



USAID | EGYPT
FROM THE AMERICAN PEOPLE

WWSR II

TECHNICAL ASSISTANCE TO THE W/WW SECTOR

Water Wastewater Sector Policy Reform Project II

USAID Task Order No. 263-M-00-05-00053-00, as amended

End of Contract Report
September 2009



CH2MHILL

In association with AAW, FINBI, PADCO

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Acronyms, Abbreviations and Definitions

AGOSD	Alexandria General Organization for Sanitary Drainage
AM	Asset Management
ARE	Arab Republic of Egypt
AWGA	Alexandria Water General Authority
CAA	Central Auditing Agency
CAD	Central Agency for Development
CAOA	Central Agency for Organizational Administration
CAPEX	Capital Expenditure
CAPW	Construction Authority for Potable Water and Wastewater
CD	Compact Disk
CDPSP	Central Department for Private Sector Participation
CGOSD	Cairo General Organization for Sanitary Drainage
CIP	Capital Improvement Program
CTO	Cognizant Technical Officer
CWC	Cairo Water Company
DCWASA	District of Colombia Water and Sewerage Authority
EAU	Economic Analysis Unit
ERP	Early Retirement Plan
EU	European Union
EWRA	Egyptian Water and Wastewater Regulatory Authority
FY	Fiscal Year
GIS	Geographic Information System
GOE	Government of Egypt
GOGCWS	General Organization for Greater Cairo Water Service
GPOBA	Global Partnership on Output-based Aid
GTZ	German Agency for Technical Cooperation GmbH
IT	Information Technology
KfW	<i>Kreditanstalt für Wiederaufbau</i> (German Agency for Financial Cooperation)
Laiha	By-law
LIRR	Legal, Institutional, and Regulatory Reform (USAID-funded project)
MARS	Monitoring, Analysis and Reporting System
MDF	Mechanical Dewatering Facility
MHUUD	Ministry of Housing, Utilities and Urban Development
MHUUC	Ministry of Housing, Utilities and Urban Communities (former name of MHUUD)
MIS	Management Information Systems
MUA	Multi-attribute Utility Analysis (methodology)
NARUC	National Association of Regulatory Commissioners

NIB	National Investment Bank
NOPWASD	National Organization of Potable Water and Sanitary Drainage
NPV	Net Present Value
NUCA	New Urban Communities Authority
O&M	Operations and Maintenance
OBA	Output-based Aid
OPEX	Operations and Maintenance Expenditure
PDF	Project Development Fund
PEA	Public Economic Authorities
PPP	Public – Private Partnerships
PRiSM	Project Information Systems Management
PSP	Private Sector Participation
RFP	Request for Proposal
SIDA	Swedish Aid Agency
UAS	Unified Accounting System
UFW	Unaccounted for Water
USAID	United States Agency for International Development
VB	Visual Basic Programming Language
W/WW	Water and Wastewater
WWSPR	Water and Wastewater Sector Policy Reform Project (2003-2009)
WWPR	Water and Wastewater Policy Reform Project (2008-2012)
WWSS	Water and Wastewater Sector Support Project (2008-2012)

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Executive Summary

At the beginning of 2004, the Holding Company for Water and Wastewater (HCWW) and the Egyptian Water and Wastewater Regulatory Authority (EWRA) did not exist. There were 14 economic water authorities charged with providing potable water and wastewater treatment services on an economic basis. Those 14 economic authorities had accumulated an operating deficit of LE 7.6 billion and an accumulated debt of LE 7.3 billion. In addition:

- The 14 economic authorities were overstaffed
- Governors managed the water utilities within each governorate for the technical performance, but they were not held accountable for financial performance
- Only the Alexandria Water Authority and the Beheira Company were achieving 100% O&M cost recovery

After many years of investment that did not bear the desired fruit, donors were leaving the sector. The remaining few donors were considering withdrawal when ongoing projects finished.

On April 27, 2004 the President of the Republic issued decrees 135 and 136 forming the HCWW and EWRA respectively. These decrees revolutionized the sector: introducing economic and service level regulation and forming commercially oriented water and wastewater companies under the leadership of the Holding Company.

These two decrees caused a major restructuring of the Egyptian water sector and represented the core achievement of many, including the USAID WWSPR project.

**Richard Rousseau, Office Director,
Productive Sector, USAID**

March 12, 2009

USAID has invested \$13.5 million in WWSPR. Over the years, USAID has invested almost \$4 billion in the water sector – which represents the single largest investment of USAID in Egypt

Reform has not been easy but through joint efforts we overcame obstacles – some of them expected and some of them not. We should all be proud of what we have accomplished. We did it as a team of USAID, HCWW and CH2M HILL.

Now, with WWSS and WPRR, it is important to build on the successes and lessons learned of WWSPR.

These decrees resulted in:

- ✓ Formation of a Holding Company and transformation of utilities into “Law 203” companies. This change resulted in increased autonomy for utility management. Utility managers no longer have to secure authorization for organizational and staffing changes from the Central Agency for Organizational Administration (CAOA). Nor do they have to adhere to Egyptian Procurement Law 89 for 1998.
- ✓ A Holding Company which was charged with providing better supervision of the utilities. Prior to reform utilities had no performance improvement programs, no setting of objectives and no evaluation of performance against benchmarks. The Holding Company was enabled to take an active role in management of the utilities: carefully tracking the financial and cash status of each of the utilities; taking an aggressive stance on tariff increases and pursuing solutions to production, transmission and metering problems, all of which impact utility revenues.

- ✓ Formation of a sector regulator , bringing a more objective approach to service quality and tariff adjustment, the new regulator was empowered to make tariff recommendations based upon careful study and analysis of utility historical performance and future projected needs. This should lead to an increased ability to defend tariff decisions and gain public support.

Since issuance of the 2004 decrees, the achievements and progress have been significant:

- ✓ Accumulated debt was restructured and removed from the balance sheets of the subsidiary companies
- ✓ A tariff increase was granted to the Cairo Water Company
- ✓ In 2006, as an indication of the confidence of Government, the Holding Company was directed to take over management of water and wastewater functions in the new communities and to corporatize the remaining governorate water departments. As of the date of this report, 23 companies have been corporatized.
- ✓ Donor involvement rose dramatically due to improvements in management of the sector – to the credit of HCWW’s aggressive management of water and wastewater services to citizens.
- ✓ The Holding Company can now compute and report to Government the annual subsidy required by the sector.
- ✓ Potable water has been provided to 1,000 additional locations.
- ✓ The Ministry of Education offers a diploma program for water and wastewater technicians which improves the availability of qualified staff

WWSPR II supported the Holding Company and its subsidiaries as they grew into commercially oriented enterprises as follows:

- ✓ All companies are being managed through a system of performance indicators
- ✓ For the first time master plans have been prepared for every water service area in the country
- ✓ 14 companies have developed five year financial plans
- ✓ 18 companies are routinely sending financial, technical and water sampling data to the Holding Company through MARS
- ✓ Computerized accounting systems were introduced and implemented in eight utilities
- ✓ Overstaffing is being addressed through hiring freezes and the requirement for centralized approval of hiring proposals
- ✓ 1.7 million domestic meters have been procured and sent to the subsidiary companies; most importantly three local companies are now manufacturing domestic meters to Holding Company specification
- ✓ During the fiscal year of 2006-07, eight of the original fourteen companies achieved 100% O&M cost recovery; two more are recovering more than 90% of O&M costs
- ✓ All companies operate 125 and 175 customer hotlines; complaints are received and solutions tracked
- ✓ HCWW provides a platform to replicate reforms and improvements; the stronger companies are helping others.
- ✓ Monthly meetings of subsidiary chairmen in the Holding Company are a forum to discuss problems and find solutions as well as to report successes.

WWSPR II has worked with the Holding Company and the subsidiaries to implement a number of systems and tools that support its ability to manage and improve performance:

Computerized Accounting: these systems, installed in 8 subsidiaries, improve the analysis of revenue and expense data by cost center and the generation of timely financial statements. Information can be compared effectively among departments and companies.

Organization Development 8 companies now have effective organization structures with a good assessment of staffing needs.

