

Working Group Report

“Water and Sanitation Services in Cities and Countries Bordering the Mediterranean Sea”

under the chairmanship of

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30 January 2007

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Introduction

The Mediterranean Sea and its shores represent a unique natural and historical heritage. Its preservation became a priority for the countries that bordered it and the United Nations Environment Programme (UNEP) more than thirty years ago.

“Our shared sea” is almost completely surrounded by land. It is therefore a receptacle for pollution build-up from its coastal countries and maritime activities.

Among the different issues it chose for consideration in 2006, the IPeMed (*Institut de Prospective Economique du Monde Méditerranéen*, Economic Prospective Institute for the Mediterranean World) wished to contribute to the struggle against pollution.

Since 80% of pollution is reported as originating on land, priority should be given to city sanitation service, especially in coastal cities. This approach is particularly urgent given that activity and population tend to concentrate along the coast, and current forecasts confirm that this trend should continue for decades to come.

The objective is not to return to what multiple conventions, plans and programmes or investment funds have attempted to implement since the 1975 Barcelona Convention and the Mediterranean Action Plan (MAP) prepared under the aegis of the United Nations, the European Union, and all of the countries concerned.

A review of measures adopted in common and anti-pollution actions reveals the magnitude of the policy implemented, as well as the gradual broadening of scope from environmental conservation and enhancement to a genuine sustainable development strategy for the Mediterranean, including the preparation of Agenda 21 in Tunis in 1994, the revision of the MAP in Barcelona in 1995, and the creation of the Mediterranean Commission on Sustainable Development (MCSd) in Montpellier in 1996.

The goal of this report is to carefully examine the various reasons behind the mitigated results of these programs, which have varied from country to country but overall have produced insufficient results.

First, it became clear that the key issue of city sanitation service should must be considered within the wider context of a global approach to the management of water and sanitation services (from the production and distribution of drinking water to the collection and treatment of wastewater) as part of the natural water cycle and creating an equilibrium amongst water many uses (irrigation, industry, and household consumption). The vital subject of integrated management of the water cycle in the relevant areas, generally river basins, though approached elsewhere, is not the subject of the present report.

More generally speaking, the issue of water and sanitation services cannot be addressed on its own. It should be part of an approach that includes such issues as urban and rural planning, economic development, and social progress, particularly the fight against poverty, public health, concerns of solidarity and justice, good governance, or anti-corruption measures. Not doing so impedes the efficient study of environmental protection and the fight against pollution.

The problem should thus be dealt with using an approach built on three core concepts of sustainable development.

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Sustainable development has indeed three core concepts: economic development, social progress, and environmental protection and enhancement. Sustainable development should not be confused with its environmental aspect. It is a horizontal, integrated approach that involves a number of public policies which are all too often dealt by sector, and which require coordination sufficient to overcome inevitable tensions and contradictions.

A sustainable development policy requires good diagnoses and shared visions among the various stakeholders. Thus a common language is needed to avoid misinterpretation and misunderstanding.

The economic dimension should be considered over the medium and long term in order to save non-renewable resources (fossil fuels) or rare resources (water supply) to guarantee the sustainability of the choices made.

The social or “societal” dimension includes a variety of concerns such as human dignity (decent housing), solidarity, social cohesion, justice, good governance, democracy, transparency and anti-corruption policy. Culture and education are clearly relevant here and contribute to the efficiency of other public policies. Health care and pandemic prevention, which are linked to poor quality water and pollution are clearly also vital to our approach.

The environmental dimension is of course highly significant, if, for example, combating the greenhouse effect, or issues of climatic change or bio-diversity are considered, but it must be noted that these considerations should be the result of economic and social stakeholders’ raised awareness, who are not necessarily sensitive to such issues, particularly in developing countries where they face a great number of urgent priorities.

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Jean-Louis Guigou, the IPEMED Executive Director, set up a working group chaired by Claude Martinand, the President of the French PPP Institute (*Institut de la Gestion Déléguée, IGD*), a think tank known in France and abroad (Brussels Commission, World Bank, UNO), for its influential work on the themes of public services governance and performance and access for all to essential services. The work prepared by the Institute and the African Municipal Development Programme (MDP) in 2006 is of great importance, and a broad consensus around them was reached at the Nairobi Africities 4 held in autumn, 2006.

Once water and sanitation services for the Mediterranean countries have been set as the main issue, the working group began by looking case studies in order to analyze difficulties encountered and factors for success, and to prepare precise and operational recommendations that might lead more rapidly to tangible results in order to make a concrete contribution to combating pollution in the Mediterranean.

Indeed, it seems that the insufficient implementation of the principles of sustainable development represents the central difficulty among the issues to be addressed.

Urban and industrial wastewater collection and treatment are rarely a priority placed high on the political agenda. Moreover, in spite of the noteworthy abilities of ministers of the environment, such issues can only be resolved by ministerial departments in charge of local governmental structures, urban utilities, hydraulics or public works. Other ministries' economic, social and health approaches may be relevant additions in dealing with water supply and above all sanitation service.

It is thus necessary to begin by identifying central goals and the key players to be mobilized around them.

The working group did not consider financing or the choice between public or private management as central issues. The group demonstrated the crucial role of rate policy as a guarantee for service longevity, equity, and solidarity, and it outlined three key issues for success:

- improving governance and public supervision of services,
- developing skills for implementation and management,
- continuously improving service performance (in terms of quality and economic efficiency).

At a minimum, it appears that the direct costs of network operations and maintenance absolutely must be covered, as long as such coverage is accompanied by social rate and aid for the most impoverished.

With the satisfactory resolution of these issues, investments can be funded with self-financing, budgetary allowances, and international aid.

As for the management mode, it is time to move away from ideological debates, to look into the various solutions available, and to choose, when possible, contractual relationships with incentive mechanisms between the public authority and the operator, whether public or private.

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In addition to the need to harmonize goals, means, and timetables, the creation of a permanent group is proposed in order to exchange experiences and share best practices while relying on existing organisations (Mediterranean Action Plan, *Institut Méditerranéen*

de l'Eau (IME, Water Supply Mediterranean Institute), and World Bank) and with the support of the European Union.

With self or mutual assessments as a starting point (guidelines for self-assessment are proposed), initiatives may be embarked upon using benchmarking and one another's progress may be supported. It will take an eye-opener for countries and cities to take these issues seriously and consider them as real political priorities.

Guidelines

“Water and Sanitation Services in Cities and Countries Bordering the Mediterranean Sea”

I. Statement

I. 1. International organizations and national public authorities’ different but converging goals

In 1975, the Mediterranean Action Plan (MAP), prepared by environmental officials (the Environment United Nations Programme or PNUE, the European Commission, and the governments of countries bordering the Mediterranean Sea) initially focused on the preservation of natural heritage and on the struggle against sea pollution.

Since land-based pollution appeared to be by far the most predominant kind (80%), domestic and industrial **wastewater collection and treatment**, especially in cities, emerged as a priority.

Both the fight against poverty and access to drinking water were beacon issues among the Millennium Development Goals (MDG) adopted by the UN in 2000. At the 2002 Johannesburg Earth Summit, the goals were expanded to include sanitation service.

Previously, in 1985, the Barcelona Convention had continued the work of the Rio Earth Summit and integrated sustainable development priorities with the launch of Agenda 21 and the creation of the Mediterranean Commission on Sustainable Development.

All of these complementary goals are now indispensable to a sustainable development perspective.

I. 2. Many instruments available, but results often differ from stated goals and ambitions

Appendix 1 reviews the entire Barcelona process since 1975 and the wide range of mechanisms and means that have been implemented.

However, the 2005 UN summit (OMD+5) revealed that both in the Mediterranean and worldwide, results have been insufficient. It concluded that attaining the adopted goals is impossible at the current pace, particularly in Africa.

As some results are achieved, rapid urbanization in coastal cities generates new needs more rapidly than they can be resolved.

The cities, frequently “hope magnets” that attract new rural migrants, often lack the tools to organize their urban development and implement the necessary urban facilities in time.

Nevertheless, it should be acknowledged that some countries, such as Tunisia, have for a long time implemented serious and ambitious policies with demonstrated efficiency. More recently, other countries such as Morocco and Algeria have undertaken research into innovative solutions. Is it necessary to recall that the towns of Marseille, Nice and Toulon have only very recently funded policies to prevent sea pollution?

Water and sanitation services in Tunisia, components of a political project: an emerging middle class

Since its independence, distribution of drinking water and sanitation service (sewage treatment) collective water and sanitation services have contributed to the emergence of a middle class through decent housing.

The adopted solutions led to the creation of national public organizations (SONEDE and ONAS), which have gradually extended their coverage to the entire country.

Tunisia has thus been able to find efficient solutions. Progressively some tasks are now delegated to private operators.

II. Problem Diagnosis

These results, although insufficient and varying according to different countries and cities, help to clarify the **incentive goals**, the **actors to be mobilized**, and the **obstacles to overcome** through genuine sustainable development approaches, i.e. integrated policies that affect multiple stakeholders and require their close coordination.

II. 1. What are the incentive goals?

Regrettably, **anti-pollution objectives** are hardly considered priorities for developing countries. Furthermore, ministers of the environment, who are responsible for negotiating important conventions, are not always in the best position to implement them; other ministries (public works, hydraulics, interior) are more directly responsible for facilities and urban utilities, alongside local authorities. These different ministries seldom collaborate on such issues, since they are confronted with a wide range of other priorities and limited resources.

The fight against poverty, public health, and housing policy (decent housing for the most impoverished) are also the concerns of other authorities.

The **social dimension** is more apparent, but solutions are not easy to imagine let alone implement.

Economic development is no doubt the most motivating aspect for governments, since economic policies generate employment, income and resources, including income tax.

In fact, the solutions to these different problems are connected, and the best chance for progress lies in approaching them simultaneously with an integrated approach.

For instance, in order to attract tour operators and thus the infrastructure and other investments they require, **tourism** demands not only clean beaches and sea water, but also efficient sewage treatment plants. Tourism is an important source of sustainable economic development, foreign currencies, and employment in many of the countries concerned.

This once again implies the need to mobilize all relevant ministries, particularly the Ministries of Interior, Economy and Finance.

Only then does the sustainable development process truly materialize, moving beyond declarations of intent and facile formulas.

Water and sanitation services, components of a planning and development policy in northern Morocco (Tangiers - Tetuan)

With the ascent of the new King, Mohammed VI, a new emphasis was put on economic development of northern Morocco, in industry and tourism.

The production and distribution of drinking water and the collection and treatment of wastewater then emerged as a priority in order to avoid dumping pollutants into the sea.

Delegated management contracts were concluded, after competitive calls for tender, with a French-Moroccan company, AMENDIS, operating in the framework of balanced relations between the public (public authorities) and private (contracting company) sectors.

The INDH programme described below, funded by various public funds and donations, offers the most modest households access to drinking water and sanitation services.

Moreover, **irregular housing**, where the most impoverished live, can only be improved by a stabilization and consolidation approach if the **land issue** is brought into compliance and **water supply, power supply, and liquid and solid waste collection and treatment** are implemented in parallel. This could stimulate a win-win process of job creation (trades, small industrial workshops), wealth creation, and the emergence of a genuine middle class. Tunisia, since its independence, and more recently Morocco, with the National Initiative for Human Development (INDH, *Initiative Nationale pour le Développement Humain*), have shown the relevance and effectiveness of global approaches that link the three dimensions of sustainable development: economic, social and environmental.

Water and sanitation services, a component of the National Initiative for Human Development (INDH) in Morocco

Within the National Initiative for Human Development, Morocco launched a drinking water supply and sanitation service programme in its poorest districts.

This is a step toward achieving the national policy's goals of improving the living conditions of populations living in unsanitary and often unregulated housing according to a global conurbation management plan including allowing people to remain in their homes and bringing communities into regularized situations.

The goal is to stimulate local development, which in turn generates employment, resources, revenue, and improved housing.

The Casablanca-based company LYDEC is in charge of the social engineering (50 employees) required to provide drinking water, wastewater collection and treatment, and power to 137,000 families living in unsanitary and unregulated housing.

Since operations began in 2006, 16,000 households (47,000 people) have already been supported.

II. 2. Which stakeholders should be mobilized to achieve these shared goals?

All public and private actors and the different “stakeholders” within civil society should be involved or associated in order to achieve success.

a) **The States**, of course, are always regarded by the definition of public policy and the implementation of the means necessary to attain goals determined to be priorities on the national and international level.

Yet again, all of the relevant Ministries should also be mobilised under the authority of the Chief of Government or even the Head of State.

b) **Local authorities** must be involved and empowered as well, or at least consulted and associated if the de-centralisation process is considered premature.

