.N.A.S. serves throughout the Tunisian territory;

• As regards operating and maintenance of sewers and sanitation facilities: O.N.A.S. serves directly in the zones annexed to its zones of action by decree;

•As regards technical assistance: O.N.A.S. provides technical assistance and guidance to local government and other institutions in the field of combating water pollution.

### 4.O.N.A.S.Administrative Organisation

The National Sanitation Utility is managed by an Executive Board composed of representatives of the ministries concerned by O.N.A.S. activities, as well as a representative from major municipalities and public institutions. The Board is chaired by a CEO who is appointed by Decree..

The organisation chart of O.N.A.S. comprises 4 Central Departments, 21 Departments of which 13 Regional Departments, distributed over the whole territory and comprising 34 districts and about 94 operation centres.

An<sup>nual</sup> report

### MEMBERS OF THE EXECUTIVE BOARD

Khalil ATTIA Maher KAMMOUN Noureddine BEN REJEB	President of the E.B. Prime Ministry Ministry of Agriculture
Mohamed BELKHIRIA	and Hydraulic Resources Ministry of the Interior and Local Development
Moncef MILED	Ministry of Development and International Cooperation
Rakia LAATIRI	Ministry of Agriculture and Hydraulic Resources
Mohamed Tarek EL BAHRI	Ministry of Equipment, Housing and Land Use Planning
Abderrahmane GUENNOUN	National Environment Protection Agency (ANPE)
Abdelaziz MABROUK	National Water Distribution Utility (SONEDE)
Slah EL BALTI	Municipality of Ariana
Samir BELAID	Ministry of Finance
Mabrouk ENDHIF	Ministry of Public Health
Ather CHAABANE	State Comptroller

### CONTENTS

O.N.A.S. in brief     Foreword	2 3
Major events (in 2004)     Evolution of conitation indicators in 2004	4
• Evolution of sanitation indicators in 2004	5
Studies     Alexie	6
• Works	7
Operating	8
Rural sanitation	9
<ul> <li>Involving the private sector</li> </ul>	9
<ul> <li>Rationalisation of energy use</li> </ul>	9
<ul> <li>Treatment of foul odours</li> </ul>	9
<ul> <li>Research &amp; Development</li> </ul>	10
<ul> <li>Reuse of treated wastewater in irrigation</li> </ul>	10
Organisational aspects	11
Information aspects	11
Capacity building	11
Technical cooperation	11
<ul> <li>Financial cooperation</li> </ul>	12
Human resources	12
Financial resources	13
Social activities	14
000101 00111100	

2004

### FOREWORD

Annual report

2004

The year 2004 was marked by several achievements which further enhanced O.N.A.S. indicators. Indeed, the indicators exceeded, for certain rates, the objectives set in the performance contract for 2004. The volume of investments reported a marked increase, passing from 105 million Tunisian Dinars (TND) in 2003 to about 120 million TND in 2004, which allowed an increase in the sewerage network connection rate to 85% in the municipalities in O.N.A.S. action zone. Besides, O.N.A.S. constructed 515 km of pipes, thus extending the sewerage network to 11 940 km, and undertook the connection of 69 000 subscribers to the public sewerage network, thus bringing the total population connected to 1 200 000 subscribers. Furthermore, 8 new wastewater treatment plants were commissioned in Tébourba, Mornag, Soliman, Testour, Northern Sfax, Sbeitla, Douz, El Hamma (Gabès), thus bringing the total number of wastewater treatment plants to 75 in urban environment and 3 in rural environment. These plants allowed the treatment of about 192 million m3 of wastewater, of which 29% is used for the irrigation of 8600 hectares, distributed among 19 irrigated zones, 8 golf courses and some green spaces.

O.N.A.S. also pursued the implementation of the Presidential Programme for the Sanitation of Popular Quarters. The works were completed in 37 popular quarters, thus bringing the total number in O.N.A.S. action zone during the three phases of the programme to 606 popular quarters. The year of the present report was especially marked by launching the first bid package of the IVth Project of this pioneer programme, consisting in the sanitation of an additional 127 quarters.