**Dr. Abdelkawi Khalifa, Chairman of HCWW
March 12, 2009**

Our goals are to improve management and financial stability. We have two more companies to go and then we will cover the whole country.

We need to decide how to sustain the WWSPR activities so we can continue to benefit from now on.

“We deeply appreciate the support that USAID and CH2M HILL have given to the Holding Company and the sector”

Five Year Financial Planning: the companies are now able to test the impact of today’s decisions on tomorrow’s results, determining the magnitude and timing of the tariff increases and cost controls that will achieve cost recovery.

Monitoring, Analysis and Reporting System (MARS): MARS enables the subsidiary companies to transmit technical and financial performance data online; both the Subsidiary companies and the Holding Company have timely access to information for decision-making.

Performance Indicators: using this system, the Holding Company is able to compare performance among the subsidiaries and the companies are able to analyze their own performance.

Asset Management: this system has been introduced in four companies with the objective of optimizing lifecycle costs of infrastructure assets taking into account acceptable level of risk and delivery of desired levels of service.

Plant Assessments and Improvement Plans: this initiative has found a number of ways to improve quality or reduce costs in 275 water and wastewater treatment plants.

Information Technology: improved communication and data management systems allow company management to make better decisions and improve performance.

Public Awareness: this initiative has made the public aware of sector issues as well as promoting key messages like water conservation.

Program Management: the program management system enables the Ministry of Housing to better manage cost and schedule of over 2,500 capital projects.

Targeting Poverty System: enables Ministry of Housing to monitor and track projects by 12 ministries implemented under Targeting Poverty Program.

Public-Private Partnership: WWSPR has worked closely with the MHUUD to study the feasibility of public-private partnerships as a way to attract sector financing. Every USAID project makes progress and the next ones build upon it. WWSPR project has made special efforts to make achievements and systems available to the Holding Company, the subsidiaries and to the USAID financed WWSS – valuable information that can help all succeed on the road to effective management and financial viability. The systems and tools built by WWSPR II provide such a foundation.

USAID Projects in Egypt – Events heading up to WWSPRII

Infrastructure Building

USAID has provided almost \$4 billion in assistance to the Egyptian water sector during the last twenty-five (25) years. This effort began with the building and renovation of water, and wastewater treatment infrastructure in 1980. Throughout the 1980s, construction management services were provided - primarily to the Governorates of Alexandria and Cairo. Early in the 1990s, construction services were extended to other parts of the country.

Institutional Strengthening

By the early-1990s, USAID concluded that in order to protect its investment in infrastructure, utility institutional strengthening services had to be provided. This effort was aimed at strengthening the ability of utility management to operate and maintain new infrastructure. During the 1990s, institutional strengthening assistance was provided to the Cairo water and wastewater authorities, the secondary cities, Middle Egypt utilities, The Suez Canal Authority, the Canal Governorates (Suez, Ismailia and Port Said) and the Alexandria water and wastewater authorities. These projects brought training, equipment, spare parts, tariff analysis, public education and operations and maintenance improvement.

Sector Reform

LIRR I and II

Based upon initial results of these institutional strengthening efforts it became clear that improvements at the local utility level could not be fully realized without sector reform at the national level. Therefore, in 1998, USAID awarded a 2 year contract for the Legal Institutional Regulatory Reform (LIRR) project. That project, which was extended for an additional 2 years, worked on the following:

- ✓ A draft law creating a water sector regulatory authority
- ✓ The analysis of tariff needs in a selected group of utilities
- ✓ The development of plans and studies for concessions and management contracts in a selected group of utilities.

WWSPR I

The third phase of the USAID sector reform strategy began on June 23, 2003 when USAID and CH2M HILL signed a task order for the provision of technical assistance services to the Ministry of Housing, Utilities and Urban Communities (MHUUC). The project entitled “Technical Assistance for Water and Wastewater Sector Policy Reform” (WWSPR I) provided assistance in four areas: utility regulation, privatization transactions, corporatization and capital financing strategies and Management Information System (MIS).

During the course of WWSPR I¹, the Holding Company for Water and Wastewater was formed and began actively managing the 14 subsidiary companies established by Law 203. The foundations for the Egyptian Water and Wastewater Regulatory Authority (EWRA) were put into place including facilities and management information systems.

Exhibit 1.1 Presidential Decrees of April 27, 2004

Decree 135: Establish the Holding Company for Water and Wastewater (HCWW) and transform the fourteen largest utilities into subsidiaries

Decree 136: Establish the Egyptian Water Regulatory Authority (EWRA)

Exhibit 1.2 Decree 135 (full text included in Appendix L)



WWSPR II

On September 22, 2005, USAID and CH2M HILL signed task order, effective October 1, 2005 to September 30, 2007 with an option to extend until September 30, 2008. This project was entitled “Technical Assistance for Water and Wastewater Sector Policy Reform II” (WWSPR II) and aimed to operationalize the new regulatory agency, the Holding Company and its subsidiary companies. WWSPR II builds upon the accomplishments of WWSPR I.

On September 14, 2006, modification 2 to the WWSPR II contract was executed. This modification provided additional assistance to

the Holding Company and MHUUD, extended the project through the option period (September 30, 2008) and further extended the project performance period to March 30, 2009. The scope of work for the modification also included extending technical assistance to additional subsidiaries of the Holding Company, adding Program Management assistance to MHUUD, and performing two Public-Private Partnership feasibility studies. WWSPR II project was headed by CH2M Hill and was implemented with team of consultants from Ahmed Abdel Warith (AAW), FINBI and PADCO. The total value of the WWSPR II contract was US \$ 13,593,920.00.

¹ WWSPR timeframe: June 23, 2003 to September 30, 2005

Organization of the Report

This report is the last in the series of monthly and quarterly reports submitted by the project team. The objective of this report is not to produce the detail provided in the monthly and quarterly reports, but to provide an overview of project requirements, the achievements of the project and the issues and challenges remaining at the end of the project. The report is organized as shown below:

- Section 1 provides details on the components of the WWSPR II program.
- Section 2 summarizes progress by agency: MHUUD, EWRA, the Holding Company and the subsidiary companies.
- Section 3 provides detailed accomplishments by project component and sub-tasks.
- Section 4 lists provides summary of procurements made for the Ministry, EWRA and Holding Company
- Section 5 provides details about the project close-out workshop
- Section 6 provides recommendations and thoughts for future work in the sector
- Appendices (included under separate volume)

This is necessarily some overlap in the material presented in sections 2 and 3.

Appendices to this report contain a significant amount of information that is applicable across agencies and component tasks. The information that is common to many of the tasks is included in the following appendices:

Appendix E: listing of deliverables sorted by Component and Task.

Appendices F: detailed listings of the training courses and study tours conducted by the project. Report section for Task E.3 discusses the development of these programs.

Appendix H: Subsidiary Company Profile summarizing basic (Holding Company and subsidiaries) including that includes official names, contact information, establishment date and statistical data.

Thanks to advances in of technology, WWSPR II has taken innovative steps in terms of knowledge management:

- ✓ The WWSPR project Website (<http://www.wwspr.com>) is a ready source of information for public and staff. It also includes links to the Holding Company and MHUUD sites.

Section 1.0 WWSPR II Project Components

WWSPR II project components are summarized in Exhibit 2.1. Appendix A provides the contract language for each component and its sub-tasks.