Drinking water supply and sanitation service are local issues that require responses adapted to the local context, history and geography.

Delegating responsibilities at the local level within a context of de-concentration or de-centralisation must be assessed by the States, which are in a position to determine how quickly the transfer of human and financial resources to local authorities can lead to an increase in skills and responsibility.

The assumption that local authorities do not yet have the skills and means to assume responsibilities leads to a vicious circle that must gradually be broken.

c) **Users**, consumers, citizens, associations, and even certain communities should also be informed and consulted; they should be involved in decision-making and, under certain conditions, in service management.

Such involvement is the best way to respond to populations’ priority expectations and incite responsible user behaviour, which in turn promotes greater service efficiency (through resource savings and better operation of the sanitation network). Furthermore, good governance can benefit from users’ and citizens’ involvement.

Industrial and economic-sector users should also be informed, consulted and involved in decisions that impact them, such as the implementation of “polluter-pays” principles for example.

d) **Service operators**, whether public or private, already in place or likely to participate, should be consulted and involved in diagnoses or progressive approaches under consideration. Their personnel may be a source of expert knowledge of the networks, and could benefit from training plans to improve service quality and performance.

Therefore, **all of the stakeholders** should be involved one way or another, to an appropriate extent, according to national or local rules and traditions. It is the best way

to motivate all actors in a spirit of cooperation, in order to ensure that results are achieved and challenges met.

III. Three Key Issues for Success

An integrated approach to sustainable development, based solidly on its three core concepts, is the only way to put the challenges identified by the workgroup high on the political agenda. This requires a strong and sustainable **coordination** of the various public policies involved.

Still, in order to be equipped with all the necessary means for success, the following three issues should **simultaneously** be resolved in a satisfactory manner:

- **improving governance and public supervision of services,**
- **developing relevant authorities' and operators' skills** (implementation and management abilities),
- **continuously improving service performance** (quality and productivity).

Moreover, **the rate policy** is a key issue and will be further addressed later. The issues of **financing** and **choosing the management mode and operator** can only be addressed once those three key issues are resolved and an adequate rate policy is adopted.

III. 1. Improving governance and public supervision of services

Here it is necessary to clarify **who is in charge of what, what needs to be accomplished,** and **what kind of relationships,** preferably **contractual,** should be established between the main stakeholders.

The regulatory framework, the overall goals to be attained, the standards to be met, the means necessary to do so, and the assessments to be given in order to evaluate results must all be determined at the **national level** – in sum, they should amount to genuine regulations.

If the State can directly manage the services, at least during the initial phase, it should involve **local authorities** in the process to an extent consistent with their personnel and budgetary resources, while anticipating increasing involvement and de-centralisation or, initially, de-concentration.

Operators should be in charge of services management or operations according to service level objectives and rules determined by the public authorities. These authorities should clearly monitor output and assess operators' results. Public authorities and operators should strive to avoid the confusion that results when their roles are inverted, with operators determining goals and public authorities interfering in daily management. Operators' employees may also be consulted and implicated in the results.

Users, who benefit from these services, should also be associated, consulted and involved on issues where they can play a positive role, as long as they are correctly informed and empowered. A judicious approach may ensure balanced representation by distinguishing between different categories of domestic, agricultural, and industrial users.

The relevant scope of such governance should be determined with respect to technical, geographical and human realities within which the rate policy (including rate equalization) will be applied, and which express a form of social and territorial solidarity as defined by the relevant political level.

The relationships between the stakeholders should aim to build trust, cooperation, and partnerships. Contractual solutions represent the most evolved form of such partnerships, since partners are placed on equal ground and create “win-win” situations via incentive mechanisms.

III. 2. Developing skills (implementation and management abilities)

Crucial human resources should be gathered and mobilized at a level where they constitute a critical mass sufficient to manage the problems with which they are faced.

Technical, economic, legal, administrative and financial, managerial, and commercial skills are all necessary.

This critical mass would be responsible for two areas:

- **Policy development**, a diagnosis, the formulation of realistic goals, assessment of results, the ability to define investment programmes and study projects, to organize competition, to negotiate with and monitor the operator;
- The **capacity to operate services** as professionally and efficiently as possible, and to manage human resources, industrial processes, and procedures.

If existing internal skills are insufficient, they should be improved with training programmes and external support such as recognized consultants, experts, and professionals, as well as NGOs and international organizations.

Decentralised cooperation and exchanges between northern and southern cities may be useful approaches, as long as they are carried out over the long term and cover fundamental subjects that are dealt with on clearly defined bases, for example, needs for technical cooperation, but also social engineering.

III.3. Improving service performance with resolute commitment to quality and economically efficient approaches

Continuous performance improvement is the key to:

- **improving the operation’s financial equilibrium** through reduced costs and increased revenue, which in turn allows an increase in the self-financing of investments, particularly investments for network renewals;
- **improving service quality**, which facilitates payment recovery from users who are more satisfied with their service.

Progress margins for drinking water distribution can be quickly identified using three significant indicators:

- number of hours water is supplied per day, measured by district;
- loss (leakage) rate in the network;
- payment recovery rate.

As far as sanitation service is concerned, the rate of connection to the wastewater collection network at which wastewater collection is connected to the network, the rate of wastewater treatment at which that waste water is treated (treatment efficiency), and the total volume of discharges into the sea, indicate the efficiency of the policy implemented.

The performance improvement process depends in particular on:

- Management that is as responsible and professional as possible.
- Good human resources management and greater motivation on the part of agents to improve service quality and productivity through training, participatory management, responsibility delegation, computerisation, result-based compensation, etc.
- Thorough knowledge of users, their expectations, and capacity to pay. This can be fostered through a service approach that includes accessible information, complaint responses, transparency, and even a marketing approach.
- Service projects and goal contracts that include productivity and quality increase goals. Such objectives should include performance indicators that allow comparison with and emulation of comparable services in other cities (“benchmarking”). Taken all together, these measures can create a virtuous cycle of continuous improvement for all outcomes.

Once gains in productivity begin to be seen, fair distribution of the economic surplus thus obtained must be planned for.

One imagines a system in which one portion of the surplus might be used first of all to finance the connection of new users, and for the rehabilitation, extension, or modernization of the existing infrastructure. A second portion could be allocated to users, either through improvements to quality or by contributing to rate equalization. Finally, the third portion could be apportioned to the employees, who allowed these gains in quality and productivity to occur. The surplus should be distributed amongst these three categories with regard to the context at hand, and with fairness, and efficiency.

The surplus should not be monopolised by one party or another, either through excess profit or mechanisms of misappropriation or corruption.

This fairness - and, more broadly, this ethic – clearly raises the question of a right regulation and a supervision that is as democratic as possible, where all the stakeholders, including users and employees, are able to play a useful role.

IV. A central issue: rate policy to balance enduring service, fairness, and solidarity

It should first of all be recalled that drinking water supply and urban sanitation service are **industrial and commercial public services** and thus offer services for a price, or rather a rate determined by the relevant public or “organizing” authority.

To ensure the service’s financial stability, in one way or another, all costs should be covered by these set rates and by public contributions.

Rate policy functions both as a service’s **economic and financial steering mechanism**, and a tool for ensuring **solidarity amongst users and territories**.

IV.1. Avoid the well intentioned but wrong idea of free service and a generalized under-pricing

Based on the idea that water is a “public good,” it has been suggested in international forums that it be provided free of charge, with the argument that the poorest members of society are unable to pay for it.

The idea of free service has a number of negative implications, including the wasting of a precious resource, poor management of a service whose costs are not adequately covered, and a constant need for highly problematic operational subsidies.

Resources are not properly maintained, and the service declines and cannot be guaranteed over the long term.

Providing services to the poorest should be dealt with by adjusting rates using an equalization system, and by targeted aid, which should be reserved to those who need it most, without benefit to those who do not.

Populations not connected to public water networks, who are generally among the very poorest, are excluded from such aid mechanisms. In the absence of an actual public service, the poorest often pay inflated prices for water from water carriers or tap owners, while administrations and the “rich” often neglect to pay their bills regularly.

Generally speaking, subsidizing water bills is most effective when the great majority of users are already connected to the water system. Otherwise, access subsidies to connect households to the water system should be favoured.

In cases where a social policy regarding water prices is implemented to countermand a necessary average rate increase, under-pricing leads to the same negative outcomes and should be avoided for the same reasons.

IV. 2. Reciprocally, when necessary, price water below total cost for domestic users

In developed countries, history has shown that large scale public loans were needed constantly, at least for municipal utilities and infrastructures, rural water supply, and sanitation service.

The process of equipping an entire country and providing the majority of inhabitants with drinking water and wastewater collection and treatment, takes many decades. In France, universal access to urban wastewater collection and treatment was only recently achieved, in the context of Community requirements.

How can the majority of developing countries be expected to make similar efforts to equip themselves over the next 20 or 30 years by self-financing their development investments with operating income from these same services?

Some of the recent difficulties encountered originate here at least in part, as a result of excessive rates planned for in unrealistic contracts:

Building and Operating Concessions (delegated management) are sounder economically, but may include overambitious self-financing goals that could be compromised if financing is made in a strong currency, which runs the risk of devaluation or hyper-inflation. In general, rates are not updated sufficiently, in spite of contractual clauses (provisions) that are difficult to implement in situations of social and economic crisis, (see the case of Argentina), or because of rates set in contracts with unrealistic investment goals (see the case of Cochabamba, Bolivia).

The privatization of infrastructures, following the British model, consists of selling off past investments and financing future ones at the expense of users, and seems debatable (see, for instance, the case of Chile) whatever the positive outcome observed.

Pricing for total cost should therefore be avoided in the initial provisioning stages, at least for domestic users.

The “water pays for water” rule currently applied in France seems difficult to apply in developing countries. It is only justifiable once a country is properly equipped and delivers water to the great majority of its inhabitants, as is the case in Europe, in compliance with the European Water Framework Directive.

IV. 3. A “minimum balance”: at the very least, the service’s maintenance and operational costs should be covered

A service’s durability cannot be guaranteed if rates do not at the very least cover average maintenance and operational costs.

If performance improves, it should allow self-finance to increase progressively to cover all or part of renewal costs needed to keep the network in good condition. This in turn is a good gauge of a service’s sustainability. Any economic surplus should be distributed fairly, as explained above.

An average rate can only cover network development costs, and particularly the cost of extending the network to irregular, unregulated districts, if rates in central and outlying districts are sufficiently equalized. This implies that the service functions well, that rates are sufficient and that payments are regular enough for high-paying areas and industrial or administrative customers. For this, a strong and enduring political will is absolutely necessary.

IV. 4. Setting up mechanisms that ensure solidarity through adjusted rates and targeted aid

It is clear that mechanisms that ensure solidarity through rate modulations and the choice of rate calculation formulas (weight of the fixed part, accounting of network connection costs) are within the purview of political authorities, who decide upon them and must take responsibility for their decisions, in particular in explaining and justifying them to the wealthy, and even to the middle class.

Rate equalization is a means of expressing solidarity, which is vital if access to drinking water and sanitation services is to be available to everyone.

Such mechanisms may be set up:

- between individual and professional users,
- amongst users, according to their income level and contribution capacity (tenants, resident or non resident owners),
- between central and outlying districts,
- between cities and surrounding rural areas,
- amongst users of water and sanitation services and users of power, as with the Lydec contract in Casablanca, on the condition that such cross-subsidies are demonstrably efficient and totally transparent.

LYDEC: a global contract for energy, water, and sanitation services in Casablanca

LYDEC was awarded a contract in Casablanca in 1997 that implements an original equalization system amongst three public services: distribution of drinking water and energy, and sanitation service. Water and energy are produced within the relevant Public Offices.

Such an arrangement, which has seen success in other African countries such as the Ivory Coast, allows improved coverage of operating costs by equalizing subsidized rates for water and sanitation services, and those for energy, which are primarily used by professionals. Furthermore, equalization in favour of the poorest is ensured for conurbation's 4 million inhabitants by calculating payment capacity by neighborhood.

Areas used for implementing rate equalizations should be carefully selected, and political responsibility should be taken for them. These areas may not necessarily be the same for water and sanitation services.

In addition, targeted aid may be set up for those whose need is greatest, while preventing the better off from taking advantage of it. Such aid may include a limited quantity of free water, subsidized rates, help connecting to the network system, etc. Connection costs may indeed represent several months' salary for poorer families. These costs are therefore a significant barrier to poor households' access to service. In order to reduce the amount payable, several solutions have been tried successfully, such as the review of classically applied standards or OBA (Output Based Aid) approaches. The AFD (French Development Agency) and the World Bank are successfully experimenting with such mechanisms.