O.N.A.S. equally pursued the implementation of the programme of involving the private sector, for purposes of better control over operating costs. The year 2004 was marked in this regard by signing the bid for operating the two wastewater treatment plants of Tozeur and Nefta.

O.N.A.S. envisions in 2005 to pursue its programmes according to a well-defined strategy for better acquaintance with the new technologies developed in the sector, indigenising them to the local context, building the capacity of the staff, rehabilitating and modernising the sanitation facilities, generalising connection to the public sewerage network, enhancing the quality of treated wastewater in order to extend the fields of its use, in addition to promoting the participation of the private sector, in line with the economic orientations of the country.

O.N.A.S. CEO Khalil ATTIA

# **MAJOR EVENTS (IN 2004)**

The year 2004 was marked by a number of salient events, of which in particular:

### 1. Major presidential decisions

• In November 2004 the President of the Republic ordered a major cabinet reshuffle involving the creation of a ministry for the environment and sustainable development, and O.N.A.S. was accordingly placed under the authority of the Ministry of the Environment and Sustainable Development.

• Decision to expedite the construction of the wastewater treatment plant in El Attar (zone of Sidi Hassine - Séjoumi), pursuant to the field visit made by the President of the Republic to this zone on 20 April 2004.

#### 2. Celebration of the 30th anniversary of the establishment of O.N.A.S. (1974-2004)

On this occasion, O.N.A.S. organised an international seminar entitled "O.N.A.S.: 30 Years in the Service of a Healthy Environment". The seminar featured the presentation of O.N.A.S. experience and offered an occasion to discuss the stakes and future challenges for the sanitation sector, as well as to envision its future prospects.

#### 3. Arab Organisation for Administrative **Development Award**

O.N.A.S was awarded the First Prize in the contest for "The best application of environmental management in Arab central governments", and this for the application entitled "The Presidential Programme for the Sanitation of Popular Quarters".

#### 4. Cabinet sessions dedicated to the field of sanitation

 Cabinet meeting of 10 May 2004: Settlement of the situation of contractor staff:

 Cabinet meeting of 13 May 2004: Construction of the wastewater treatment plant of Southern Tunis (El Allaf zone);

· Cabinet meeting of 6 July 2004: Amendment of O.N.A.S. statutes, introducing an article on BOT projects.

### 5. Events and field visits

The year 2004 was marked by several events and visits, of which in particular:

• The Euro-Arab Environment Conference (29-31 March 2004): O.N.A.S. contributed in organising this major symposium, participated in its proceedings by offering presentations on the achievements of the Utility and its programmes, and organised a sideevent consisting in a field-visit to the wastewater treatment plant of Chotrana, and to the golf course of Gammarth which is irrigated based on the reuse of treated wastewater.

• The International Conference on the Valorisation of Sanitation Products (20-21 April 2004): The



2004

Conference was dedicated to reporting on the current situation of the sector, including the organisational and financial aspects, the specifications relevant to the products of wastewater treatment plants, their management and their use in a sustainable way.

• A roundtable discussion on promoting the participation of the private sector in the operating of sanitation facilities (27 February 2004): the roundtable was organised in cooperation with GTZ and the participants included many private enterprises and national and international experts.

• The Japanese Centre for Cooperation with the Middle East (JCCME) organised, in coordination with the Japanese Embassy in Tunis and in cooperation with

O.N.A.S., a press conference on Japanese water technologies for both public and private sector enterprises operating in the field of water.

2004

#### 6. Initiating the result-based contracts system

Annual report

The year 2004 was marked by the inception of the result-based contracts system involving, on the one hand, the central administration and, on the other hand, the regional directorates. This is a new system aimed in particular at defining the objectives and commitments assigned to the regional directorates in order to ensure their implementation of the missions entrusted to them and monitoring them in a periodical way.