Exhibit 2.1 WWSPR II Project Components		
	Description	Objectives
A	Support to operationalize the Egyptian Water/Wastewater Regulatory Agency	Staff EWRA, implement the performance monitoring, benchmarking, utilities certification systems, tariff rate application system including the electronic tariff analysis model and design of a new w/ww tariff rate structure
B	PSP Transaction, Promotion and Negotiation Support to the Holding Company and its Subsidiaries	Assist Holding Company to identify selected subsidiary companies which could outsource functions to the private sector and to develop strategic alliance with the private sector
C	Corporatization Support	Assist the Holding Company with Financial Planning, establishing the creditworthiness of four pilot subsidiary companies and Organizational Development (Amendment 2 extends this objective to all w/ww subsidiaries.
D	Assist the HC to improve the commercial focus of the subsidiary companies through effective management and leadership	Assist the Holding Company to implement financial and technical monitoring systems, establish centers of excellence, install cost accounting systems at subsidiaries, rationalize staffing, enhance revenue generation and conduct public awareness programs
E	Assist the HC to Upgrade Technical Operations in the Subsidiaries	Provide technical assistance to subsidiary companies, implement a utility performance monitoring system and a training program
F	Management Information Systems for the EWRA and the Holding Company	Implement fully functional management information systems, provide training and assist in developing databases
G	Draft and assist MHUUC to secure passage of a law regulating the water sector	Draft law to legitimize the HC as the responsible organization for water and wastewater services in the country and assist in securing Parliamentary approval
H	Coordinate with other donors	Coordinate activities; produce additional studies to investigate targets for opportunity, unforeseen organizational issues & management systems/models as directed
Amendment 2		
-	Amendment 2, Task 1	Extend technical assistance to 9 Governorate water departments (see Exhibit 2.2)
I	Program Monitoring System Amendment 2, Task 2	Program monitoring unit at MHUUD with hardware, software, systems and procedures
J	Amendment 2, Task 3	Study the feasibility of a PPP for potable water in New Cairo
K	Amendment 2, Task 4	Study the feasibility of a PPP re-use solution for the effluent from the Abu Rawash wastewater treatment plant

Exhibit 2.1 WWSPR II Project Components		
Amendment 7		
I	Targeting Poverty Project	Provide technical assistance, equipment and training through the Program Monitoring System

The initial stages of WWSPR II focused on providing assistance to the first 14 subsidiary companies that were formed from existing economic authorities (Exhibit 2.3).

Exhibit 2.3 14 Companies formed by Presidential Decree 135
<ul style="list-style-type: none"> ✓ Alexandria Wastewater ✓ Alexandria Water ✓ Aswan ✓ Beheira ✓ Beni Suef ✓ Cairo Wastewater ✓ Cairo Water ✓ Damietta ✓ Daqahleya ✓ Fayoum ✓ Gharbeya ✓ Kafr EL Sheikh ✓ Minya ✓ Sharqeya

Exhibit 2.2 9 Governorate departments became companies during WWSPR II
<ul style="list-style-type: none"> ✓ Assiut ✓ Giza ✓ Luxor City ✓ Marsa Matrouh ✓ Menofeya ✓ North Sinai ✓ Qena ✓ Red Sea ✓ Sohag



Section 2.0 Agency Progress

This section summarizes project achievements at each counterpart agency: Ministry of Housing, Utilities and Urban Development (MHUUD), Egyptian Water and Wastewater Regulatory Authority (EWRA), the Holding Company for Water and Wastewater (HCWW) and the subsidiary companies.

This section focuses on how the agencies have changed as a result of the WWSPR projects. These changes are best told from the agency perspective, at a high, sector reform level.

Ministry of Housing, Utilities and Urban Development (MHUUD)

- ✓ MHUUD was the direct counterpart for the WWSPR II reform effort. Starting in 2005, the original WWSPR II contract and amendment 2 included the following tasks which directly affected MHUUD.

Water Sector Law

The Minister of Housing formed a High Committee by Ministerial Decree 124 for 2006 which then formed a subcommittee to draft a law for its consideration under the High Committee decree 176 for 2006. The WWSPR II project assisted in review of the draft law and made recommendations including identification of 30 articles that are essential to provide EWRA with necessary authority to regulate the sector. Based upon this project review, the number of articles in the draft law was revised to 83.

MHUUD decided that the legislation would ultimately be most effective if it were based on a sector policy framework. With support from GTZ, MHUUD formed the Policy Advisory Unit to help develop sector policy. Depending on the timing of the development of this policy and the training of the drafting of the law there may be an opportunity for policy to impact the development of the law.

Donor Coordination

The Presidential decrees of 2004 resulted in beginning donors back into the water and wastewater sector. The WWSPR project was in a unique position to provide assistance in attracting donors: every donor mission interested in sector reform met with the WWSPR team. WWSPR shared background information and data with all the donor representatives. Notably, all donor projects drew upon the performance indicators and five year financial plans produced during WWSPR. The WWSPR II project was very active with donors, holding over 75 meetings on various topics.

Program Monitoring System

The annual capital investment budget for the Ministry of Housing is in the neighborhood of LE 16 billion divided over nearly 2,500 active projects. The Minister of Housing realized that it was not possible for the Ministry or the agencies to effectively control these projects or plan for the future using existing monitoring systems and processes. As a result, the Ministry asked USAID to provide assistance in

introducing more effective systems and processes for improved management of capital projects.

The WPRR project provided assistance in several different areas including: organization, systems and training. To begin with, the project helped to establish a Program Management and Evaluation Unit at the Ministry level and Agency Program Control Units at each of five MHUUD agencies: NUCA, CAPW, CAD, NOPWASD and at the Holding Company. WWSPR II assisted in staff selection, preparing job descriptions and providing training. Staff in these units received training in portfolio management, key stakeholder communications, project life cycle, project chartering, risk management, project controls and change management.

While these units were being established and training was taking place, WWSPR put the Project Information System for Management (PRiSM) in place. This system consists of a suite of integrated applications that work together to provide project tracking and reporting functionality. PRiSM provides management reports covering the Cost Performance Index (CPI), the Schedule Performance Index (SPI) and actual costs to date. A comprehensive PRiSM user manual was developed for use by the agencies.



Based on the successful implementation of program monitoring system (PRiSM) and upon request by the Ministry, a similar monitoring system (PROTAP) was developed to track, monitor and report on construction and social projects implemented under Targeting Poverty Program. The system was developed and implemented for phase I of the program covering 6 governorates and 151 villages. As of the report date, almost 500 different projects were tracked in the system implemented by 12 different ministries.

PPP Studies

New Cairo is a fast growing new community located southeast of Greater Cairo. The area is expected to have large future potable water requirements. The Ministry of Housing requested the assistance of USAID in assessing the feasibility of a PPP project for the construction and operation of a regional water treatment plant which would serve New Cairo and surrounding areas.

The WWSPR II project conducted a comprehensive feasibility study as a preparation for a PPP transaction. Construction, operation and maintenance cost estimates for the proposed water treatment plant were developed using the CH2M HILL proprietary cost model, factoring in current Egyptian market prices. Capital expenditure for the project was estimated at \$ 516 million and operations expenditure was estimated at LE 190/1,000 m³ for the first operating year at full capacity.

The financial analysis indicated that the Net Present Value (NPV) of investor bids would range between LE 1.1 and LE 1.3 billion, resulting in a cost to the Government of LE 0.43 per m³. This analysis also indicated that, assuming a 3% annual escalation of tariffs, the Government would have to subsidize one third of cost of the concession or approximately LE 500 million over the life of the project. Taking into account the

transaction size and PPP structures which have proven attractive to private sector investors, the study team recommended a thirty year Design- Build-Operate-Transfer (DBOT) project. The findings of the study were reviewed by WWSPR II team, in collaboration with representatives of the Holding Company, GOPP, NUCA, and CAPWO. Based on the review, GoE decided to provide public funding for the project and not pursue PPP option further.



A second PPP study was conducted to assess feasibility of the re-use of effluent from Abu Rawash treatment plant. The Abu Rawash wastewater treatment plant, the larger of two plants serving Greater Cairo's West Bank, is being expanded to provide primary treatment for 1.2 million cubic meters of effluent per day (m³/d), the anticipated flow volume by 2015. The expansion will alleviate the current situation whereby nearly

half of the daily flow of 875,000 m³/d is discharged without any treatment into the agricultural drainage network. Even with the expansion, the Abu Rawash WWTP will not be in compliance with GoE environmental standards for safe municipal wastewater disposal (Law 48/1982). The only permitted disposal of primary treated wastewater is land disposal for cultivation of industrial oil-producing plants such as *Jatropha*, industrial fiber-producing plants and hardwood trees.

The study examined whether the private sector could bear the investment and operating costs of 'legal' disposal of Abu Rawash effluent, either by land disposal on a plantation growing crops permitted to receive Class C wastewater, or by providing secondary treatment and growing crops permitted with Class B wastewater. A clear finding of this study is that there are no feasible options for the reuse of the primary treated effluent. The Abu Rawash Treatment Plant must be upgraded to secondary treatment.