Output Based Aid (OBA)

Output Based Aid is a strategy to support access to essential services for poorer households while ensuring performance efficiency. Subsidies are granted based on performance to cover part or all of the high access costs normally paid by households, such as connection to the public drinking water supply.

Such subsidies may be provided by public authorities or development aid agencies. The World Bank has thus set up a fiduciary fund that brings together several sponsors called the Global Partnership on Output Based Aid (GPOBA).

The subsidies may be directly granted to populations in need or to service providers selected by calls for tender. In the latter case, service providers pay costs upfront and are repaid once the service has been carried out and performance has been verified.

Advantages of this system are therefore as follows:

- improved transparency in the subsidies granting process and reduced skewing of target beneficiaries. The reasons behind subsidies, as well as their beneficiaries and their scope, should be clearly explained.*
- optimized use of financial resources, as repayment depends on the actual services provided, or on the achievement of pre-defined performance conditions.*
- private partners are encouraged to mobilize to provide access to services for the poorest.*

It thus seems possible to cover both all the maintenance and operation costs and an increasing portion of total costs, while implementing provisions that allow the poorest to enjoy their right to drinking water and wastewater collection and treatment under fair conditions. We should, however, remain aware of the cost of network renewal and extension, which is generally borne by the public sector.

V. Mobilizing effective financing

The issue of financing and the scope of the resources to be marshaled are often highlighted as the central issue to be resolved.

From our standpoint, financing may be found if three main questions, along with the central question of a rate policy, are answered. Justifying one's answers to these questions is often a pre-condition to receiving international aid, as a guarantee that it will be employed as efficiently as possible.

Rates that at the very minimum cover maintenance and operation costs, along with regular gains in productivity, allow the growth of self-financing of investments in renewal, and then in development.

Focus is thus placed on **infrastructures' financing needs**, while avoiding the financing of recurring operational subsidies.

In fact, a wide range of international financing sources are available, and full advantage is not always taken of them. They are made up of grants, and long term concession loans, which may vary in size. The current dichotomy that exists between grants reserved exclusively for least developed countries (LDCs) and loans granted to other countries does not always seem appropriate, particularly given the issues discussed in this report.

Today, the working group proposes some recommendations which are shared to a great extent by the AFD and the World Bank:

- If **currency risks** are likely, solutions involving concessions should be avoided, and **service operations** (such as leasing) should be **separated** from the **realization of the primary investments** with a contracting public body and public financing (the lesson learned from difficulties encountered with certain major international contracts). Indeed, when avoidable, private operators should not be required to borrow in strong currencies when their revenues are entirely local;
- faced with currency risks, the **mobilization of local savings**, which are often abundant, along with **the savings of expatriates** who wish to invest in their country of origin, should be favoured as an option; however, these investments should be secured over the long term through the appropriate organizations (see, for example, the AFD);
- when possible, promoting **direct loans to significant local authorities** (see the SFI or IFC policies) or, otherwise, loans should be offered through a **financial institution specialized** in loans to local authorities. The creation of such an institution should be encouraged if it does not already exist, such an institution should benefit from loans from sponsors of international funds, and be able to pool risk and guarantee repayment under the aegis of the State;
- seek to mobilize the **State's budgetary resources**, as well as those of local authorities, through **fiscal measures** or **dedicated taxation** intended for development and urban amenities. The stabilization of irregular settlements, alongside the economic development process it engenders may be able to trigger a virtuous circle.

Such issues have been the subject of more detailed works, particularly by the AFD, and we invite you to refer to them.

“Financing Water for All,” the report of the World Panel on Financing Water Infrastructure, chaired by Michel Camdessus (World Water Council, 2003) and the “Report of the Task Force on Financing Water for All,” chaired by Angel Gurría and edited by Paul Van Hofwegen (Water Supply World Council, 2006) are essential references for the issue of financing, and we have incorporated a number of their proposals.

It should be noted that various economic studies, particularly the Human Development Report 2006, “Beyond Scarcity: Power, Poverty, and Global Water Crisis” (published by the UNDP), tend to show that long term rate of return on investment is 1 to 8 for the water supply and sanitation sectors.

The issue of fighting corruption was made one of World Bank’s top priorities by its new president, and it deserves mention, even though it is a part of the larger issue of improved governance, and it takes a long time to ensure that ethical processes prevail.

VI. Making an objective choice of management mode and operator

VI. 1. Putting an end to an overly ideological debate

In international conferences and forums, debates often give excessive attention to the choice between public and private solutions.

Below are the critiques generally heard in such debates, depending on which choice is made:

- **public management** or **public solutions** in general are accused of inefficiency and bad management, poor service quality, poor stewardship of resources (high leakage rate), low productivity and insufficient motivation among personnel and executives, insufficient consideration of users' expectations, and insufficient bills recovery. The advantages consist of more extensive public control over services (in theory) and greater involvement on the part of public officials;
- **private operators**, which are generally international, are blamed for "making money or profit" by exploiting an essential public service, and thus accused of not offering socially adjusted rates for the poorest. Because of their disproportionate advantages in terms of power, skills, and expertise, private operators are thus accused of questioning public control over services, which can lead to a real loss of sovereignty (the problem of the "multinational"). Acknowledged advantages generally include efficiency, responsiveness, good management of human resources, greater motivation and training, and management and use of appropriate technical solutions.

Varying kinds of corruption can be attributed to both kinds of solutions.

VI. 2. Acknowledging that many options are available

Forms of public management include not only direct public management, but also independent public management and autonomous public corporation (either national or local).

Partnerships, predominantly public, are also possible, either in institutional form, i.e. semi-public enterprises (with public and private capital), or contractual, where operators offer their expertise in the form of public service contracts or operation assistance contracts.

Public-private partnerships can also be entered in which the public partner acts as the organizing authority while the private partner is in charge of operations, such as the "associated management" contract in Tripoli (Lebanon) or delegated management (possible forms include "government-sponsored" delegated management, leasing, licence, and concessions). All risks likely to be borne by the private partner are shared and transferred. These private operators may be local, national, or international, in the most important and complex operations.

Semi-public enterprises can constitute a first step towards the emergence of national private operators as they pass on their expertise.

Service management may also be entrusted to associations, communities, NGOs, or other similar actors, particularly in rural areas or peripheral urban districts.

Public authorities should consider the full range of options and be fully transparent in making their choice, weighing both their real advantages and disadvantages. This freedom of choice should be concrete in that authorities should have the right to periodically review their decisions freely. In other words, the choice should be a reversible one, particularly at the end of contracts' terms.

Progressive solutions can be adopted and responsibilities entrusted to private operators may increase as trust is built and as a clearer understanding of each party's respective contribution emerges.

A new water and sanitation policy for Algeria's major cities

After attempting both public, centralized solutions (ADE and ONA) and more decentralized options, Algeria recently established a policy under the new water supply Code that seeks to partner with international operators for the operation of services in major cities, starting with Algiers and followed by Constantine, Oran, and Annaba. Contracts involve the private partner in the management process (the Algiers contract), with an eye to the possibility of delegating management (leasing) in the future.

VI. 3. Basing the decision on preliminary diagnoses or objective comparisons and assessments using representative indicators for the various problems to be resolved

Various objective and ideologically unbiased preliminary analyses have yet to be undertaken.

Such analyses should also include, at a minimum, statistical data and field work if they are to become serious diagnoses.

If international organizations such as fund backers, UN agencies, and public development aid providers do not themselves provide biased or questionable solutions, they can play a useful part in preliminary diagnoses. It should be noted that the paradigm of fund backers' has changed a great deal over time and is has not yet entirely stabilized, although it is becoming clearer.

VI. 4. Opting for contractual relationships that include incentives (positive and negative), including in the case of public management

Contracts are the preferred way to make goals clear, define terms and conditions, specify tools for follow-up, inspection, and assessment, with rewards and penalties, as

appropriate. They constitute a strong incentive for contracting parties to cooperate and move in the right direction.

Contracts, entered into after a due process of call for tender and negotiation, are the usual approach to establishing relationships between public authorities and private operators.

Similar mechanisms are highly recommended for public operators as well, even without calls for tender. This is the easiest way to clearly establish the responsibilities of the operator and those of the public authority. Furthermore, the mere threat of competition may be enough to stimulate public operators' performance.

VI. 5. Avoid making the public or private operator liable for public authorities' responsibilities or failures

Public authorities who do not meet their contractual commitments or shy away from their responsibilities, particularly with respect to rate policy and the definition of major objectives, often cause private contracts to fail. The same problems may occur with public management when roles are confused, or when, as is often the case, political courage with regard to employees and users is lacking. In any case, corruption – whether widespread, in the form of clientelism and nepotism, or used as a condition or incentive for contract awards – has very negative effects on the clear definition of each party's respective role and on good service management.

VI.6. Factors to consider when choosing a management mode and operator

As the case studies attest (Appendix 2), there are efficient public management and PPPs that work:

- Competition between private operators works only in a favourable context and regulatory framework; otherwise, serious candidates do not – or do not continue to – make the effort to compete.
- Authorities should possess full knowledge of the situation when making choices, and should at the same time endeavor to create all the necessary conditions for success.
- It is an observable fact that adopting a contractual approach with private operators, since each party must contribute to ensure success is easier than simultaneously developing the management skills of a public operator and increasing the responsibilities taken by the organizing authority. A private solution assumes from the outset that the public authority is prepared to assume its role, to oversee the operator and to keep the project on track, usually with external assistance.
- Other possible or complementary alternatives include local or national private operators, NGOs, associations, and communities.

Conclusion

Clarifying goals, means, and timetables:

How can public stakeholders be motivated to make the goals to be achieved their own, to take the necessary measures to commit to making progress and to long term processes for solving these problems?

First of all, timetables should be realistic and achievable through significant, consistent, and sustained effort. This requires making objectives proportionate to the funds likely to be raised, and the establishment of different stages of progress depending on service levels to be achieved. A limited initial response that responds to everyone's needs is better than overly ambitious solutions that are spread over excessive periods and are necessarily unequal. Furthermore, technical solutions should be carefully adapted to the situation and to the financial and human resources likely to be made available.

If correctly addressed, the three key issues identified above in combination with effective rate policy can clearly facilitate rapid implementation and the achievement of tangible results.

An initial “eye-opener” is thus necessary to induce public authorities to approach the issue seriously and make it a **genuine priority on the political agenda**.

Implementing follow-up and benchmarking mechanisms amongst cities and countries:

A forum based on the Barcelona Convention plans of action should allow follow ups for performance and comparisons, set up ways to pool experiences, and hold regular meetings to share and spread best practices and inspiring success stories. A small unit shared by the Mediterranean Action Plan, the *Institut Méditerranéen de l'Eau* (IME, Water Supply Mediterranean Institute), and to the World Bank (MENA Urban Network of the World Bank Institute in Marseille, if it lasts), no doubt could be useful and deserves consideration.

In any case, it is a necessary means of maintaining pressure and encouraging social competition amongst stakeholders who can help and support each other.

Self-evaluation procedures (problem diagnoses) or mutual or third party evaluations could also be advocated to increase awareness and convince public authorities to commit to processes for change: as the saying goes, no man is a prophet in his own country. For this purpose, self-evaluation guidelines are appended to this report.

To conclude, thanks to a philosophy and to recommendations that are now relatively clear, forward motion seems possible today. Recent advances in countries like Algeria and Morocco show it is high time to consider these problems in earnest, so we can finally achieve the goals we set far too long ago.

APPENDIX 1: Review of Pollution Reduction Programs in the Mediterranean

I. Mediterranean Action Plan

I.1. The signing of the Barcelona Convention and the creation of MAP

In 1975, under the aegis of the United Nations Environment Programme (UNEP), the countries bordering the Mediterranean and the European Commission met in Barcelona and signed an agreement for the protection of this common sea, called the Barcelona Convention, which was adopted in 1976, went into effect in 1978. At the same time, they decided to launch and fund **the Mediterranean Action Plan to strengthen the Convention's implementation.**

From the very beginning, some thought that since 80% of marine pollution came from land-based sources and activities, sources of pollution should be looked for and fought inland. A socio-economic section was therefore included in the **Mediterranean Action Plan**, intended to prepare “integrated guidelines for development and more careful management of the Mediterranean basin.”