#### Evolution of sanitation indicators in 2004

Indicators	Work done in 2004	Objectives set in the performance contract for 2004
Number of municipalities in O.N.A.S. action zone	152(*)	152
Number of inhabitants in O.N.A.S. action zone (million inhabitants)	5.700	5.580
• Number of inhabitants connected to the network in O.N.A.S. action zones (million inhabitants)	4.800	4.731
Connection rate in O.N.A.S. action zones	85%	85%
<ul> <li>Number of subscribers in O.N.A.S. action zones (thousand subscribers)</li> </ul>	1200	1161
<ul> <li>Length of network in O.N.A.S. action zones (Km)</li> </ul>	11940	11925
<ul> <li>Number of pumping stations</li> </ul>	552	531
<ul> <li>Number of wastewater treatment plants</li> </ul>	78(**)	80
<ul> <li>Volume of water consumed by O.N.A.S. subscribers (million m3)</li> </ul>	208	200
<ul> <li>Volume of treated wastewater (million m3)</li> </ul>	192	154,7

(\*) The Municipality of Ariana was split into 3 municipalities (Ariana, Soukra and Raoued) (\*\*) Including wastewater treatment plants in rural environment.



### **STUDIES**

#### 1. Sanitation master plans

The year 2004 was marked by the completion of the sanitation master plans for several cities, as well as pursuing the design and updating of master plans for other cities. The work done in this regard was as follows:

Master plans completed	Master plans in progress	Master plans updated
Oued Mliz	Pont de Bizerte (Bizerte bridge)	Maamoura
Sidi El Hani	Béni Khédache	Kélibia
Chott Mériem		Grombalia
M'saken (updating)		MenzelTémime
Ain Draham (updating)		Menzel Bouzelfa
		Soliman
		Zarzis



#### 2. Final design studies for the construction of wastewater treatment plants

The year 2004 was marked by the completion of the final design studies related to 9 wastewater treatment plants, in addition to pursuing the final design studies concerning the construction of 25 plants and incepting such studies for a further 9 plants:

Studies com	pleted	Studies pursued	Studies ince	pted in 2004
Chotrana 2	El Kettar	Maknassi	Tajerouine	Sidi Ali Ben Aoun
Sened	Takelsa	Sousse Nord	Mornaguia	Jelma
Agareb	Mrazgua	SidiThabet	Sousse Sud	Bir Mchergua
Ousja	Majel Bel Abbès	Ain Draham	Sousse – Hamdoun	Nadhor
Mrissa	Jerissa	Elkrib	Redeyef/ Moularès	Menzel Kamel
Sud Méliane 2	Sers	Bouarada	Gafsa/ Ksar	Souassi
Ben Gardane	Degache	Thala	Sakiet Sidi Youssef	Mazouna
El Attar	Sbiba	Dahmani		Ouled Haffouz
Korbus	Jemna	Makthar		Bir Lahfey

#### 3. Final design studies for extension of the network

The year 2004 was marked by the completion of the final design study related to the construction of the sewerage networks for the cities of Ras-Jebel, Rafraf and El Alia. At the same time, studies of network enhancement were pursued for the cities of Mornaguia, Bouarada, Makthar, Sers, Jerissa and Maknassi. O.N.A.S. also pursued the studies related to constructing the system of transfer of treated

wastewater in the cities of Ras-Jebel, Rafraf and El Alia, and incepted the studies related to the system of treated wastewater transfer of the wastewater treatment plant of El Attar.

It is also worth mentioning the completion of the studies related to the rehabilitation and renovation of the storm water collection reservoirs in Greater Tunis, and the study related to expanding the storm water collection tank in El Menzah IX and Ennasr II.



# WORKS

#### 1. Construction works of wastewater treatment plants

The major achievements made during 2004 consisted in completing the construction works of the wastewater

treatment plants of Tébourba, Mornag, Soliman/ Borj Cédria, Testour, Northern Sfax, Sbeitla, Douz and El Hamma (Gabès). Concurrently, works were undertaken for the construction of the following plants:

Annual report 2004

Mateur	Hajeb Layoun	Nefza
Bou Argoub	El Hencha	Extension and rehabilitation of the wastewater
El Fahs	Zaghouan	treatment plant of Northern Sfax

Also, works were initiated, in 2004, with a view to constructing 8 wastewater treatment plants in:

Haffouz	Haouaria	Agareb
Bouhajla	Touza/ Béni Hassane	Métlaoui
Oueslatia	Chebba	

#### 2. Sewerage network extension works

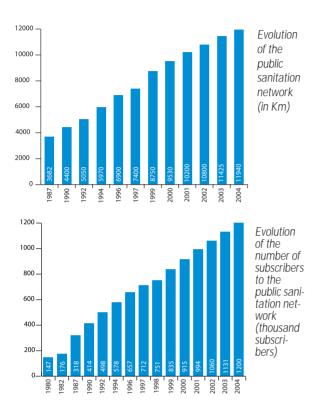
The year 2004 was marked by the works of construction of 515 km of pipes for wastewater collection and disposal, and this within the framework of implementation of the projects planned by O.N.A.S. Among the major projects, it is worth mentioning the following:

• the IIIrd sanitation project related to popular quarters;

- the IVth sanitation project of Greater Tunis;
- the project of sanitation of the cities of Sousse, Kairouan and Nefza;
- the project of sanitation of 11 cities (bid packages 1 and 2);
- the project of sanitation of the cities of Sfax, Kébili, Douz and Hammam Zriba;
- the project of sanitation of the city of Zaghouan;
- the project of sanitation of small and medium-sized towns (bid package 1).

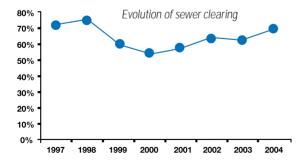


### OPERATING



In order to ensure efficient collection and disposal of treated wastewater, O.N.A.S. under takes prevention works consisting in clearing and flushing the wastewater facilities by the use of state-of-the-art machinery and equipment. In this regard, the year 2004 reported the following actions:

clearing about 8 087 km of sewers, that is about 68.6% of the operated network, by means of mechanical equipment;
clearing and flushing about 942 connection boxes and inspection holes.



### 1. Quality of the water treated in the wastewater treatment plants

The year 2004 reported the control of 3 427 samples and conducting about 188 672 analysis operations at the regional laboratories and the wastewater treatment plant based laboratories. These analyses revealed a marked improvement in the quality of the treated wastewater in the range of 5% by com-





parison with 2003. This is due to the dedicated and urgent interventions at the following plants: Southern Méliane, Kairouan, Dkhila, Sayyada and Sahline, as well as the generalisation of the processes of aeration, sedimentation and use of thickening products, apart from the works of clearing of aeration ponds at the wastewater treatment plants of: Southern Méliane, Kairouan, Houmt Essouk, Kalaat Andalous, Dkhila and Gafsa.

### 2. O.N.A.S. intervention in the field of cleanliness and environmental protection

O.N.A.S. pursues the implementation of the programme of clearing and flushing the water courses crossing cities. This involved the Governorates of Tunis, Ariana, Manouba, Ben Arous, Nabeul, Sousse, Kairouan, Sfax and Bizer te. Besides, O.N.A.S. participated in the regional cleanliness and environment protection campaigns.

#### 2.1. Drainage of storm water

The year 2004 was marked by completion of the works of storm water drainage in the quarters of Hofrat Elhbes in Sousse and Ennozha in Ariana, as well as in the cities of Menzel Bourguiba, Radès and Kairouan. The works also involved pursuing the works of storm water drainage in the city of Tébourba.

Besides, the year 2004 was marked by incepting the implementation of the second phase of the project of storm water drainage in the Southern Tunis Lake, as well as similar projects in Radès (Taieb Mhiri quarter), Gabès (El Izdihar quarter), Tébourba, Daouar Hicher, Tunis (El Aouina) and Monastir (Khénis road).

### 2.2. Flushing and upkeep of wadis and water courses crossing cities

Within the framework of the Cleanliness and Environment Protection Programme, O.N.A.S. drew up a programme for the upkeep of the wadis and water courses crossing cities under its purview. The said programme comprises the clearing and flushing of 58 wadis and water courses of a total length of 125 km, as well as 27 storm water collection reservoirs.