Egyptian Water and Wastewater Regulatory Authority (EWRA)

As indicated earlier on April 27, 2004, Presidential Decree 136, entitled “Establishment of the Egyptian Water Regulatory Authority (EWRA)” was issued. Between April 2004 and September 2005, WWSPR I provided assistance in building the foundation for EWRA:



- ✓ EWRA office building became operational in September 2005
- ✓ Awarded a contract for MIS hardware and software; custom-developed comprehensive MIS software package
- ✓ Developed draft organization structure, proposed staffing plan, assisted in development of job descriptions and recruitment of qualified staff
- ✓ Provided training to staff, and created financial and personnel bylaws (laihas)
- ✓ Developed an electronic financial planning and tariff model with a user manual; provided guidelines for the development of cost of service tariff studies; comprehensive guidelines on national tariff structure
- ✓ Drafted documents to support the EWRA Mission (Exhibit 3.2.1)

Exhibit 3.2.1 Documents Supporting EWRA Mission	
<ul style="list-style-type: none"> ✓ General Conditions for Granting a Certificate of Operations for Providing Water or Wastewater Services (Utility Certificate of Operations) ✓ Certification Manual ✓ Rules and Regulations for Utilities ✓ EWRA Internal Procedures ✓ EWRA Financial Procedures 	<ul style="list-style-type: none"> ✓ EWRA Personnel Procedures EWRA Performance Monitoring System and Benchmarking ✓ Tariff Development Guidelines ✓ EWRA Organization and Functions ✓ Uniform System of Accounting ✓ Operating Budget ✓ Regulatory Audit Manual

EWRA Organizational Development

WWSPR II built upon foundation work done by WWSPR I project. During the later project, WWSPR contracted with a local management consultant to the review the EWRA organization structure and provide organization development services. The results of this effort included the following:

- ✓ An organizational chart reflecting the new recommended structure, along with a separate chart for each general department
- ✓ Functional responsibilities for each general department
- ✓ Thirty - six (36) job descriptions
- ✓ Fourteen (14) process maps in Microsoft Visio format
- ✓ Ten (10) Standard Operating Procedures (SOP) in Microsoft Visio format
- ✓ Public communication strategy and communication plan report
- ✓ ISO documentation including a Quality policy, Quality Manual, Document control procedure, Records control procedure, Internal audit procedure, Corrective/preventive action procedure, and Non-confirming service procedure

The next step in organization development for the EWRA was training on a number of topics to develop the skills staff would need to effectively play their roles. The training program included English language training, technical training to perform treatment plant assessments, and training in financial and cost accounting systems. Two study tours were organized for EWRA management. The first was to the UK

where meetings were held with officials of the UK water sector regulatory, OFWAT. The second sent three managers to the 25th International Training Program on Utility Regulation & Strategy. (Organized by the Public Utility Research Center of University of Florida).

WWSPR staff assisted the EWRA Executive Director and his staff with tariff analysis studies, the writing of a draft of water law, public awareness programs writing reports on water quality simply and analysis and organizing board meetings:

The WWSPR Public Awareness Specialist provided assistance to EWRA in developing the following:

- ✓ The first EWRA newsletter.
- ✓ The first Annual Report 2007-2008
- ✓ EWRA headquarters internal and external signs.

Management Information Systems Development

At the beginning of WWSPR II, EWRA had a basic management information system (MIS) that was populated with financial data from FY 2002 and 2003. The key modules of the MIS were as follows:

- ✓ Utility financial and technical information database
- ✓ Performance monitoring module
- ✓ Customer affairs management
- ✓ Docket management
- ✓ Multi-dimensional analysis and reporting
- ✓ User-defined charting and reporting
- ✓ Geographic analysis option

WWSPR II developed a number of information systems that will prove useful to EWRA when it is fully authorized to do performance monitoring, benchmarking and utility certification. It is important to note that these systems are intended for use by EWRA, the Holding Company and the subsidiary companies and will facilitate analysis and exchange of reliable information. The systems include a five year financial planning model, performance indicators and cost accounting. WWSPR II built upon the MIS developed during WWSPR I by providing training in the use of the systems and supervision over implementation which included full data input, and reporting.

The WWSPR II MIS team worked with EWRA to build its website, developing content, linkages and required information. EWRA staff have taken charge of website development which, when completed, will be available on www.ewra.com.eg.



Holding Company and Subsidiary Companies

WWSPR I provided support for the newly formed HCWW which resulted in the following accomplishments:

- ✓ First meeting of the Holding Company General Assembly held in August of 2004 and appointment of the Board of Directors, Chairman and the Deputy Chairman
- ✓ Articles of Association for the Holding Company and subsidiary companies drafted, reviewed and approved by the respective Boards of Directors.
- ✓ MHUUD decree requiring the involvement of the Holding Company in the planning, construction and turnover of all new plants developed for the subsidiary companies
- ✓ Holding Company offices established on Talaat Harb Street in September 2004
- ✓ Holding Company strategic plan developed.
- ✓ Performance monitoring reports submitted by 14 companies.
- ✓ US Study Tour to the DCWASA Blue Plains wastewater treatment plant and participation in a World Bank water conference.
- ✓ Implementation of an accounting package for financial administration including payroll, personnel, accounting and fixed asset modules.
- ✓ HCWW website designed.
- ✓ Pilot projects at Cairo Wastewater, Cairo Water, Kafr El Sheikh and Sharqeya conducted that focused on
 - Performance indicators
 - Public-Private Partnerships
 - Capital project ranking
- ✓ Economic Analysis Units (EAUs) formed in Subsidiary Companies.

The scope of work for WWSPR II was designed to continue building the organizational and management capacity of the Holding Company and to implement the recommendations that resulted from the pilot studies.

Holding Company Corporatization

Established as commercial companies, the HCWW subsidiaries are charged with becoming financially independent. WWSPR II provided technical assistance to Holding Company and subsidiary companies in a number of areas to assist in achieving these objectives:

Financial Planning

WWSPR II worked with HCWW to establish an Economic Analysis Unit (EAU) at each subsidiary company that has responsibility for five year financial planning and performance indicator reporting.

To assist in this task, WWSPR II developed an automated Arabic, customized model for five year planning. The first version of the new model was pilot tested at the Cairo Water, Beheira, Gharbeya and Kafr El Sheikh companies.

With the financial model fully tested, WWSPR worked with the Economic Analysis Units at each company to roll it out the new system and provided training to users. The training provided by WWSPR II has enabled EAU staff to work independently on the model. After the training, WWSPR staff continued to provide implementation support.

WWSPR cost accounting work helped companies to generate reliable and accurate data for financial modeling. Fourteen companies completed their five-year financial planning process and some of them have utilized the plans as the basis for their budgets.

Private Sector Participation Support

All of the subsidiary companies have financial constraints and need to find ways to attract private sector financing. WWSPR II assessed the feasibility of self-financing PPP projects and recommended contracting with the private sector for specific services. Each of the areas identified provides the opportunity to enhance revenues, decrease costs and improve customer service and satisfaction.

Private Sector Participation (PSP) analysis focused on two areas:

- 1) identification of outsourcing possibilities within the subsidiary companies like: customer surveys, reading meters, installing, maintaining, and replacing meters, collections, leak detection and network repair,
- 2) Assisting the Holding Company to establish strategic alliances with the private sector.

WWSPR II worked with USAID and the Commercial International Bank of Egypt (CIB) to promote a Development Credit Authority (DCA) program to encourage local financing of the water and wastewater sectors.

WWSPR II also prepared a standard toolkit of prequalification, bidding and performance based contracting documents for the subsidiary companies to use in outsourcing operation and maintenance of water and wastewater treatment plants. WWSPR II performed two feasibility studies with the Alexandria Wastewater Company; one for operation and maintenance of the East Treatment Plant and the Mechanical Dewatering Facility and the other for Septic hauling. WWSPR II submitted these studies to the subsidiaries and the Holding Company for further action.

WWSPR II updated the private sector database. That database now contains information on 177 technical, transaction and financial consultants.

WWSPR II worked with the Holding Company to develop alliances with Egyptian engineering firms that could provide assistance in developing twenty-four 30-year Master Plans for the governorates. WWSPR II developed draft scopes of work for this work as well as Terms of Reference for consultant contracts.