The convention was amended and renamed in 1995, becoming the **Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean.** The convention and its six protocols are the MAP's legal framework, and are known as **Barcelona Convention.**

I.2. The Implementation of the MAP's three main components

The MAP consists of three sections:

- First, an **institutional and legal section**, regards the implementation of the Barcelona Convention for the Protection of the Mediterranean and its protocols, of which there are currently six (see above).
- Second, a **scientific section**, is the responsibility of **The Programme for the Assessment and Control of Pollution in the Mediterranean Region (MED POL).**
- Third, a **socio-economic section**, which uses a systemic approach to orient toward **environmental priorities and prospects** in all coastal countries, with the implementation of **Blue Plan** Regional Activity Centres and Priority Actions Programme in 1977:
 - The **RAC (Regional Activity Centre)/ BP (Blue Plan)**: located in Sofia Antipolis, is in charge of **observing, assessing and exploring** possible changes in the **relationship between the environment and development** in the Mediterranean Basin;
 - The **PAP/RAC (Priority Actions Programme/Regional Activity Centre)**, located in Split (Croatia), is responsible for **coastal integrated management and development.**

During the 1980s other specific regional activity centres (RAC) and Programmes were set up:

The MED POL Programme, in Athens, responsible for scientific study and continuous sea pollution surveillance;

REMPEC, established in Malta for prevention and emergency intervention in case of accidental marine pollution;

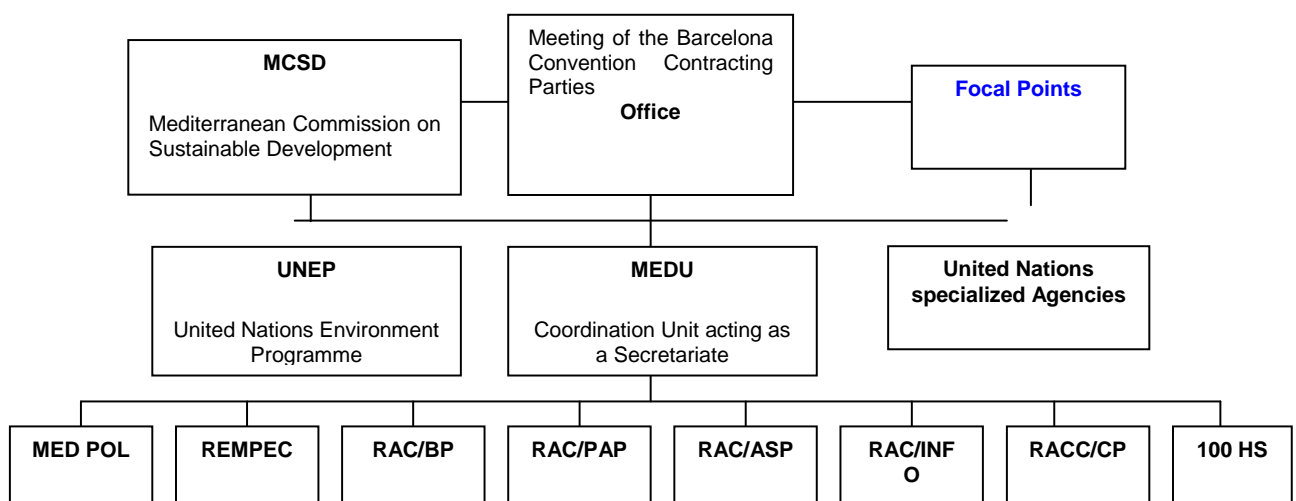
SPA /RAC for highly protected areas is located in Tunis and contributes to the protection of the coastal environment and threatened marine species;

The Programme for the Protection of Coastal Historic Sites (100 HS^o) run by the Marseille Heritage Workshop;

INF/ RAC (formerly ERS/ RAC) set up in Palermo in 1993. In 2005, ING/RAC redefined its mandate to support MAP with information and communication.

and CP/ RAC for clean products, whose location in Barcelona was approved in June 1995.

The following chart shows MAP institutional Structure:



MAP institutional Structure

I.3. The implementation of a Mediterranean Strategy for Sustainable Development

In 1992, the Rio United Nations Conference on Environment and Development confirmed the concept of sustainable development, and in particular adopted **Agenda 21**. This international dynamic and the outcome of previous Mediterranean work led to the creation of **Agenda MED 21**, starting in **1994** in Tunis, alongside a **review of MAP in Barcelona in 1995 (MAP II)**, and the decision made in Montpellier in **1996**, to set up a **Mediterranean Commission on Sustainable Development (MCSD)**.

The Mediterranean Commission on Sustainable Development (MCSD) is a body set up for **dialogue and proposals** amongst the Contracting Parties, whose goal is to define a global Mediterranean strategy for sustainable development.

MCSD includes representatives both of Contracting Parties and Civil society, i.e.:

- 22 experts appointed by the neighbouring States (Albania, Algeria, Bosnia Herzegovina, Cyprus, Croatia, Egypt, Spain, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Monaco, Serbia-Montenegro, Slovenia, Syria, Tunisia, Turkey) and the European Community,
- 15 representatives from « Civil society » (5 NGOs, 5 socio-economic representatives and 5 local authorities),

Since its creation, MCSD organized its work around eight priority themes, five of which have already led to the adoption of recommendations: **a sustainable management of coastal regions and of water demand, tourism, sustainable development indicators, and consciousness raising.**

In keeping with its mission, the MCSD also worked on a **Mediterranean Strategy for Sustainable Development** (see above) which was prepared and adopted during the **14th Meeting of the Contracting Parties held in November 2005** in Slovenia.

II. The Mediterranean Environmental Technical Assistance Programme

The “Mediterranean Environmental Technical Assistance Program” (**METAP**), which was set up in **1990**, consists of a **partnership between countries bordering the Mediterranean and multi-lateral donors.** Within 15 years, it attracted investments up to \$1 billion covering 35 projects for a total operating cost below \$65 million.

Its objective is to increase countries’ capacity to develop and adopt environmental policies with particular focus on the following fields: political and legal instruments, water quality, sewage and coastal areas management, and municipal and hazardous waste management.

III. European Union Actions

- LIFE programme

In 1992, a financial instrument to support the development and implementation of the European environmental policy: the **Financial Instrument for the Environment (LIFE).**

The LIFE programme is threefold: LIFE Nature, LIFE Environment and LIFE Third countries. More precisely, it is this section that finances environment policies and action programme implementation in certain countries bordering the Mediterranean Sea and the Baltic Sea.

- Short and Medium-term Priority Environmental Action Programme (SMAP)

In November **1995**, in Barcelona, the implicated parties adopted a Declaration that established a new partnership between the European Union and 12 southern and eastern Mediterranean partner countries that combined goals of **peace, stability and prosperity.** The environment was cited as an area requiring intensified co-operation, and it was agreed that was a key dimension for attaining sustainable development. The European Commission was entrusted by the contracting parties with the coordination of the preparation of a **Short and Medium-Term Priority Environmental Action Programme, or SMAP.**

SMAP was adopted during the **Euro-Mediterranean Ministerial Conference on the Environment held in Helsinki on 28 November 1997**, following a number of consultations (in particular, the Coordination Unit of the Mediterranean Action Plan, the METAP, the principal non-governmental organizations operating in the region and other organizations representing civil society and at work in the field, were consulted). It is thus based on previous work by MAP and the MCSD, and works in partnership with the various existing organizations.

- Horizon 2020

In **2005**, the European Commission launched a new initiative to address the main sources of pollution in the Mediterranean between then and 2020.

The recent Commission note, "A Strategy for the Mediterranean Environment" sketches out Horizon 2020, grouping planned activities under four headings:

- The first objective is to support projects whose goal is to reduce the most significant sources of pollution. The European Commission and the World Bank have chosen to group their projects for reducing pollution in the Mediterranean under the umbrella of Horizon 2020, and to raise funds to support high-priority, financially feasible projects. Emphasis is first and foremost on industrial emissions, municipal waste and urban waste water, which are responsible for up to 80% of pollution in the Mediterranean. Particular attention will be devoted to the projects proposed by the Priority Action Programme.
- Second, capacity-building measures will be implemented to help neighboring countries set up national environmental administrations that are able to develop and police environmental laws.
- Third, the Commission's research budget will be used to develop greater knowledge of environmental issues relevant to the Mediterranean, and to ensure this knowledge is spread. Experience acquired from the LIFE and SMAP Programmes will be shared amongst all the partners.
- Finally, indicators to monitor the success of Horizon 2020 will be developed.

Currently, the project is receiving major support from the Finnish presidency of the EU, and the partners are being consulted for a calendar to be adopted at the Euro-Mediterranean Ministerial Conference to be held in Cairo on November 20, 2006, the first such meeting to be held outside of the EU.

IV. Europe-MENA Urban Network

In March **2004**, the city of **Marseille** and the **World Bank** set up the **Europe-MENA** urban network. The network proposes a collective approach to thought and action, exchange, policy comparison and knowledge transfer with respect to concrete issues related to urban management.

The partnership is built around three main ideas:

- Promoting the exchange of knowledge, experience and successful practices,
- Reinforcing institutions to educate regional elected representatives and managers,
- Making expert knowledge available to partner cities identify, assess, or implement urban development projects,
- Facilitating contracts that could lead to shared responsibility for development projects, particularly through decentralized cooperation.

APPENDIX 2: Case Studies

I. MOROCCO

I.1. Tangiers-Tetuan (Amendis)

The context

Veolia Water Morocco (a subsidiary of Veolia Water AMI - Africa, the Middle-East, and India – which manages Veolia’s largest sanitation investments) has been operating in Morocco since 2002, with, in particular, Amendis (Tangiers and Tetuan) and Redal (Rabat-Salé), two delegate companies for public water, sanitation service and power supply. It employs 5,000 people.

With 1.4 million inhabitants, the cities of Tangiers and Tetuan make the region of Northern Morocco, which is in the middle of massive economic, social and urban changes. The region, which just six years ago did not figure in the country’s development plan, has become a priority since the accession of King Mohamed VI. Important infrastructures, including roads, motorways, and railways have been created there, and a new port, the Tanger-Med, has been built, completely altering the context for land planning and employment. The region’s growing cities and their inhabitants are expecting a lot from these changes.

With all this on the table, the delegation of public services to the Amendis company, previously managed by public corporations in Tangiers and Tetuan, is a political act whose main objectives are to bring services up to date both technically and economically, and to set up new sanitation systems adapted to the two cities’ needs in line with their ambitions as a tourist location. Furthermore, since 2002, three institutional changes have occurred: the decentralization currently underway, new environmental protection laws, and the launching of the National Human Development Initiative (NDHI) which led to a change in context and in particular made developing access to essential services for the poorest a priority.

The contract

– *from the call for tender to the arrival of Amendis*

In 1999, a call for tender was launched to delegate services formerly managed by public corporations in Tangiers and Tetuan. In February of 2001, the contract was awarded to Amendis, and it took over management in January 2002. The company has several stakeholders: Veolia Water supply (majority), ONA (the first private group Moroccan), Somed (Morocco Emirates group), and Hydro Quebec International. Total investment in the Tangiers and Tetuan contracts amounts to €700 million over a 25 year period (of which half are from the delegate’s own funds).

– *the public-private sectors’ relationship*

This relationship is clearly detailed in the more than 1,000 pages of exhaustive delegation contracts (more than 1000 pages). An oversight committee composed of representatives from local and central authorities and from Amendis makes major decisions, including investment plans, defining budgets, and rate changes. These meetings are an opportunity to discuss changes in context and their possible effects on

prioritizations. Thus, in one such meeting, local elected authorities were persuaded to make operations for need-based connections to the water network following the NDHI, and to find new ways of financing subsidies for the operations. Furthermore, the delegating authority is assisted in overseeing the delegate by a permanent control service made up of executives from the former public corporations. The service works on a permanent basis with the delegate, and its main missions ensuring that contractual commitments are fulfilled. Monitoring and oversight of the delegate, along with the obligation to report, are even more stringent in Morocco than in France. If deadlines are not met, a progressive penalty is levied, but there are no positive incentives such as bonuses.

The contract is updated every five years.

- the sanitation service project is a priority

In addition to hundreds of kilometers of new network, the new sewage treatment system currently being implemented by Veolia includes half a dozen of de-pollution plants, where in most cases treated waters are evacuated into the sea. The Tangiers de-pollution plant is thus being built on a platform in the sea below the old town, following an impact survey and presentation of the project to the public.

The kinds of treatment used should, in some cases, evolve in order to be consistent with the new demands of authorities and inhabitants regarding quality of life, particularly in tourist areas where lagooning should be compared to other technologies.

With respect to the context, it should be noted that regulations now prohibit providing access to water without providing access to water treatment - sanitary, economic (tourism), and environmental (protection of the Mediterranean) challenges that are consistent with the city's sanitation objectives.

- developing access to essential services within the framework of the NDHI

When contracts began, poorest populations' access to services, even if written into the contract, was not perceived as a priority by locally elected representatives. NDHI, launched on May 18, 2005, made it a national priority. Since then, need-based connection operations, which aim to offer primarily financial aid to connect low-income populations to the network in districts with no water service, have been made a priority.