O.N.A.S. was also entrusted with the works of lowering the water level in the two Sebkhas of Ariana and Séjoumi, where 4 valves were constructed to prevent sea water intrusion into the Sebkha of Ariana, together with constructing a temporary pumping station which allowed a reduction of the water volume in the Sebkha.

As regards the Sebkha of Séjoumi, the water was discharged into the harbour of Tunis and into Wadi Méliane based on dedicated pumps. Besides, pursuant to instructions by the President of the Republic at the Restricted Cabinet Meeting of 20 April 2004, and with a view to stepping up water pumping from the Sebkha, a first conveyance consisting of a pumping station and 1.5 km of pipes was constructed at a cost of 2 million TND (in operation since 22 November 2004), while a second conveyance consisting of a pumping station and 17 km of pipes is due to become operational by March 2005.

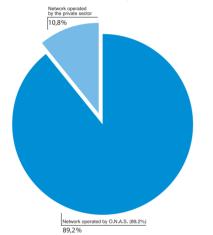
## RURAL SANITATION

Pursuant to the presidential decision related to implementing the Programme of Sanitation in Rural Zones, O.N.A.S. pursued the sanitation works started in the zone of Chouigui; it also incepted the works plan-ned in the zones of Bechimet El Galb, Béni Ayyache, Wadi El Khatf, Ain Kmicha and Sidi Jédidi.

### **INVOLVING THE** PRIVATE SECTOR

In this regard, O.N.A.S. has pursued its devolving to the private sector the services of operating the sewerage networks in the zones of El Mourouj, Fouchăna, Mohamědia, Ariana, Ennasr, El Menzah, El Khadhra, and Tataouine, as well as the wastewater treatment plants in Tataouine, Nefta and Tozeur.

The network operated by the private sector now extends over 1 280 km of pipes and includes 27 pumping stations and 3 wastewater treatment plants.



#### **BOT** contracts

As regards BOT contracts, O.N.A.S. is currently considering the construction of a second wastewater treatment plant in El Attar, with a capacity of about 50 000 cubic metres/day, and another plant in Él Allaf, with a capacity of about 45 000 cubic metres/day, while constructing wastewater transfer systems. Concerning the wastewater treatment plant of El Attar 2, the project is in the phase of approval of the preliminary shortlisting of bidders. As for the wastewater treatment plant of El Allaf, the project is in the phase of bid examination for the selection of the consultancy to be entrusted with the feasibility study and the environmental impact assessment study, which will lead to deciding on the mode of project financing.

### RATIONALISATION **OF ENERGY USE**

O.N.A.S. pursued in 2004 its programme for rationalisation of energy use at wastewater treatment plants and in administrative buildings, and this through the following actions:

Annual report raising the power network COS at 275 wastewater treatment plants and pumping stations, in order to avoid fines; • reducing the power subscribed in the contract entered with the Tunisian Electricity and Gas Utility (STEG), involving 15 wastewater treatment plants and 7 pumping stations;

2004

• adjusting the pricing system for 7 wastewater treatment plants and 6 pumping stations;

• changing the pricing system, together with a reduction of the capacity subscribed, for 9 wastewater treatment plants; • providing assistance in control over the treatment process at 17 wastewater treatment plants.

O.N.A.S. also pursued the implementation of the recommendations issuing from the pilot study on energy audit in wastewater treatment plants and pumping stations. In this regard, the Utility developed the energy efficiency pilot project at the wastewater treatment plant of Chotrana.

### TREATMENT OF FOUL ODOURS

#### 1. Drastic measures

 Pursuing the studies aimed at abandoning certain wastewater treatment plants that had been encroached upon by urbanisation, of which the wastewater treatment plants of northern Tunis and of Kairouan, as well as designing a preliminary programme for the rehabilitation of others which were prompted beyond their maximum capacity (19 wastewater treatment plants);

• The year 2004 was marked by the construction of 27 new biofilters distributed among the directorates of Tunis, Sousse, Monastir/ Mahdia, Sfax, and Gabès/ Médenine/Tataouine;

 Tender documents have been prepared for the covering of certain wastewater treatment plants in Soliman, Korba, southern Hammamet and Zériba, the sludge thickening plants at the wastewater treatment plant of Nabeul, as well as constructing biofilters in these facilities and in six (6) other plants

• Tender documents have been prepared for the purchase of biological and chemical products for combating foul odours issuing from various sanitation facilities.