Creditworthiness

The subsidiary companies rely entirely upon government and donor assistance to fund capital investments. In order to be truly independent and commercially sustainable, the companies must be able to demonstrate their creditworthiness, access capital markets and borrow money at commercial rates of interest.

WWSPR II contracted with Middle East Rating and Investment Service (MERIS), a joint venture between Moody's Investors Service (among the world's foremost credit rating agencies) and Finance & Banking Consultants International (FINBI).

MERIS first gave a presentation to the Alexandria Water Company about the nature and importance of credit ratings as well as the procedures involved in applying for a credit rating. Then, MERIS provided Alexandria Water Company with a list of the information it needed to perform analyses and determine a credit rating. WWSPR II provided assistance to the company in data collection, documentation and due diligence during the period from April 2006 through February 2007.

In April 2007, MERIS issued its report. The credit rating, expressed as a National Scale Rating (NSR), was A+ with Government of Egypt support (Sovereign Rating). Without government support, the rating dropped to B.

Human Resource Planning and Management Development

WWSPR II continued organizational development through assistance in strategic planning, designing organization structures, optimal staffing, five year staffing plans and management development at the level of Holding Company and subsidiary companies.

WWSPR II worked with the Holding Company to finalize its initial organization chart in July 2006 and assisted in subsequent revisions based on new functions which HCWW assumed.

The organizational development strategy for the subsidiary companies was two-fold: for existing companies to develop five year staffing plans and for new companies to determine optimum staffing needs in order to limit the number of staff to be transferred from the governorate department.

WWSPR II completed five year staffing plans for 8 subsidiaries. The assessments showed that, on average, staffing could be reduced by 14.5% which should result in annual savings of LE 132 million. These assessments identified opportunities for reducing staff in some areas and increasing it in others.

The Holding Company asked WWSPR II to study the possibility of offering an Early Retirement Program (ERP) in the subsidiary companies. The study was conducted at Gharbeya Company and found that 2,424 employees were eligible for early retirement – 52% of existing employees. The assumption of the study was that staff would accept a payment (golden handshake) to retire early. The study showed the company could recover the early retirement payout of LE 54 million over a two year period through savings realized from a smaller staff size. The study concluded that the ERP will have a positive effect on the costs and the productivity of the Company.

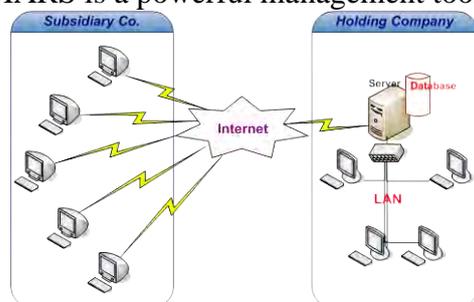
WWSPR II conducted a management development program to identify and groom potential senior level managers. Eighty managers participated in the program between November 2006 and April 2007. Twenty-four potential upper level managers were identified for additional professional development. These 24 potential managers participated in training courses in December 2007 covering the principles of manpower planning, organization development and the legal and regulatory structure of the sector. WWSPR II delivered over 9,000 participant hours of training to this group. From the 24 managers, five were chosen to participate in a study tour to the United States.

WWSPR II also provided extensive technical assistance and developed tools to move newly formed companies towards commercially oriented management approaches. Improvements were made in a number of areas as summarized below:

Financial and Technical Monitoring

WWSPR II developed the Monitoring, Analysis and Reporting System (MARS) to allow the periodic transfer of data from the subsidiary companies to the Holding Company over the Internet. The data submitted includes performance indicators, water and wastewater quality sampling results, technical and financial monitoring data.

MARS is a powerful management tool that enables Holding Company management



to:

- ✓ Appraise subsidiary performance
- ✓ Identify areas for improvement
- ✓ Reward initiative or take remedial action
- ✓ Understand progress towards sector objectives such as full cost recovery
- ✓ Benchmark utility performance

The performance indicators have the following benefits to Holding Company and subsidiary company management:

- ✓ Managers at the Holding Company and the subsidiaries know how they are performing on a quarterly basis
- ✓ The Holding Company management uses the performance indicators as a basis for annual reviews and resulting bonus allocations for the subsidiary companies.

MARS was installed at 19 locations and has at least 330 registered users. WWSPR II provided training to the Holding Company and subsidiary company users, primarily through on-the-job training and workshops.

Billing Systems and IT Support

Based on the recommendations made in the Billing and Collection System Assessment Report prepared under the WWSPR I project, WWSPR II provided technical assistance to the Cairo Water Company in replacing the existing billing system. A project team assisted in developing technical specifications for software

and hardware, vendor evaluation, supervision of software customization and implementation of the new system.

WWSPR II also worked with the Gharbeya and Sharkeya companies to establish IT departments and provided training to the employees in maintenance, system and network administration.

Asset Management

The WWSPR II scope of work called for “establishing systems for assessing the current condition and future life of assets and to plan for renewal and replacement”. The project enhanced the original scope by designing a comprehensive asset management approach based on two key concepts:

- ✓ Infrastructure Asset Management which is an integrated optimization process of “managing infrastructure assets to minimize the total cost of owning and operating them, while continuously delivering the service levels customers desire at an acceptable level of risk”
- ✓ The view that comprehensive asset management involves more than the physical asset – it needs a strategy, people and process components to achieve the goals of minimizing total cost of ownership while meeting service levels

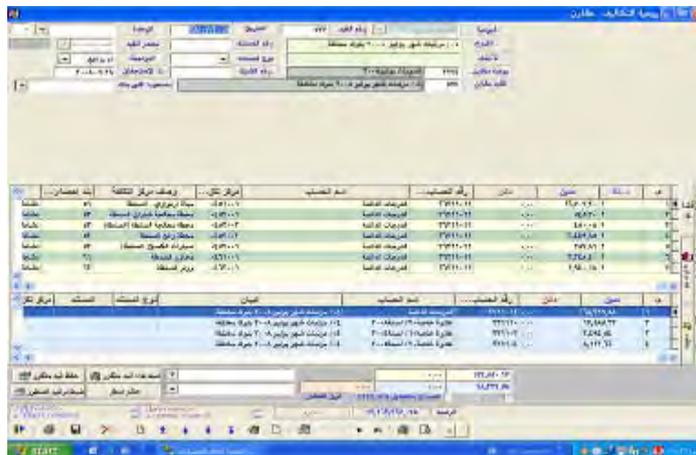
The WWSPR II project designed and developed an Asset Management software tool. This software was used during the pilot implementation of asset management at four subsidiary companies: Cairo Water, Cairo Wastewater, Gharbeya and Minya. The project team, working with subsidiary company staff succeeded in evaluating 27,075 assets of which 20,641 were entered into the asset management software. The software utilizes detailed asset attributes and condition data to compute a risk index based on asset condition, the likelihood that the asset will fail and the consequence of failure. Users were trained and asset registers were developed as part of this pilot. Later in this report, under Component E, Task 1. Asset management is discussed in more detail.

Cost Accounting Systems

Before WWSPR began, utilities had basic, manual cost accounting systems that divided transactions into three functional categories: production and distribution, collection or administration. These manual systems did not provide a sufficient level of detail by cost center to allow for effective budgeting or management of financial performance.

WWSPR II developed a cost center structure and worked with the subsidiaries to document existing procedures for gathering and reporting data. These procedures were adjusted, as needed, to ensure accurate data gathering and posting into the new cost center structure and were implemented on a manual basis.

Computerized Accounting Units were established and staffed to take responsibility for the computerized systems and training sessions were held on general ledger entries, distribution to cost centers and fixed asset accounting. Cost accounting guidelines were developed and provided to the subsidiaries.



The WWSPR project selected a simple accounting software based on ease of use and quick implementation. At the end of the project, 8 subsidiaries had fully implemented the general ledger, cost accounting, fixed assets and management reporting modules. Two subsidiaries also implemented the human resources and payroll modules.

Centers of Excellence

The Holding Company provides a platform for establishing centers of excellence that can be replicated the other subsidiary companies. Centers of Excellence. They have many benefits.