Like Redal for Rabat, Amendis has implemented new procedures in order to carry out these operations. Additionally, new services have been created to carry out this new activity with personnel specially trained to speak with residents in irregular districts, neighborhood associations, and other public services committed to restructuring districts once known as "clandestine." This is a form of social engineering. New tools have been created, including mobile agencies with customer service staff that are set up in these districts during each operation. Over 75,000 households were covered by operations on the outskirts of Tangiers and Tetuan, and approximately 40,000 in Rabat-Sale.

A specific financing approach was designed to subsidize the investment required from households benefiting from these connections, but it exceeds the socially acceptable limit, which has been calculated to be a maximum of 100 Dhs/month maximum in Tangiers. Therefore, in Tangiers, the following decisions were made by the delegating authority and Amendis:

- Implementation of a lending system to help households finance their drinking water supply network connection (the loan amounts to 100 Dhs/month interest-free over a ten year period)
- A local solidarity fund was set up. It is funded by the municipalities, who for ten years donate all fees from Amendis sales.
- Applicants for need-based connections are not required to pay their first connection contribution, while classic connections are increased by 10%.
- Cities' decision to close water taps should limit waste and unpaid bills.

Furthermore, application files were fine-tuned and sent by Amendis and Redal to different national and international sponsors and co-operation organizations in order to finalize the financial structure and subsidize the significant acceleration of the need-based connection plan. Projects were implemented with ADS (Moroccan Social Development Agency), APDN (North Provinces Promotion and Development Agency), AFD, the World Bank and GPOBA with whom an output based aid (OBA) monitoring is currently being defined in Tangiers.

These various aids, which are the outcome of new financial engineering, will enable poor households to have access to public services, and therefore to live in more satisfactory hygienic conditions, and free up time to seek education and/or employment. This is integrated within the NDHI.

Assessment

In many respects it is positive:

- e) *On the technical level*: a new network that replaced the wadis (dry riverbeds) was installed, connecting the old sewage networks installed by the Portuguese to the sewage treatment plant on the sea below the old city which provides secondary treatment before discharge into the sea. Outputs have been improved (from 63 to 77% in Tangiers, and 53 to 67% in Tetuan)
- f) *On the social level*: over 21,000 households were connected to the water supply over 3 years by Amendis and Redal, over 5,000 to sanitation network and over 26,000 to power supply through to need-based connection operations.
- g) *On the commercial level*, recovery rate is 92%. Administrations adopted an approach to help them monitor consumption and reduce unpaid bills; overall customers enquiries have multiplied.
- h) *On the ethical level*, Amendis implemented an ethical purchase policy: suppliers are audited to confirm that they are in compliance with the labor code and the group's security and quality policies, in particular.
- i) *Economic sustainability*: a rate equalization system was established between the energy and water supply, because electricity has a better return on investment, which allows for investment in sanitation service.
- j) *Knowledge transfer*: a "Veolia Morocco" campus was set up near Rabat to train personnel in sanitation techniques; further training and co-supervision of a professional degree from three universities are provided. The valorization of sanitation occupations seeing success and desirable candidates are now seeking enrollment.
- k) *Local collaboration*: all of the stakeholders (the State, Wilaya, civil society, Amendis) met to discuss the issue of the need for a rate increase, a decision which was made immediately (doubling the rate in Tetuan, to align it with the tariff applied in Tangiers). Multiple meetings organized by the delegate and the delegating authority helped resolve

problems and obtain consensus from local populations. Within six months, the problem was settled. Today the recovery rate is good.

What are the persisting difficulties?

l) land constraints: access roads to NDHI districts, which are often located on city outskirts or even in rural areas need to be opened, and most of the land is privately owned and becoming more and more expensive. This often results in the blocking of need-based connection operations. Coordination between municipalities and other public services is fundamental with regard to this issue.

m) since public service is delivered by a private operator, there is a constant need for communication.

n) industrial dumping has not yet dealt been with (legislation is behind schedule).

o) financing: the household must pay the total cost, which is high, in spite of available aid (loads, solidarity fund). One possible solution is to find new funding to subsidize connections (Output based aid, public development aid, Bill Gates Foundation, etc.).

I.2. Casablanca (Lydec)

The context

The delegating authority is made up of the urban municipalities of Casablanca, Mohammedia, and Aïn Harrouda, along with some rural districts. Approximately 4 million inhabitants are served by it. Demand for water and power is increasing: growth in consumption shows an increase of 4% annually.

The contract

A 30-year contract was signed on August, 1 1997. It includes three elements: water supply, sanitation service, and power supply. In addition, LYDEC¹ has been managing public lighting in the urban municipality of Casablanca since January of 2004, and in Mohammedia since June of 2005.

In the concession contract, the delegating authority remains owner of the infrastructures. Infrastructures financed by the delegate are also the property of the delegating authority, and the delegate manages the services at its own risk. LYDEC is merely a supplier, and therefore purchases water and power; these purchases represent 70% of sales.

- rate policy

Average annual rates are set in the contract. They are automatically adjusted when the purchase prices of drinking water or electricity change, and depending on changes in the economic situation.

- anti-flood plans

Following flooding in 1997, numerous investments were made for the prevention of such disasters, including the creation of overflow channels for the western collector and the El Maleh Mohammedia overflow canal, and the establishment of a central monitoring office with three different areas of expertise: water, power supply, and sanitation. Monitored levels are higher than those required by the authorities.

¹ Lydec's shareholders are mixed. Suez owns 51% of shares and Moroccan shareholders 49%, of which RMA Watanya holds 15%, and the Caisse de Dépôt et de Gestion holds 20%.

Assessment

In eight years, the number of power outages has been reduced fourfold, and the time it takes to restore customers' electricity after an outage has been reduced by a factor of three. Response and intervention time have been reduced and a customer service center has been opened. Customers are better received, branch offices are friendlier and more accessible, and waiting time has been drastically reduced through ticketing and reconfigured opening hours.

Lydec has developed close communications with customers through a quarterly magazine, *Lydec & Vous* (Lydec & You), which is complemented with institutional communications via television, radio, and the press.

Users are happy with these improvements. A March 2006 customer satisfaction survey shows 93% user satisfaction, against 50% in 1997.

Lydec is also involved in the community through education, social initiatives, water conservation, slum electrification, literacy programs, and the Aquassistance Maroc program.

I.3. Casablanca NHD (National Human Development Initiative)

Project to supply water, sanitation, and power to underserved areas

In Casablanca, the population living in insalubrious housing conditions is estimated at 180,000 households, according to the Ministry of Housing. Of these, 20,000 households live in legal housing, such as *médina* style or working-class districts, and 160,000 live in irregular housing situations.

The sites for which the National Human Development Initiative is responsible shelter the 160,000 households living in irregular housing, which can be broken down as follows:

- 10,000 households already connected to utilities,
- 13,000 will be the responsibility of the Ministry of Housing, within the framework of re-housing programs (in existing apartment buildings) and relocations (lots with the necessary amenities granted to households for home construction, which they will do themselves).
- 137,000 households should gain access to power, water and waste water treatment through to the Lydec's NDHI-Iame program over the next four years.

The number of persons per household is counted as 5.5, which corresponds to the latest 2005 Census figures. Lydec's NDHI-Iame program is therefore responsible for approximately 800,000 people in Casablanca.

The overall objectives of the program are listed below:

- Provide access to essential services for people living in insalubrious housing (water and sanitation services, hygiene)
- Opt for maintaining rather than relocating populations
- Integrate the districts within an overall development plan for Casablanca
- Progressively regularize land status to spread a modern land-owning system.

For many years, Lydec has been seriously involved in connecting insalubrious homes to the water supply and to waste water treatment. Difficulties arose from the fact that Lydec only operates contractually, in regulated housing; however, the greatest need is found in irregular districts. The NDHI program has allowed Lydec to work in these new fields.

The NDHI Convention

The covenant was implemented under His Majesty's patronage. Its budget is 2.4 billion Dhs (approx. €240 million). Micro-credit is not used because interest rates are too high (18%), and local banks are willing to make loans at ordinary rates, which are much lower (4%); however, micro credit may then be used in the local development support phase. In the NDHI Convention signed in September 2005, the number of households to be connected was estimated to be 125,000, but the current census actually counts 160,000 households (see above paragraph). There is, therefore, a significant lack of information and figures.

Lydec is looking for 700 million Dhs in donations (approx. €70 million) and is currently approaching several organizations for funds including the European Union, the World Bank, the Bill Gates Foundation, and decentralized co-operation². There is currently a project with Western Union to mobilize expatriates funding (sponsorship by geographical zone), another project with the mosques, and a business citizenship program sponsored by the Duars. The latter was awarded \$3.5 million by the World Bank.

Assessment

In 2006, 16,000 households were the subject of operations, (47,000 people in over 37 operations), the first of which are now emerging. This example shows that the private sector can play a role usually delegated to the public sector.

The NDHI follows a "bottom up" approach - in a country used to very "top-down" approaches. Discussion takes place at the local committee level, and the proposals are taken to the governor, who acts as a link between the Wali and the local representatives, and who provides directives to be followed.

The mobilization of all actors is a major factor for success. However, standardization and industrialization of both works and studies that could reproduce this work at a larger scale remain difficult.

Within Lydec itself, *Maîtrise d'Ouvrage Social* (social contracting) is a new dimension which takes populations' precise needs and their capacity to pay into consideration, and informs inhabitants about best practices for using services, and, beyond that, about local development. Size (50 out of 150 people mobilized by the project) is vital the operation's success.

² A conference will be held in France in 2007 to address the issue.

I.4. Fez (RADEFF)

The initial context

The city of Fez, with 1 million inhabitants, is a UNESCO World Heritage site. It dumps 100,000m³/day of untreated waste liquid, causing 40% of the pollution in the Oued Sebou River. The Sebou basin, with 6 million inhabitants, is the most important water supply in the country, with 30% of the nation's surface water supply and 20% of its subterranean water supply, but it is also the most polluted. The repercussions are disastrous for irrigation, cattle grazing, health and socio economic conditions; direct and indirect losses amount to approximately 200 million Dhs per year.

Sanitation service management has been entrusted to RADEFF (The Fez Independent Public Water and Power Company), a public corporation that is both socially and commercially oriented.

The service

- the solution

Lagooning is not a well-adapted solution. A more appropriate solution is the use of biologically active mud. The biogas produced may then be recovered for electricity production. This allowed the program to be classified as a CDM (Clean Development Mechanism), giving it improved visibility.

- financing

Sanitation in Fez cost €70 million Euros: subsidized loans from the AFD and the EIB, state subsidies, and self-financing from the RADEFF itself.

- Preliminary operations :

- network restructuring and eradication of open air dumping from old collectors.
- industrial de-pollution (treatment of black liquor)

In 1996, a loan from the WBG and the AFD enabled the rehabilitation of 70 km of the water network, auxiliary works and the pre-treatment plant.

Assessment

The city of Fez has suffered extensively from water shortages. After 1991, the drinking water master plan made solving this problem with the public company its number one goal. Since 1995, shortage problems have been solved, the entire city is connected, and water is delivered continuously.

While output remains insufficient (57%) payment rate is high (more than 90%), which shows users' satisfaction. FODEP and the Sebou water agency subsidize up to 60% of industrial de-pollution investments. On the technical level, everything is ready – only the social aspect remains to be solved.

Progress

- Treatment Project: feasibility and impact studies have been completed, financing is completed, a call for tender is being prepared.
- industrial de-pollution project: the feasibility study was approved by the oversight committee, all industrial actors have signed a contract committing to carry out the necessary pre-treatment by 2007-2008. The contract was thus the occasion to begin regulating industrial depollution.

II. TUNISIA

II.1. Drinking water (SONEDE)

The context

With a renewable water resource of 484 m³ per person per year, Tunisia ought to be suffering from a chronic water shortage. The country, however, Tunisia suffers from neither economic nor structural shortages – either of which would be unacceptable to the people. This is due (i) to the relatively small percentage of drinking water in the total demand for water (13%), and (ii) to major investments made to mobilize the resource (dams and reservoirs). Notwithstanding, some problems remain:

- 600,000 people out of 10 million do not yet have access to the water supply. Investments required to meet the needs of this 6% of the national population, are significant – but necessary to meet to meet Millennium Development Goals.
- Need is growing. Rapid urbanization that began in the 1950's (the urbanization rate grew from 25% in 1946 to 70% in 2006) gave rise to a rapidly increasing demand for drinking water, and continues to do so.
- Salinity limits the available offer (desalinization in any case being a limited solution).
- Above all, the resource is not used as efficiently as it should be; in particular, many services go unbilled.

The service

- the operator

The National Water Distribution Utility (SONEDE), set up in 1968, is an industrial and commercial public establishment, responsible for water production and supply across Tunisia. Under the authority of the Ministry of Agriculture and Hydraulic Resources it manages 11 sewage treatment plants in 37 districts.