#### 2. Preventive measures

 In 2004, O.N.A.S. installed 233 units for the treatment of foul odours is arising from various sanitation installations. This system consists of 99 biofilters, 37 plants for lime-spraying units for the treatment of odours, 58 ironpyrites pumping units and 14 pumping units of RC 600, together with the use of deodorant products at 25 locations in wastewater treatment plants;

 Continuous clearing of wadis and water courses crossing towns and cities;

· Contribution in the regional cleanliness and environment protection programmes.

# RESEARCH & DEVELOPMENT

#### 1. Water treatment

Within the framework of mastery over modern technologies and harnessing new processes to enhancing the quality of treated wastewater, O.N.A.S. pursued the use of micro-organisms for this purpose. Indeed, the Utility has succeeded in developing such micro-organisms in a pilot-pond at the two wastewater treatment plants of Mahdia and Ksour Essaf, in preparation for the construction of a wastewater treatment facility using this technology.

As regards monitoring and evaluation of the pilot-plants for ray-based clarification and sterilisation at the wastewater treatment plants of Kélibia and Mahdia, the experiments conducted revealed that quick filtration displayed flexibility on the level of operating, while slow filtration presented certain difficulties of operating.

At the same time, other research work was conducted for purposes of studying the features of water algae in the treatment tanks of five wastewater treatment plants (northern Tunis, Kalaat El Andalous, Korba, Mahdia and El Jem) with a view to decreasing its proliferation and, thus, valorising treated wastewater for irrigation in the best conditions possible. The research work conducted revealed that there is a dominant type of algae in all wastewater treatment plants, while another type is to be found in certain plants and not in others. Further research is in progress to know more about the ways in which water algae interact with the treatment process.

#### 2. Sludge

O.N.A.S has incepted a study on the physiochemical features of sludge constituents at 13 wastewater treatment plants in order to identify such constituents for the various treatment processes. Work was also pursued with a view to identifying the rate of fixed organic contaminants in the sludge constituents, which should help in directing the treatment process and designing the sewerage network.

### REUSE OF TREATED WASTEWATER IN IRRIGATION

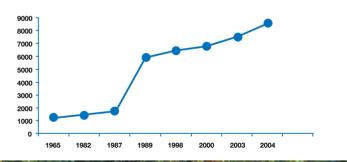
The reuse of treated wastewater in irrigation represents a strategic option in order to preserve the water resources, based on the exploitation of non-conventional water sources. Indeed, this option dates as far back in time as 1965 in the zone of Soukra where the treated effluent of the wastewater treatment plant of Charguia was used for irrigation.

A volume of about 29% of the treated wastewater currently serves for the irrigation of 8 600 hectares, distributed as follows:

- farming zones: 7 500 ha;
- golf courses: 760 ha;
- green spaces: 340 ha.

The areas equipped for treated wastewater irrigation has increased considerably since 1989, following the equipment of the zones of BorjTouil (Governorate of Ariana), Mornag (Governorate of Ben Arous), Dhraa Ettammar (Governorate of Kairouan), El Hajeb (Governorate of Sfax) and Zaouiet Sousse (Governorate of Sousse). Besides, the incentive measures taken by the State in matter of use of this non-conventional resource have contributed in increasing the rate of treated wastewater reuse for the irrigation of farming zones, green spaces and golf courses.

Evolution of treated wastewater irrigated zones (in ha)





## ORGANISATIONAL ASPECTS

The organisational activities under taken in 2004 comprised mainly the following aspects:

 Implementation of O.N.A.S. 2002 – 2006 human resources law: this consisted in identifying the actual HR needs of the Utility, the openings for 2003 and 2004 and the plan of appointments in executive posts

 Incepting the study dedicated to revising the O.N.A.S. organisation chart, and this with a view to proposing alternative solutions to the shortcomings of the current organisation chart and evaluating the outlines of the future structuring;

 Updating the manuals dedicated to the control of the management of clients, procurement, stocks, HR management and legal affairs.