- ✓ Promote professional achievement and dedication to excellence by the individuals and subsidiaries involved
- ✓ Allow replication of systems is beneficial to recipient companies because they do not need to reinvent the wheel and they have access to the experience of others
- ✓ Increase the probability of sustainability because all companies follow similar approaches and use the same systems.

WWSPR II developed a listing of the technical assistance programs that were introduced at the subsidiary companies under various USAID institutional development projects and divided them into three main functional areas: Technical and Operations programs, Finance and MIS programs and Utility Management Programs. WWSPR defined criteria for classifying centers of excellence and based on the criteria identified the following utilities which have developed centers of excellence:

- ✓ Alexandria Wastewater: Industrial Waste Surcharge Program
- ✓ Cairo Wastewater: Industrial Waste Surcharge Program
- ✓ Cairo Water: Leak detection, GIS and Computerized billing system
- ✓ Alexandria Water: GIS Department

In his concluding remarks during the project transition workshop, Dr. Abdel Kawi Khalifa, Chairman of the Holding Company directed that the subsidiary companies form teams to ensure implementation of WWSPR II systems and tools. This will be an excellent opportunity to expand the “center of excellence” approach, with subsidiaries that have succeeded in specific areas helping other companies as they implement new systems.

Revenue Enhancement Initiatives

WWSPR II worked with the Holding Company and its subsidiaries to address solutions for chronic utility problems such as high unaccounted-for-water, metering and low billing and collection efficiency.

A pilot study with Cairo Water was conducted which looked at meter reading practice and illegal connections. Over a six-week period, teams surveyed illegal connections in the El Marg, El Hagana and Nasr City districts. The survey found more than 12,000 illegal connections. The company was able to sign contracts with about half of the residents with illegal connections and added them as customers in the company’s billing data base. Over the course of 6 weeks in three suburbs, Cairo Water team actions resulted in an additional LE 6.3 million of annual revenue and fines in the amount of LE 13.8 million.

Public Awareness Programs

As a newly formed agency, the Holding Company needed to inform the public about sector reforms and the new approach to owning and operating water and wastewater utilities. It also faced the challenge of communicating the new commercial approach to employees of the subsidiary companies who were accustomed to a more governmental approach. The Holding Company also wanted to gain public support for water conservation and tariff levels.

WWSPR II developed a Strategic Communication Plan that:

- ✓ Establishes objectives
- ✓ Identifies stakeholders
- ✓ Articulates themes and messages
- ✓ Describes tools approaches

WWSPR II worked with the Holding Company to develop Public Awareness Departments in subsidiaries, structure them and provide training in public awareness planning and implementation. Next, unified logos were developed to build the identity of the Holding Company and the subsidiaries as well as to inspire loyalty among employees. The logo of each subsidiary mirrors that of the Holding Company (left), with differentiating graphics distinguishing each company.



With these basic pieces established, the Holding Company worked with WWSPR II to put various programs in place that included:

- ✓ Media Workshops (December, 2005)
- ✓ Water Conservation Conference (December, 2006)
- ✓ Community Partnerships
- ✓ Schools education program

Plant Assessments and Performance Improvement Plans

Treatment plant assessments focused on the following key aspects of plant operations and maintenance:

- ✓ Water quality results and environmental impact
- ✓ Operation and maintenance processes
- ✓ Staff capabilities
- ✓ Laboratory capabilities

Water and wastewater treatment plant assessments were carried out for 275 treatment plants at 15 subsidiary companies (see Exhibit 4.E.1). An assessment checklist was developed and submitted to the Holding Company Technical Affairs department. The approach and tools applied by WWSPR II can form the basis of extending this process to all of the subsidiary companies.

Capacity building of Subsidiary Companies

Between April 2004 and the start of WWSPR II in October 2005, the project team, working with the Holding Company, succeeded in a number of accomplishments designed to establish new companies on a commercially-oriented basis.

WWSPR I capacity building teams working with the Sharqeya and Gharbeya companies developed performance improvement plans to enhance management focus, revenue, cost control, increased service levels, staff efficiency, effective record keeping, automation and compliance with regulations.

As WWSPR I drew to a close, both the Holding company and the WWSPR team had identified the top priorities for continued development of the companies

(see Exhibit 3.4.1.)

Exhibit 3.4.1 Subsidiary Company Priorities at start of WWSPR II	
Develop an accurate customer database	Establish a cost accounting system
Select and install a computerized billing system	Establish a stores accounting system
Develop a company strategic plan	Develop an accurate personnel database
Develop a 5-year staffing plan	Open accounting records for the new fiscal year using new UAS format
Select and install a computerized accounting package	
Develop RFP to contract for development of a company master plan	Carry out company-wide training needs assessment
Assess procurement required for completion of all future tasks	Confirm that water produced meets national standards and wastewater treatment meets environmental laws
Close the books for the fiscal year ending 30/6/05 and produce accurate financial statements	Assess operations at each plant and develop individual plant performance improvement plans

These priorities were reflected in the WWSPR II scope of work components listed below:

- ✓ Component B: PSP Transaction, Promotion and Negotiation Support to the Holding Company and its Subsidiaries
- ✓ Component C: Corporatization Support to the Holding Company
- ✓ Component D: Assist the Holding Company to improve the commercial focus of the subsidiary companies through effective management and leadership
- ✓ Component E: Assist the Holding Company to Upgrade Technical Operations in the Subsidiaries
- ✓ Component F: Management Information Systems for the EWRA and the Holding Company

Section 4 of this report discusses the achievements for each of these components and the progress made at the subsidiary companies.

Utility Master Plans

The WWSPR II team prepared initial tender documents for use by the Holding Company in procurement of subsidiary company master plans. The Holding Company used these documents to conduct tenders and hire local consultants to prepare the master plans. As of February 2009, 19 subsidiary companies had developed draft master plans.

Integrated Training Programs

Training needs assessments were completed for 16 subsidiary companies in February 2006. The scope of these assessments covered the number of training courses needed and the approximate number of staff requiring the training.

Appendix F, entitled, "Training Courses," lists the many courses and number of participants per training course delivered during the project. Appendix G summarizes the 6 study tours conducted during the project.

Section 3.0 Project Component Achievements

This section summarizes project achievements for each WWSPR II component and sub-task.

The narrative in each section is organized around the following subsections:

- Process and Results
- Benefits
- Looking ahead

Component A Support to Operationalize the Egyptian Water/Wastewater Regulatory Agency (EWRA)



EWRA was established on April 27, 2004 when Presidential Decree 136, entitled “Establish the Egyptian Water Regulatory Authority (EWRA)” was issued. In accordance with the decree, EWRA has responsibility to regulate the quality and price of water/wastewater services in Egypt.

Between April 2004 and September 2005, WWSPR I provided assistance required to build the foundation for EWRA, including organizational development and development of reporting systems, procedures, guidelines and information systems.

The scope of work for WWSPR II was specified in the following three sub-tasks:

- ✓ A.1 Assist MHUUD to identify and hire senior EWRA staff and assist that staff to implement the performance monitoring, benchmarking, and utilities certification systems developed by CH2M HILL
- ✓ A.2 Assist EWRA to implement the tariff rate application system including the electronic tariff analysis model developed by CH2M Hill
- ✓ A.3 Design a new water/wastewater tariff rate structure

A.1 Assist MHUUD to identify and hire senior EWRA staff and assist that staff to implement the performance monitoring, benchmarking, and utilities certification systems developed by CH2M HILL

This sub-task had the following scope:

- ✓ Staff EWRA and provide required training
- ✓ Implement a comprehensive utility Performance Monitoring System
- ✓ Implement a Utility Certification System
- ✓ Develop benchmarking studies incorporating performance indicators, existing variables and utility data from the 14 subsidiary companies
- ✓ Establish reasonable standards for utility performance

At the beginning of WWSPR II, EWRA had been established. It had approximately 16 employees with well-defined roles most were seconded from the Cairo Water and NOPWASD.