- Rate Policy

The rate system distinguishes five rate categories (in m³ consumed) per quarter: 0-20, 21-40, 41-70, 71-150, and 151 and over. A nationally applied rate corresponds to each category. Such a system of solidarity is necessary due to the inequalities in water resources between the North and the South. Those who consume less than 20 m³ per quarter pay the “social rate” (but should their consumption exceed this rate category, its sum total is billed at a higher rate). The goal of such a rate system is twofold: first, it seeks to limit water consumption, and second, to establish a kind of social justice. It offers support for small consumers and is unrelated to income, and large families with low incomes may be excluded from the “social rate.”

A slight over-charging of the industrial and tourist sector helps to compensate for charging users this “social rate.”

- Delegation to the private sector

The delegation of services to the private sector is gradually being implemented in certain areas. The national authority maintains control but may delegate plant management to a private company.

Assessment

Water production has increased from 90 million m³ in 1968 to 400 million m³ today. The number of municipalities connected to the water supply grew from 204 to 2,600. Storage capacity is significant, and the length of the distribution has reached 29,000 km. SONEDE delivers water to 100% of the urban population, and to 40% in rural areas, where another operator provides the same service (*la Division Générale du Génie Rural*, the Rural Engineering General Division, which is gradually being replaced by SONEDE); the operator, which began in the major cities, is now installing facilities all over the territory, including, most recently, rural areas. Overall output increased from 67% in 1968 to 78% today. As for water quality, 50,000 analyses per year monitor the water's bacteriological quality, which in 98% of cases proved to be in compliance with Tunisian and WHO standards³.

SONEDE's successful public management is due, in particular, to:

- strong political will: since its independence, Tunisia has implemented a social project aimed at encouraging (i) the emergence of an open-minded, educated, and modern middle-class, and (ii) creating inter-regional balance, social equality, and national solidarity;
- communities' inability to manage services after independence. In 1968, the government decided to entrust services to a single public operator as part of a national water policy. A State Secretariat for water resources centralizes and coordinates all the activities related to water. This has allowed SONEDE to employ high-quality, multi-skilled personnel in sufficient numbers –7,000 employees.

The recentralisation of skills after independence (since the majority of experts had left the country, those who remained had to be regrouped) did indeed constitute the best-adapted solution for country's size and needs. Through recentralization, skills have been gathered, an equalization system has been set up and a continuous national and local water management system has been achieved. Moving to public-private management could be considered as a complementary next step.

In such a context, what does “integrated water management” mean? It involves:

- p) a national water policy (legislation, strategies and scenarios for resource allocation, coordinated action plans for both the country as a whole and for catchment areas);
- q) transparent financing monitoring mechanisms, follow-up in all transparency;
- r) and governance and control mechanisms that guarantee resource managers' accountability.

In this respect, Tunisia has succeeded in implementing an integrated water supply management.

³ SONEDE is currently working on ISO 17025 certification for its Central Laboratory

II.2. Sanitation service (ONAS)

The initial context

ONAS is the public operator responsible for sanitation service management in Tunisia. Before its establishment in 1974, several areas had no wastewater collection networks, and only a few municipalities were equipped with functional sewage treatment plants. The country suffered from serious sanitary problems. The government decided to set up a public body exclusively responsible for sanitation service, which would function as its own legal entity with financial autonomy. ONAS's missions are fighting water pollution, building, managing, and operating sanitation services, and selling by-products. It operates in cities that fall within the scope of the decree that established it.

The service

- Cost recovery

Sanitation service fees cover 60% of operation costs, 10% are covered by local community funds, and 30% by state subsidies.

35% of the investment was financed by the state, and the rest was financed with loans, donations or other sources.

- Rate system

It follows two principles, the “polluter pays” principle and the principle of social solidarity. Private users' rates are divided into 5 rate categories and industrial users' rates depend on the pollution they emit. An equalization system is established by overcharging tourism hotels and the manufacturing industry to private users' benefit. But the definition of the lowest income category is not very accurate, since 70% of the population fall into the category, calculated at 0-40 m³; revenues derived from the fees paid by this rate category represent only 5% of total revenues, while the category consumes 30% of delivered water. ONAS is implementing a new and more reliable rate system for better more accurate social targeting to ensure the service's financial sustainability.

Assessment

12,000 km of piping have been installed. Between 1974 and 2006, \$1 billion has been invested, half of it between 2002 and 2006. Today, of Tunisia's urban population of 6.5 million, 5.3 million people are connected. Rural areas included, the national connection rate of the population 55%. 3 million people living in rural areas are not yet connected (but individual solutions should not be excluded, for instance, septic tanks, for which ONAS is not responsible).

There are still several challenges to be dealt with:

- s) Technical challenges: ONAS is seeking new, lower cost technologies that consume less energy (all costs should be borne by the operator itself for the long term – hence the importance of the state's role); and solutions adapted to smaller cities and rural areas. This also requires the preparation of master plans for each governorate, and, on a higher scale, for each catchment area in order to take into account both the rural context and the urban context.
- t) Financial challenges: the size of existing infrastructures is not adapted to the growing demand, and the current rate system weakens financial equilibrium.

u) Regulatory challenges: new calls for tenders from the private sector, focus on means, rather than on results. But incentives should be found to induce the private sector to increase its participation. Today, 1,500 km of piping and eight stations are under private-public management the maximum term of a public-private management contract is five years, which is not sufficient to appeal to private operators. Contracts whose terms run a minimum of 7 years should be awarded.

III. ALGERIA

III.1. National situation

The initial context

- A succession of reforms

Between 1962 and 1970, water and sanitation services management was mostly undertaken by municipal authorities (régies communales), by some inter-municipal operators and some private companies (Algiers, Oran, southern towns.).

In 1970, when it was observed that municipal water service capacities were insufficient, and that service quality was going down, the State created SONADE, the national drinking and industrial water company entrusted with a monopoly on water production and distribution across the country. Sanitation service remained the responsibility of municipalities.

Setting up quickly proved difficult. First, the deadline the state had set for the takeover of municipal facilities and services was far too short and did not take into account the necessary transition stages studied and defined when the reform was launched. Furthermore, the creation of the company was opposed by the municipalities themselves.

Three years later, responsibility for distribution was formally withdrawn and returned to the municipalities. Management of production facilities remained the company's only mission. The sectors problems, however, were far from solved. Indeed, population pressure only served to aggravate them.

In 1983, SONADE was dissolved and replaced by 13 regional water supply and production firms that served the whole country under the supervision of the Ministry of Hydraulics.

In 1987, a new reorganization of the sector reduced the number of regional firms supervised by the Ministry of hydraulics to nine, and set up 26 Wilaya (province) companies supervised by the Ministry of the Interior. The nine regional firms served the country's conurbations, while the 26 local companies operated in the small and medium-sized towns of the Wilayas. However, the sanitation service remained the responsibility of 950 municipal treatment companies.

It should be noted that responsibility for water and sanitation services management were maintained, in spite of several attempts at centralization on the local and regional level. In principle, this allowed problems to be addressed more efficiently, and gave some assurance of local actors' active participation.

However, the number of management bodies, the diversity of their statutes and supervisory responsibilities, and above all the great discrepancies in resources and capacities made monitoring and regulating the sector very difficult.

- unsatisfactory results

From 1962 to 2001, public water services were characterized by:

- A series of attempts to restructure which did not help to produce a stable organization able to generate an efficient financial, technical and management policy.
- Responsibilities that at times conflicted with one another
- Greater concern on the part of the public authorities for investment than for management
- Weakening of the control and quality water and treatment management services.

The response

In 2001, the public authorities made the decision to reorganize the sector by regrouping and integrating all public, regional, Wilaya, and municipal companies into two national companies: **the ADE for drinking water and the ONA for sanitation service**. The reform was based on the following objectives:

- putting an end to disorganization in the sector
- implementing as strategy for the rectification and planning that would guarantee sustainable development of water distribution through a public services
- bringing all operators up to date
- encouraging the development of partnerships with national or foreign operators. Indeed, since 1996, the Water Supply Code has authorized “the private sector to participate in the development of the sector as a concession operator” (see the 1996 law modifying the law of 1983. The law was improved in 2005).

Intervention by the ADE, while it was not central, brought some management improvements to the sector.

There is no question that centralizing responsibility for water and sanitation services across the country (even if it is not yet complete) has brought order to a heterogeneous sector divided amongst numerous institutions (ministries, Wilayas, municipalities).

However, in spite of notable improvements in some towns and regions, performance by the ADE and ONA is still far from attaining the objectives set for them.

Water service quality is still insufficient in a many cities where distribution is still intermittent. Management’s technical and financial performance is improving very slowly.

Public authorities, seeking to rapidly and radically change the quality and efficiency of the management of these services, decided it would be helpful to call on the experience of international companies working in public-private partnerships for the management of public water supply services.

In 2006, the first public-private partnership was launched, and water and sanitation service management for the conurbation of Algiers was entrusted to a public company, SEAAL, which is a subsidiary of ADE and ONA and is managed through a contract with Suez-Environnement. Under the contract, Suez-Environnement provides executive and technical personnel, personnel training and knowledge transfer for a period of five years.

The Ministry of Water Resources is currently extending this type of partnership through international calls for tender from specialized companies for the management of water services in the conurbations of Oran, Constantine and Annaba.

The organization of partnerships for these cities is essentially the same as that of Algiers. The private company commits to manage the drinking water and sanitation service in these cities and their urbanized perimeters in a five year contract signed with an ADE and ONA subsidiary (SPA).

This solution will be extended to 10 other medium-sized towns in the near future. The development of this strategy should ultimately result in a new de-centralization of the management of the drinking water and urban sanitation sector.

Assessment

- drinking water supply management

At this stage, ADE has taken over former regional firms with competence in 22 wilayates (provinces), but only manages 350 of the 810 municipalities located within them. EPEDEMIA are still present in the 26 remaining wilayates, but is only managing 258 out of their 831 municipalities.

In fact, three out of five municipalities are in direct charge of their own drinking water supply. These are small communities which often do not have sufficient management resources available to them.

- sanitation service management

ONA, which should be taking over management of all wastewater collection networks and wastewater treatment facilities is currently present in only a few conurbations, and manages only a few sewage treatment plants.

Water treatment plants' current capacity is 4.1 million inhabitant-equivalents, or 423,000m³/day, but currently, only 183,000 m³/day (67 million m³) are treated, about 10% of the overall volume of waste water produced.

- population supplied

In spite of institutional problems, the connection rate has increased as shown in the table below. The dip observed in 1998 seems to be essentially due to a fall in population growth.

Item	1966	1977	1987	1998	2005
Population (1,000 inhabitants)	12012	16948	22714	29272	33000
Connection to an AEP network (%)	37.1	45.8	57.8	70.8	79.0
Connected population (1,000 inhabitants)	4458	7762	13129	20725	26070
Connection to treatment network (%)	23.1	39.9	51.7	66.3	75.0
Connected population (1,000 inhabitants)	2775	6643	11743	19407	24750

The total population managed by ADE, EPEDEMIA, and the municipalities is currently approximately 28 million, for a total of 1,600 billion m³ produced per year. That is a gross figure of 156 l/i/d.

- loss level

Nevertheless, overall losses may represent up to 45% of volume produced, broken down to 31.5% physical losses and 13.5% commercial losses.

These figures give an idea of the magnitude of efforts to be undertaken, both technically, for renovation and repairs of networks and facilities, and in terms of financial and commercial management.

- service quality

A survey carried out by the drinking water Division of the Ministry of Water Resources, in the last quarter of 2002, shows that less than 10% of Algerians have uninterrupted access to water. 50% have a daily service with frequent cuts and the population remaining population is supplied every two to seven days.

The situation has improved since 2002, which marked the end of a major drought.

The proportion of urban areas where water service is only guaranteed every 2 or 3 days has significantly diminished. Nevertheless, round the clock supply is still limited to 9% of conurbations.

III.2. Water and sanitation in Algiers

The initial context

- Technical background

At the beginning of a contract, water production facilities and networks were in a state of extreme technical deterioration, with broken-down motors and extensive leakage. 30% of inhabitants received water every two days or less, and in the city center, water was supplied daily between 6:00 am to around 8:00 pm.

As for sanitation service, the treatment rate was at just 5%. Networks were not cleaned, and pumping stations were clogged with sand. The lower part of the town flooded whenever it rained. Employees had few tools, few means of transport, old and inadequate networks accessories.

As for customers, about 200,000 subscribers did not appear in the database, a third of water counters were blocked, and 25% of inhabitants paid for their consumption in lump sum payments. Many connections were illicit. Late payments represented a year's worth of sales.