# **INFORMATION ASPECTS**

O.N.A.S. completed in 2004 its comprehensive study on the information master plan, and it incepted the implementation of the applications listed in the action plan for 2004, which involved in particular:

"Subscriber" management;

 Management of wastewater treatment plant operating, water quality and client queries and complaints;

Management of procurement, stocks and maintenance.

## CAPACITY BUILDING

O.N.A.S. conducted, in 2004, not less than 128 training sessions, at a total cost of about 100 000 TND. This involved 270 days of training and the participation of 1 650 staff, thus reporting a training rate of 31%. These training sessions were as follows:

- 72 in-house training sessions for 1 368 participants;
- 56 external training sessions for 282 participants.

The in-house training sessions addressed the following topics in particular:

 management and operating of wastewater treatment plants;

- sanitation and disposal of industrial effluent;
- information and communication technologies (ICTs);
- occupational safety
- administrative and financial management;
- maintenance;
- other relevant topics.



2004

### TECHNICAL COOPERATION

#### 1. Visits by foreign delegations

O.N.A.S. pursued in 2004 its activities related to implementing the cooperation agreements entered into with sister institutions operating in the field of water and sani-tation. In this regard, O.N.A.S. received several Arab and African delegations, thus further strengthening joint cooperation ties and presenting the Tunisian experience in the field of combating water pollution. Among the visiting delegations, it is worth mentioning the Syrian, Lebanese and Jordanian delegations, the representative of the General Water and Sanitation Authority of the Libyan Jamahiriyya and the representative of the Arab Industrialisation Organisation in the Arab Republic of Egypt.

 Tunisian – Moroccan cooperation: O.N.A.S. recently received a letter from the Moroccan Drinking Water Bureau in which it expressed interest in drawing up a joint action programme with O.N.A.S., starting 2004, as part of the cooperation process under the agreement signed between the two institutions in 1999;

 Tunisian – Japanese cooperation: A Japanese delegation, composed of representatives of leading firms specialised in the environment, visited O.N.A.S. headquarters. A working session was held on 9 September 2004 in which the visiting delegation was introduced to the specificities of the Tunisian experience in the field of wastewater treatment and the technologies used in wastewater treatment plants. The Japanese delegation offered the possibility of financing sanitation projects based on diaphragm-based clarification. The experts underscored the efficiency of such a process and its contribution in promoting the reuse of treated wastewater in view of the high treated wastewater quality that it produces;

• Tunisian – Libyan cooperation: O.N.A.S. recently received a delegation representing a number of institutions specialised in the environmental sector from the city of Benghazi. The delegation was introduced to the Tunisian experience in the field of sanitation, and it expressed interest in activating cooperation with O.N.A.S., especially in matter of capacity building of Libyan staff and technicians.



#### 2. Implementation of agreements

• In implementation of the agreements entered into with several institutions operating in the field of sewerage, a twenty-day training session was recently organised for 5 staff from the Burkinese Sanitation Utility. The training session was dedicated to capacity building in operating sewerage networks, pumping stations, equipment maintenance, control of industrial machinery, billing and administrative organisation;

 Maintenance and operation of the pumping stations and wastewater treatment plant of Sabha (Arab Libyan Jamahiriyya) by a Tunisian firm specialised in the maintenance of maritime and industrial cast-iron facilities;

• Supervision of the works of construction of pumping stations, wastewater treatment plants and clearing of wadis and water courses in 4 urban suburbs of Casablanca and Rabat (Morocco), and this for 24 months, by a Tunisian consultancy.

# FINANCIAL COOPERATION

O.N.A.S. enjoys special goodwill with various foreign donors and agencies which contribute in the financing of its projects. The year 2004 was marked by:

• Signing an agreement with the French Development Agency (AFD) for financing the first bid package of the IVth Popular Quarters Sanitation Project in July 2004.