Process and Results

The WWSPR II team began by leading EWRA management team through a strategic planning effort conducted in 4 sessions covering the following themes:

- ✓ Introduction to the Strategic Planning Process and methodology; Stakeholder identification and development of Mission/Vision
- ✓ Analysis of the Environment through Strengths, Weaknesses, Opportunities and Threats analysis (SWOT)
- ✓ Overall objectives, strategies and goal-setting
- ✓ Policies and Planning



WWSPR contracted a local management consulting firm in January 2007 to review the EWRA organizational structure and provide organizational development services. On October 15th, 2007 the consultant team submitted their final report after incorporating WWSPR comments. The report contained following deliverables in hard and soft copy:

- ✓ An organizational chart reflecting the new recommended structure, along with a separate chart for each general department
- ✓ Functional responsibilities for each general department
- ✓ Thirty - six (36) job descriptions
- ✓ Twenty - one (21) individual assessment reports including improvement techniques to fill skill gaps
- ✓ Ten (10) reports on assessments of candidates for positions in EWRA
- ✓ Fourteen (14) process maps in Microsoft Visio format
- ✓ Ten (10) Standard Operating Procedures (SOP) in Microsoft Visio format
- ✓ Public communication strategy and communication plan report
- ✓ ISO documentation including a Quality policy, Quality Manual, Document control procedure, Records control procedure, Internal audit procedure, Corrective/preventive action procedure, and Non-confirming service procedure

The next organizational development step for the EWRA was training on a number of topics to develop the skills staff would need to effectively play their roles. Exhibit 4.A.1 summarizes this training.

Exhibit 4.A.1 EWRA Training Courses		
Area	Number of People	Topics
English Language		
AUC Course	40	Multiple Levels
AMIDEAST & Private Tutor	10	Multiple Levels
Technical Training	4	Assessment of water and wastewater treatment plants
Financial and cost accounting	10	Technical background on water and wastewater technical services; cost accounting, financial planning and tariff analysis
Study Tours		
England	1	PPP Summit in London and visit to OFWAT by EWRA Executive Director

USA	3	25th International Training Program on Utility Regulation & Strategy and attend the workshop on Practicing Leadership in a Political Environment which was held at Public Utility Research Center – University of Florida from January 10 th - 24 th , 09.
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WWSPR II and the local management consultant provided technical assistance in assessing and interviewing candidates for new positions. By the end of WWSPR II, EWRA has 60 employees.

The WWSPR Public Awareness specialist provided assistance to EWRA in developing the following:

- ✓ The first EWRA newsletter.
- ✓ The first Annual Report 2007-2008
- ✓ The EWRA headquarter internal and external signs.

As described more fully in Section 4, Component G of this report, it was determined during WWSPR II that Presidential Decree 136 was not sufficient to give the EWRA the power it would need to set standards and enforce compliance. This situation hampered the ability of EWRA and the Holding Company to establish and clarify their roles and responsibilities. Essentially, EWRA has been given responsibility but insufficient authority to fully assume its responsibilities.

This situation also impeded the ability of EWRA and WWSPR II to satisfy all aspects of sub-task A.1 in the WWSPR II scope of work.

Nevertheless, WWSPR II worked closely with the Holding Company and the subsidiaries to develop a number of information systems that will prove useful to EWRA when fully authorized to do performance monitoring, benchmarking and utility certification. It is important to note that these systems are intended for use by EWRA, the Holding Company and the subsidiary companies. These systems will facilitate analysis and exchange of reliable information. Component F discusses the management information systems and equipment provided to EWRA that enable it to make best use of these systems. Exhibit 4.A.2 shows the systems that WWSPR II developed to assist the subsidiary companies to establish and populate the financial and technical reporting systems.

Exhibit 4.A.2: Information Resources for EWRA		
Component and Task	System	Benefit
C.1	Five Year Financial Planning	Provides the capability to develop cost and revenue scenarios; forms the basis for tariff setting
D.1	Performance Indicators	Full set of subsidiary company indicators upon which MARS reporting is based
D.3	Cost Accounting System	Creates accurate and consistent cost and financial information

These systems provide the information that EWRA will need to perform its regulatory role effectively.

Benefits

During WWSPR II, EWRA took significant steps to grow into its intended role. It is now well-structured from an organizational standpoint. It has chosen a strategic direction and has a mission, vision and objectives. It is well on its way to playing an effective regulatory role.

Looking Ahead

As stated earlier, a new law is needed to clarify the role of EWRA and give it the authority it needs to play a strong regulatory role. When that becomes a reality, the achievements during WWSPR II will bear fruit for EWRA.

A.2 Assist EWRA to implement the tariff rate application system including the electronic tariff analysis model developed by CH2M Hill

During the first phase of the WWSPR project, CH2M HILL developed a financial planning and tariff analysis model. This model was intended to be used by subsidiary company staff as part of the EWRA tariff application process. Subsidiary companies were trained and used the model to develop financial plans and tariff analyses for the period 2005 – 2009. An update of these plans for the period 2006 – 2010 was also completed. These plans provided insight into tariff needs as they highlighted the gap between costs and revenues in each subsidiary company. Training on the model was provided to EWRA staff during June and July 2005.

In September 2005, the WWSPR project submitted an analysis of tariff customer class issues which should be taken into account when tariff recommendations are developed (Exhibit 4.A.3). By the time WWSPR II began in October 2005, however, no changes had been made in subsidiary company tariff structures.

The WWSPR II scope of work for Sub-task A.2 was designed to enable staff in the subsidiary companies, the Holding Company and EWRA to make effective use of the model:

- ✓ Provide training to the regulated utilities in the development of tariff rate studies
- ✓ Provide training to EWRA in the review and evaluation of utility tariff applications

Process and Results

With the beginning of WWSPR II it soon became apparent, that the data requirements for tariff analysis would exceed the capabilities of the existing Excel model. In addition, Excel models are not the best way to preserve the integrity of data and calculations. Thus WWSPR II worked with a software developer to turn the Excel model into a program.

When this tariff analysis and financial planning model was completed, WWSPR II provided training to staff from HCWW, the subsidiary companies and EWRA.

The tariff analysis and financial planning model was then implemented at each of the 14 subsidiary companies where it was used to develop five year financial plans and tariff scenarios, with the idea that the model would provide the justification and logic

for proposed tariff increases. The discussion of financial planning in Sub-Task C.1 discusses the capabilities of the model and its full use in financial planning.

Benefits

The tariff analysis model formed the basis for the financial planning done at the subsidiaries and provided a vehicle for running tariff scenarios that would help achieve cost recovery goals. EWRA staff has been introduced to the tariff model and they are prepared to analyze tariff increase requests when EWRA assumes its role as an economic regulator.

Looking Ahead

The tariff and financial planning model has been implemented in a number of the subsidiary companies and some of these companies link the financial planning model to the budgeting process. These are sound, standard approaches that will benefit all of the companies, the Holding Company and EWRA – especially when EWRA takes on its economic regulatory role.

A.3 Design a new w/ww tariff rate structure

Each utility has its own water and wastewater tariff structure. With sector reform and development, the need for a standardized approach to tariff structure and customer classes that takes into account economic and social factors has become more and more apparent. The scope of work for Task A.3, includes the following:

- ✓ Develop comprehensive guidelines on w/ww tariff rate structure including all customer classes
- ✓ Comprehensive analysis of the impact of various tariff/customer classification structures.
- ✓ Conduct studies to determine what ongoing subsidies would be needed if current tariffs remain unchanged and studies to determine what tariffs would be needed to reach various levels of cost recovery

During WWSPR I, the project developed and submitted the report entitled “Rate Development Guidelines and Tariff Model Instructions” (August 2005). This report covered a number of topics that are important to the tariff setting process, including cost allocation, revenue requirements, customer classifications, tariff design and implementation considerations. During WWSPR II, this report was refined and its recommendations were incorporated in the five year planning model to form a basis for proposed new tariff structure.

In addition WWSPR staff developed and submitted a report which recommended a simplified customer classification structure. The recommendations from that report may be found in exhibit 4.A.3.