- the main motivations behind the choice of management mode and operator

Very probably, the 2003 drought, when water supply was drastically rationed, followed the dramatic mudslide in Bâb El Oued, have definitively convinced the government to take efficient steps to resolve this situation.

The Algerian administration has often taken inspiration from the French model. Therefore, the delegated management mode in which services are delegated to a private company was the alternative selected to make progress in public service improvement. There were a number of impediments, however, including the absence of accurate maps and statistics, the extremely high investment required, the plethora of personnel employed in water and sanitation services, the political price of water service, questions raised about political change in the country, which did not allow a private operator to commit without foreseeable difficulties.

As a result, Suez Environment and the Algerian State (with the Ministry of Water Supply Resources as the main motor for the project) managed to define the new "business model" below:

- Establishment of SEAAL, (a 100% Algerian company, under Algerian law, with Algerian financing, which was held as a subsidiary in equal parts by ADE and ONA) in charge of the delegation of the public services of water and sanitation in the Wilaya of Algiers (52 municipal districts and 3.5 million inhabitants).

- Following an over the counter call for tender of services by ADE and ONA, Suez Environment committed to making thirty some managers and experts available to SEAAL (including a CEO) to run the company, to provide the most modern tools available, and to transfer knowledge, and finally, to implement a continuing education policy to bring all 3,800 employees up to standard.
- The contract was signed for a five year period, during which the Algerian State undertook to invest 200 million per year, year of which 60 were intended for SEAAL (outside of the Suez Environment contract), and 140 for major equipment such as water (desalination) plants, transfers, sewage treatment plants, and other essential feeders or collectors.
- Finally, in order to ensure market equilibrium, Suez Environment in particular committed to ensure that water be supplied to all Algiers residents 24 hours a day within 3 and a half years of the contract's signature.

A genuine public private partnership for the public service can only be envisaged once the contract expires.

- the people's expectations

Expectations are very high. Currently, it is still difficult to make people understand that certain amount of time is necessary before any results are obtained. Worksites undertaken by the Ministry that guarantee this resource, if there is no delay, will only be operational in the summer of 2008, which is still far off, given the looming risk of drought.

The contract

- actions carried out since the start of the contract are listed below :

- organization of infrastructure (buildings, computerization, cabling), setting up of transversal services related to setting the company up (financial and administrative division, human resources, communications, existing facilities, technical division, etc.), implementation procedures,
- technology improvement (technological choice are SEAAL's responsibility. As a result of its proximity to France, French and European contracts are common. Furthermore, Suez Environment also undertook to allow SEAAL access to their purchasing network)
- on the field, water and sanitation operations and customer relations departments have been set up.

The project has been launched in all fields, following initial provisioning in equipment, gate renewal, miscellaneous accessories, electrical supply stations, searches for leaks, and procedures and mechanisms.

Three types of training were set up:

- executive or higher manager training provided with contracts (100 training days in France).
- technical training for all personnel. Three general training programs have started (back office, safety, general round the clock), and many more are being prepared.
- "behavioral training" for change. At the end of the first year, all the executives will have been involved in this first phase.

There is no specific training for local authorities who, nevertheless, follow new team's work with action plans and expert reports that are communicated to them on a regular basis.

- constraints

The two main difficulties are the following:

- Remobilizing staff as a whole (motivation, change, valorization),
- Persuading opponents of the project (internal and external) - who believe they would have received money now allocated to SEAAL - that policy, a methodological approach, and a management mode are all needed for the enduring success of the operation.

- resource management

For fear of a drought period some provisions have been put in place to anticipate any water shortage, in particular, an accelerated renovation plan for boreholes in Mitidja in order to save water from the Atlas dams. Within two years, following works reception, this mechanism should be inverted in order to allow the Mitidja water table to build up, for it is currently overused (for drinking water but above all for farm irrigation). In the mean time there are no other alternatives.

- coordination amongst the different stakeholders

Various bodies ensure information is communicated perfectly where it is needed (Ministry of Water Resources, ADE, ONA, the Wilaya and its Hydraulics Division, National Dams and Transfers Agency, National Irrigation Office.). There are no representative associations in Algiers (nor NGOs) which can be considered as trustworthy interlocutors.

- project financing

Owing to resources currently generated by the price of hydrocarbons, Algeria has not sought associated financing with regard to this operation.

- rate policy

A national rate is fixed by the Ministry of Water Resources.

Low prices have voluntarily been set, as SEAAL receives annual subsidies. The cost of water, including sanitation, is 28 DATTC/m³ for 80m³ per year, bearing in mind that water supply share is 6 DAHT/m³ and the annual fixed part corresponds to 15DAHT/m³.

Users get 4 bills per year. Bills are sent with a small insert that communicates of simple information about as water quality, waste, etc.

Assessment

Within 9 months of contract, the first results can be seen:

- 300,000 more inhabitants benefit from round the clock water supply
- Major cleaning has started (fewer floods)
- Systematic search for leakage (50,000 m³/day already found).
- Census operations begun
- Medium to long term operations launched (directive plans)
- ...and much more.

If assessing a population's level of satisfaction is difficult, it is nevertheless an observable fact that there are fewer articles on water shortages and frequent cuts in the press.

Given the price, services seem relatively accessible.

It is still too early to assess improvements in agents' skills.

Nevertheless, this kind of business model is attractive to private companies only on the short term, and if the outcome is a sustained public service delegation contract and a win-win situation for both contracting parties

IV. MIDDLE-EAST

IV.1. Tripoli (LEBANON)

The initial context and financing

In 1993, at the end of the civil war Lebanon requested aid from France. An audit undertaken by Suez uncovered a disastrous situation in water agencies: lack of economic knowledge, low level of skills, huge debt, technical and management problems, discouraged personnel, etc. In 1999, the AFD agreed to make €20 million subsidized loan to the Lebanese State⁴ in order to improve services and network management. €11 million Euros were devoted to infrastructures and €9 million to the operator. Since the Lebanese regulatory framework prohibits private sector intervention for the water supply, the State had to pass a law (L401) authorizing the government to allow the private sector to management services within the context of an "associated management" contract. This new concept better represents the reality than the existing names ('delegated management', or 'management contract' in Algeria). It helps obtain an agreement from a government previously hostile to partnership with the private sector.

The contract

It took four years to prepare the contract The call for tender was launched in 2002, and the contract began in 2003. It was an associated management contract signed for four years with municipality of Tripoli (400,000 inhabitants) – an associated contract, because personnel retain their status as public employees, and rules of public management are followed. The contract covers three activities, all exclusively in the field of drinking water: water supply operation and production, service management, and project management.

Assessment

The assessment is positive on the technical level. New treatment facilities were financed by BEI (novel treatment methods were introduced, such as chlorination for water disinfection). Leak repairs led to the lifting of rationing which established during the civil war. Counters were installed to measure what entered the network. A survey of individual consumption was undertaken in order to assess people's needs. Analytical accounting software was introduced. Network mapping allowed lead to assets to be inventoried, and an assessment was made of the investment required (leakages repairs, and so on) and project management work was undertaken (network extension and rehabilitation, computerization of services).

⁴ The loan is reimbursed by taxpayers and not by the water supply bills paid by households.

The assessment is equally positive on the commercial level. There had been no customer management. Suez set up a customer care and follow-up service (invoicing), and provided information to the client (explanatory leaflets with bills, subscription rules, emergency phone numbers). The number of consumers needed to be recounted. Many people who had moved or died during the fighting, or whose homes had been destroyed were still counted as subscribed customers. At the outset, many questions were asked, but since then the number of requests has stabilized.

Assessment is equally positive on the *financial level*. Payment recovery doubled (from less than 30% to over 60%), which shows users' satisfaction. Recovery of the previous debt (particularly power bills) has started. Currently the rate covers operations (excluding Ondeo personnel charges) and small repairs. The balance is still fragile and is maintained through an AFD loan. Nevertheless, a portion of the rate is currently being used to pay for the previous debt. Once the debt has been paid funds will be available to reinforce the service's financial equilibrium.

From a *human* viewpoint the assessment is positive: a important endeavor with respect to personnel training accompanied the Office's computerization (which had just four computers in 2003!).

Difficulties encountered came from:

- Administrative blockage for the Lebanese administration, which was not really convinced of the relevance of such a contract
- Political problems: the supervisory committee was composed of former personnel of the Office
- Management problems: Ondeo is obliged to follow the rules of the public sector
- The magnitude of the debt (the Office was not paying its power bill).

IV.2. Amman (JORDAN)

The initial context

The context found out by Suez was more or less similar to Tripoli's: Amman suffered from strict rationing; network leakages meant that output was low; bills were largely unpaid; networks were not maintained; personnel were discouraged, etc. There was no culture of customer service – the administration was supposed to be a universal provider, a feature common to all the Middle-East:

The contract

Network rehabilitation and service improvement was financed by the World Bank. A management contract for to water and sanitation services was signed in 1999, and extended twice. The operator LEMA is the result of a partnership between Suez environment and MWHAJ, a local operator.

Assessment

Employee incentives in the form of bonuses, computerization, and the development of a customer service culture were the principal challenges. Much time was devoted to

personnel training (130,000 training hours). As in Lebanon, analytic accounting – which does not exist in the public service – was implemented.

The result was a drastic reduction of repair time, with customer relationships developed at the same time; customers are kept informed by text message (rapid and low-cost), up to 50% of water counters were replaced, and water quality has been improved

Nevertheless, difficulties persist:

iv) Contrary to Tripoli, rationing has not been lifted (which creates technical problem: when water is restored, counters also count air in the pipes that is forced out by incoming water).

v) In spite of (many) repairs, network output does not exceed 72% (while the contract requires 80%). The network may be too old or the counters may be of poor quality or poorly regulated; lack of water billing can also be explained by way of illegal connections. Hence the impression of a ceiling that can never be broken through.

w) It is necessary to undertake a total evaluation of existing facilities, but with a longer contract time as in Casablanca (where there is a master plan for 20 years, which allows optimization of network renewal). The long term is more economical. Service sustainability is a sensitive issue: the contract expires in December 2006, following two extensions. The question remains, what will happen next?

IV.3. Alexandria (EGYPT)

The initial context

- water resources

The Nile is the main source of drinking water in Egypt. The Nile Waters Treaty signed between Egypt and Sudan in 1959 limited the share of water available to Egypt to 55 billion m³ per year, which makes Egypt the biggest consumer of water from River Nile. Though this may seem abundant, it remains fixed, in spite of the fact that the Egyptian population is increasing by one million inhabitants a year. One of the country's mounting challenges is therefore reducing its dependence on the river (by modifying modes of consumption or developing resources) in order to avoid water shortages. All the more so given that these accords did not include Ethiopia, whose water needs are also increasing, and which may one day question past accords.

While the major part of the Egyptian territory is located in a desert climate, Alexandria enjoys a relatively high level of rainfall of around 200mm per year, which has been used throughout history to fill city's famous cisterns.

- old or insufficient infrastructure

Most often, precipitation takes the form of storms and is thus play a negative role in the water supply due to a lack of adequate piping and to the absence of a sufficient sanitation system to serve the city as a whole. Indeed, instead of contributing to the production of drinking water supply, storms spread pollution linked to human and industrial activities in this densely populated region (c. 5 million inhabitants). Waste water infiltrates the drinking water network, which completely out of date in most parts of the city.

Tap water has not been considered potable for a long time.

- sanitation service, a priority for the public authorities

At the end of the 1970s, the Egyptian authorities realized the magnitude of the problems in terms of both public health and coastal pollution. Indeed, wastewater from all kinds of sources was dumped into the Mediterranean without being retreated. Major efforts were made both institutionally and to find sponsors in order to raise the necessary funding.

- the modernization of water management

Prior to 1860, there was no public drinking water service in Alexandria. In 1860, two companies, one French and the other an Egyptian multinational, were entrusted with the production and distribution of drinking water. The Egyptian government bought back the French company in 1867, and the Egyptian company in 1879, then sold both companies to an English corporation before nationalizing the Alexandria water company in 1968.

In 1971, the government made the decision to decentralize the management of water and sanitation services. Production and distribution of drinking water, as well as collection, were then entrusted to Alexandria Water Authority (AWA) while the Alexandria General Organization for Sanitary Drainage (AGOSD) inherited responsibility for the implementation of a sanitation policy. Both entities were placed under the control of Alexandrian government, and no longer under that of the Ministry of Housing and Public Services.

But their autonomy in terms of decision-making and finance is limited. Revenue from water users covers just 25% of costs, and state subsidies cover the rest.