### HUMAN RESOURCES

The total number of O.N.A.S. staff, as of end of 2004, counted 5 185 employees, distributed as follows:

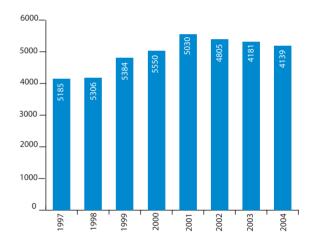
2004

• Executives: 510;

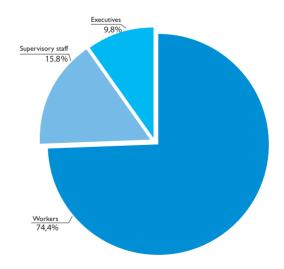
Annual

- Supervisory staff: 822;
- Workers: 3 853 (including part-time staff).

Evolution of the number of staff in the period 1997 – 2004 (including part-time staff)



Profile of O.N.A.S. staff



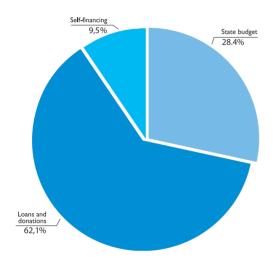


# FINANCIAL RESOURCES

#### 1. Capital expenditure

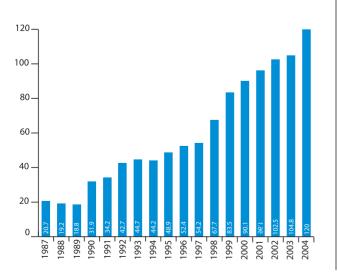
The volume of investments made, during 2004, has amounted to about 120 million TND, as against 105 million TND for the year 2003. These investments were financed as follows:

- State budget : 28.4%;
- Loans and grants : 62.1%;
- Self-financing : 9.5%.



Investment financing profile in 2004

Evolution of investment volume (in million TND)

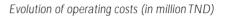


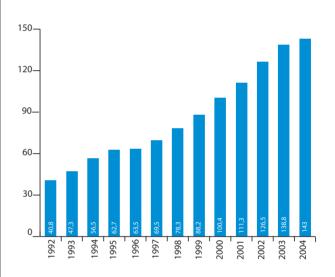
#### 2. Operating costs

The operating costs amounted, for 2004, to about 143 million TND, as against 138.8 million TND for the year 2003. These costs were financed as follows:

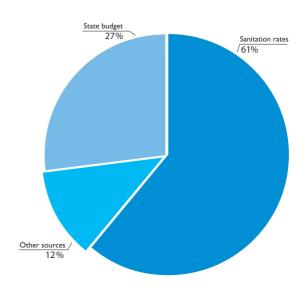
<ul> <li>Sanitation rates</li> </ul>	:	61%;
--------------------------------------	---	------

- State budget : 27%
- Other sources : 12%.





#### Operating costs financing profile



### SOCIAL ACTIVITIES

In its concern to maintain a healthy social climate that preserves the soundness of the organisation and boosts its performance, O.N.A.S. has pursued a social policy observant of the social conditions and aspirations of its employees.Thus, O.N.A.S. under took, in 2004, several social actions of which in particular:

• Extending 540 grants, amounting to 175 000 TND, through the Relief Fund;

• Ceremony of recognition for services rendered in honour of 58 retiring staff in September 2004;

• Organising a "Solidarity Evening" during which Mr. Khalil Attia, O.N.A.S. CEO, distributed financial aid to

part-time staff, widows and the socially needy, which benefited 484 families and a total of 1 480 children, on the occasion of Eed al-Fitr (celebration of the end of the holy month of fasting);

• Besides, as an incentive to the children of the employees to excel in their studies, O.N.A.S. organised, on "Science Day", a ceremony in which it rewarded the well-achievers and prize-winners;

• The year 2004 was marked by a particularly intensive social action: indeed, financial aid was extended to low-income staff on the occasion of the new school year; besides, O.N.A.S. contributed in the campaign of clearing of wadis and water courses in the Governorate of Manouba; while the Bardo RCD (ruling party) committee visited the patients in hospitals in expression of sympathy and to extend financial support to them.