The response

Following the Yom Kippur War in October of 1973, Egypt received favorable attention from sponsors because of its positive role in the peace process. Thus, since 1978, USAID donations have permitted part of the infrastructure, some 200 km of sewers, to be renovated, and sewage treatment plants to be built, located principally in the east part of the town. Since 2000, thirteen out of the fifteen collectors which dumped sewage directly into the sea have been closed.

France, Germany and BEI undertook the construction of a sanitation system in the western part of the city (Mex and Agami). The projects, launched at the end of the 1980s, were the subject of in-depth studies and were carried out in close collaboration with Egyptian authorities, but a number of difficulties were encountered.

Institutional instability, multiplying actors, and a lack of coordination among them were all handicaps. Following de-centralization in 1971, the Egyptian Government placed sanitation service in Alexandria under the control of the Ministry of Housing and Urban Services (NOPWASD).

Then, under pressure from sponsors and in order to modernize service management, drinking water and sanitation services were reorganized in 2004. The administrative bodies that managed water and sanitation services became semi-public companies, under the control of a national “holding company.”

The AWA has thus become the Alexandria Water Company (AWCO). Its new statute gives it broader autonomy; for instance, it can apply for loans and make investments. Its goals are to improve efficiency and productivity by reducing losses, to improve technologies, and to transition personnel management to the private sector. AWCO organizes training programs for its employees so that they have optimal mastery of new water production and management technologies. 94 employees have attended training sessions in the United States, Greece, the Netherlands, Germany, and Italy.

A new rate was implemented as described in the table below:

	User category	Tariff
1	Households	23 piasters for consumption lower than 20 m ³ 25 piasters for consumption between 20 - 60 m ³ 35 piasters for consumption higher than 60m ³
2	Civil works and construction companies	80 piasters
3	Youth centers, sports clubs, trade unions (75% reduction)	60 piasters
4	Mosques and authorized associations (50%)	42 piasters
5	Non-authorized Associations	48 piasters
6	Major social clubs	100 piasters
7	Firms, private schools, petrol stations, industries, mills	80 piasters
8	Private hospitals , first class hotels, investment firms	115 piasters
9	Businesses	70 piasters

This rate allows for equalization amongst the different categories of users. The rate is higher for tourist activities (first class hotels), private hospitals, business, manufacturing industries and investment companies than for households. Mosques and associations (other than the trade unions and sports clubs) benefit from a preferential rate which remains higher than households'. Equalization has also been established amongst households: big consumers (>60m³) subsidize smaller ones (<20m³).

Under the supervision of the Ministry of Housing, Services, and Conurbations, a regulatory body was set up, the "Central Authority for the Drinking Water and Sanitation Sector, and the Protection of the Consumer," which is responsible defining and implementing the quality standards and controlling water prices.

Assessment

Assessment is nevertheless mitigated.

Projects in central and eastern Alexandria have been completed. Coastal pollution has been reduced, thanks to the closing of collectors, but it remains a problem. Certain toxic waste products still filter through blocked canals (such as the Mahmoudeya canal), and some industries continue to dump their untreated waste water, particularly into the Rade Aboukir River, which is biologically dead.

On the other hand, in the western part of the city, projects have faced a number of difficulties: as a result of a political choice, pricing does not cover operating costs, which discourages both investors and sponsors. Some, such as BEI and KFW, have made this a condition for funding, demanding that a rate be implemented that would ensure that the cost of sanitation service cost be covered in the price of water and that operating costs be covered by rates.

The Egyptian government has made the decision to reject all investment offers, including those whose conditions were less demanding. Instead, it used a reorganization of its ministries as an opportunity for institutional restructuring, and set up a new authority, the Cairo Alexandria Public Water Organization (CAPWO), whose goal is to decrease the cost of these projects cost reduction without changing rate distribution.

APPENDIX 3: Evaluation Guide

1) Performance Measurement Indicators for operators:

Service	Field	Indicator
Water supply	Continuity (quantity and quality)	Number of hours of water distribution per day per district (formal and informal) (h/day)
		Bacteriological analyses conformity rate (%)
	Condition of existing facilities	Network leakage rate and unrecorded water supply (%)
Sanitation service	Collection Level	Rate of connection to the waste water collection network (regular and irregular housing)
		Volume of direct dumping into the sea
	Pollution control and treatment	Waste water treatment rate (%)
Common (with distinct value for each service)	Users satisfaction	Claims Rate (%)
	Price	Price depending on households' standard of living (by income, by quantity of water consumed, or by district)
	Bill collection	Rate of unpaid water bills (n-1) on 31 Dec. year n
	Cost recovery	Share of revenue from fees for the recovery of maintenance and operation costs

Indicator Description:

Indicator:	Water supply number of hours of water distribution per day per district (formal and informal)
Definition:	Average number of hours of water distribution /day/district
Measurement frequency:	Annual
Unit:	hours/day
Comments:	This indicator gives an idea of the service continuity by district, including irregular housing.
source:	Technical service

Indicator:	Bacteriological analyses compliance rate
Definition:	Number of bacteriological analyses in compliance / Total number of bacteriological analyses per year carried out by the monitoring sanitary authority.
Measurement	Annual

frequency:	
Unit :	%
Comments :	This indicator assesses water supply conformity to potability criteria (defined by the Ministry of Mealth or the WHO)
source:	Technical service

Indicator:	Network leakage rate and unrecorded water supply
Definition:	[Volume calculated at house level - (Volume of air in the pipes before filling when there is no round the clock water supply * average number of cut-offs or restorations)] / Volume supplied calculated at departure from water towers.
Measurement frequency:	Annual
Unit:	Leakage rate is expressed as %, average volume in m ³ /day, the number of service cuts is a daily average
Comments:	When water is not continuously delivered, counters sometimes also measure the air exiting the pipes. This may represent rather significant quantities over the long run, and it seems important to integrate an estimate of this volume in the calculation.
source:	Technical service

Indicator:	Rate of connection to the waste water collection network (regular and irregular housing)
Definition:	Number of houses connected/ Number of houses counted
Measurement frequency:	Annual
Unit:	%
Comments:	
source:	Technical service

Indicator:	Volume of direct dumping into the sea (m3)
Definition:	Average volume of waste water dumped into the sea without treatment
Measurement frequency:	Annual
Unit:	m3/day
Comments:	
source:	Technical service

Indicator:	Waste water treatment rate (%)
Definition:	Volume of collected and treated waste water before dumping / Total Volume of waste water dumped (treated and untreated)
Measurement frequency:	Annual

Unit:	%
Comments:	
source:	Technical service

Indicator:	Price relative to households' standard of living (by income, by quantity of water consumed, or by district)
Definition:	Price /m3 /income range or price /m3/consuming category or price /m3 /district
Measurement frequency:	Annual
Unit:	Country currency /m3
Comments:	The objective is to indicate the price and the rate adjustments implemented
source:	Financial Service

Indicator:	Rate of unpaid water bills (n-1) on 31 Dec. year n
Definition:	Unpaid bills in year n-1/number of bills issued in year n-1
Measurement frequency:	Annual
Unit:	%
Comments:	Other expenses (works, etc.) are excluded
source:	Financial Service

Indicator:	Share of revenue from fees for the recovery of maintenance and operation costs
Definition:	Revenues from fees/ maintenance and operation costs
Measurement frequency:	Annual
Unit:	%
Comments:	
source:	Financial Service

2) Self-assessment and shared assessment test for public authorities:

The following rate table can be filled out for a particular public service or for a set of services (water supply and waste water treatment). Each answer should come with a detailed assessment of the exhaustiveness of governance in place at the time of the test.

Questions	Answers		
	yes	somewhat	no
- Government objectives and regulatory framework			
Is service improvement and its extension one of the government's priorities?	2	1	0
Is water and sanitation policy totally integrated into a global planning & development policy?	2	1	0
Is contracting with a public or private operator authorized or encouraged?	2	1	0
At the national level, is there a regulatory framework fixing overall public service objectives, standards to be met, and controls to be carried out?	2	1	0
- Public control			
In the case of public management, is there an operational separation between public authorities responsible for service management or organization and those responsible for assessment and control?	2	1	0
Are service levels and goals to be achieved by public or private operators clearly defined by the responsible public authority?	2	1	0
Is the operator accountable within a discussed and formalized framework?	2	1	0
Is there an effective control of results?	2	1	0
- Implication of all actors /democratizing existing facilities			
Are local authorities involved?	2	1	0
Are employees consulted? Is there a profit sharing system?	2	1	0
Are users associated, consulted or involved when important choices are made?	2	1	0
- Implementation and management capacity			

Are there specific training programs for public authorities (drafting policies, diagnoses, program definition, contractual negotiation, etc.)?	1	0,5	0
Are there management training programs for executives?	1	0,5	0
Are there training programs for technicians?	1	0,5	0
- Quality and efficiency			
Are there indicators to measure performance covering the whole of activity?	2	1	0
Were those indicators drafted in cooperation with the different stakeholders?	2	1	0
Are the results of these performance indicators published?	1	0,5	0
Are employees and users surveyed on a regular basis?	2	1	0
Is there a collection/follow up/response system for claims by users and the public?	2	1	0
- Rate system			
Do rate revenues cover at least service maintenance and operations costs?	2	1	0
Are rates adjusted?			
Are rates adjusted?	1	0.5	0
If yes, do adjustments take into account:			
- the quantity consumed by each individual /household?	1	0.5	0
- income?	1	0.5	0
Is there targeted aid?			
Is there targeted aid?	1	0.5	0
If yes, is targeting of beneficiaries partly based on income?			
Is there targeting of beneficiaries partly based on income?	1	0.5	0
Are there other kinds of aid for the poorest?			
Are there other kinds of aid for the poorest?	1	0.5	0
- Management mode and operator choice			
Is the choice of management mode based on preliminary diagnoses or comparisons and evaluations based on representative indicators for the different problems to be solved?	3	1 to 2	0

- Objectives, means, schedule specifications			
Have the goals to be achieved been determined according to a definite and realistic schedule and by taking into account available means?	3	1 to 2	0
Final Score			
<i>On a scale of 0 to 48</i>			
Profile			
0 to 16:	Too low		
17 to 32:	Average		
33 to 48:	Good		

APPENDICE 4: Composition of the Working Group

Chairman:

Claude Martinand

*President, French PPP Institute
Vice President, Conseil Général des Ponts et Chaussées*

Working group Members:

Pierre Beckouche

*Professor, Paris I University
Scientific Consultant, Economic Prospective
Institute for the Mediterranean World*

Mohammed Benblidia

*Honorary President, Mediterranean Water
Institute*

Guillaume Benoît

Director, Blue Plan

Saverio Civili

Director, MED Pol

Benoît Cliche

*Head of Development in North Africa, Veolia
Water*

Amendine Duc

Trainee, Suez Environment

Mohamed Ennabli

President, Mediterranean Water Institute

Sara Fernandez

PhD student, ENGREF

Jean-Louis Guigou

*Executive Director, Economic Prospective
Institute for the Mediterranean World*

Alain Henry

Infrastructure Department Director, AFD

Arab Hoballah

*Head of Consumption and Sustainable
Production, UNEP/DTIE*

Marie-Joëlle Kodjovi

Project Manager, French PPP Institute

Jacques Labre

*Head of Institutional Relations, Suez
Environment*

Xavier Maître Robert

Senior Water Adviser, Aquafed

Jean-Louis Millo

*Director of International Co-operation, Water
International Office*

Patrick Philip

President of the Scientific Council, Hydrotop

Jean-Claude Séropian

Technical Manager, Lydec

Jean-Marie Tétart

President Consultant, French PPP Institute

Gaëlle Thivet

Project Manager, Blue Plan

APPENDIX 5: Officials heard

Nadia Abdou

Chairperson, Alexandria Water Compagny

Néjib Abid

*Head of Planning Department, Tunisian
National Sanitation Office*

Mohamed Ali Khouaja

President, Tunisian National Water Company

Christian Desprès

*French Ministry of Transports, Equipment,
Tourism and Sea*

Nicolas Fornage

Project Manager, Rabat AFD Agency

Olivier Gilbert

*Sustainable Development Director, Veolia
Water AMI (Africa Middle-East India)*

Abdelkader Hamdane

*Executive Director, Rural Engineering
Division, Ministry of Agriculture, Tunisia*

Claude Jamati

*Water and Sanitation Institutional Expert,
World Bank Institute*

Jan Janssen

Program Manager, World Bank Institute

Attia Khelil

*President, Tunisian National Sanitation
Office*

Mohammed Meziani

*Head of Sanitation Department, RADEEF
(Fez)*

Philippe Odièvre

Executive Director, LEMA

Gilles Pipien

*Sustainable Urban Development Adviser,
World Bank Marseille*

Jean-Claude Tourret

Executive Director, Mediterranean Institute

Martine Villars

*Project Associate Manager INDH/Inmae,
planning and management projects, Lydec*