Exhibit 4.A.3 Suggested Customer Classes Tariff Approach						
Main category	Sub category	Water rate	WW rate	Implementation consideration	Justification	Type of customers included in categories
Residential	up to 15m ³	minimum charge (15m ³ *rate)	50%	to be applied on 15m ³ even if consumption is less	the only subsidized category, 15m ³ is the min level of health requirement by MOH	to be applied on flat rate units and Gov housing
	over 15 to 30 m ³	increasing block rate	100%	to be applied on all water consumed	moderately subsidizes (covering 75% of water and WW cost /m ³)	
	over 30m ³	increasing block rate	100%	to be applied on all water consumed	not subsidizes (covering 100% of water and WW cost /m ³)	
Industrial & Commercial	small users	minimum charge (30m ³ * rate)	moderate (around 100% of water rate)		based on meter size (for meters below 6 inches)	small workshops, offices, small and micro business
	heavy users	fixed rate	high (over 100% of water rate)		based on meter size (for meters above 6 inches)includes heavy load industries, high affordable services	factories, restaurants, shops, malls, hotels all starts, clubs, embassies
Governmental		fixed rate				hospitals, schools, worship places, industrial

Exhibit 4.A.3 Suggested Customer Classes Criteria Satisfied									
Main category	Sub category	Cost Recovery	Low income Affordability	Administrative Feasibility	Public understanding and acceptance	Economic Development	Water Conservation	Data Availability	Minimize unexpected changes in bill
Residential	up to 15m ³		X		X				X
	over 15 to 30 m ³	X	X		X		X		X
	over 30m ³	X					X		X
Industrial & Commercial	small users	X		X		X		X	
	heavy users	X		X	X	X		X	
Governmental		X		X				X	

Component B PSP transaction, promotion and negotiation support to the Holding Company and its subsidiaries

Private Sector Participation (PSP) project work focused on two areas: 1) assessment of functions that could be outsourced by the subsidiary companies and 2) assisting the Holding Company to establish strategic alliances with the private sector.

Exhibit 4.B.1 Potential Private Sector Participation Opportunities

- ✓ Leak Detection
- ✓ Sewer Cleaning
- ✓ Customer Connections
- ✓ Inventory management and financing
- ✓ Network rehabilitation
- ✓ Septic Evacuation
- ✓ Metering and meter reading
- ✓ Collections
- ✓ O&M Concessions

WWSPR I conducted a number of studies on PSP opportunities in four pilot companies: Cairo Water, Sharqeya, Kafr El Sheikh and Cairo Wastewater. These studies found that the companies were already outsourcing some services such as equipment maintenance, security or software development. WWSPR I worked with the companies to identify additional potential private sector participation

opportunities (Exhibit 4.B.1). These studies led to comprehensive feasibility studies for the outsourcing the Husseineya water treatment plant in Sharqeya and the Qaleen wastewater treatment plant in Kafr El Sheikh.

Over the course of both WWSPR I and II, project staff assessed the PSP opportunities at the Alexandria Wastewater West Treatment Plant and MDF operations. When the assessments were completed, the Holding Company and the Alexandria Wastewater company agreed to consider a tender for outsourcing these operations. WWSPR provided standardized tender and contracting documentation.

For the Holding Company, WWSPR I gathered information on the USAID Development Credit Authority (DCA) program, prepared a database of 177 local companies interested in providing services to water sector organizations, developed a prequalification document for identifying suppliers interested in the local manufacture of domestic meters and prepared an electronic model for the prioritization of capital projects with a user guide.

WWSPR I concluded that prospects were good for outsourcing plant management in the Alexandria Wastewater and Sharqeya companies.

The scope of work for WWSPR II component B was intended to build upon this progress. The provisions of that scope are listed below.

- ✓ Assist Holding Company to identify selected subsidiary companies which could outsource functions to the private sector and also identify areas where the DCA facilities could be used, if required
- ✓ Assist the HC to develop strategic alliance with the private sector

Process and Results

WWSPR II worked with USAID and the Commercial International Bank of Egypt (CIB) to promote the DCA program which was meant to encourage local private sector companies to provide service to sector organizations. Through the DCA local private sector companies could get subsidized loans. USAID, CIB and WWSPR II held a workshop to inform the private sector about the benefits of DCA funding, the application process and the documentation required. WWSPR II worked with potential loan applicants to prepare the required documentation for specific projects. In the end, however, the private investors found that financing through a CIB/DCA program would not have significant advantages compared to financing through other commercial banks. In addition, CIB had very strict terms for determining the eligibility of borrowers.

Exhibit 4.B.2 USAID Development Credit Authority
<p>“To encourage financial institutions to lend to creditworthy but under-served borrowers, USAID uses the Development Credit Authority (DCA). DCA is a tool that USAID missions use to stimulate lending through the use of partial credit guarantees. These guarantees, which cover up to 50% of defaults on loans made by private financial institutions, use the wealth that already exists in developing countries --money held in local financial institutions-- to stimulate broad-based development that is truly sustainable.” ²</p>

WWSPR also prepared a standard toolkit of prequalification, bidding and contracting documents for the subsidiary companies to use in outsourcing operation and maintenance of water and wastewater treatment plants. These documents were performance-based in order to facilitate the management and control of the contract and ensure high quality delivery of services by the private investors.

Exhibit 4.B.3 Database of Private Sector Contractors
<p>Companies that provide services in the water and wastewater sector, as follows:</p> <ul style="list-style-type: none"> ✓ Manufacture and supply of meters ✓ Manufacture and supply of equipment needed in the sector ✓ Contractors ✓ O&M contractors ✓ Consultation and services ✓ Investment promotion ✓ Others

As indicated earlier the private sector database (Exhibit 4.B.3) was updated during WWSPR II and contains information on 177 technical, service and finance consultants.

In addition, WWSPR II assessed the feasibility of self-financing PPP projects. A report, entitled “Self-Financing Public-Private Partnership Projects in Egypt” (October 2006), recommends contracting with the private sector for specific services: customer surveys; reading meters;

installing, maintaining, and replacing meters; collections; leak detection and network repair. Each of these areas provides the opportunity to enhance revenues, decrease costs and improve customer service and satisfaction (and so improve public support for future rate increases). As a result, these are also areas where the PSP contracts could be self-financing – the contractor’s compensation coming from increased revenues, cash flow or cost savings.

To support the subsidiary companies in pursuing potential PSP transactions, WWSPR II performed two feasibility studies for projects involving the Alexandria Wastewater Company as follows:

² http://www.usaid.gov/our_work/economic_growth_and_trade/development_credit/

- ✓ Operation and Maintenance: WWSPR II worked with the Holding Company to develop an RFP for the operation and maintenance of two Alexandria Wastewater Company facilities - the East Treatment Plant and the Mechanical Dewatering Facility.
- ✓ Septic Hauling: WWSPR staff Worked with the Company to study the feasibility of centralizing septic evacuative services, including the organizational structure for a proposed new unit to provide this service. Based upon a projected positive revenue flow, the Company started implementing the plan to centralize septic hauling services in May 2006.

WWSPR II submitted these studies to the subsidiaries and to the Holding Company for their consideration.

The Holding Company and WWSPR II worked together to develop the local domestic meter market. First, project staff developed meter specifications that the Holding Company sent to an agency in Germany to review. Based upon feedback received, the Holding Company finalized the specifications and used them to pre-qualify local firms. Three consortia of international and local companies (with 20%/80% shares respectively) were prequalified and participated in a tender to supply 800,000 meters.

Benefits

Private Sector Participation is an approach that can bring financing and expertise to assist the subsidiary companies in achieving their goals. The studies completed by the WWSPR projects provide a foundation for further consideration of PSP.

Looking Ahead

Utilities around the world face the challenge of financing infrastructure and improvement projects which limited resources. PSP can take many forms – from outsourcing landscaping or computer maintenance services to long-term contracts for construction, operation and maintenance of major infrastructure. As with most any other decision, there are benefits and drawbacks to PSP which should be weighed carefully before proceeding.

***Component C* Corporatization Support to the Holding Company**

At the start of WWSPR I in 2003, water and wastewater utilities were economic authorities, public companies or governorate departments. All of these utilities followed government accounting procedures that were not commercially oriented. Their financial imperative was preparing a budget for the coming year which was accomplished by increasing the last year's results by a pre-determined percentage. This approach did not take into account potential changes in the ways of doing business or conducting operations – nor did it look ahead to see the impact of today's decisions on financial results beyond the coming year. These utilities were ill-equipped to understand and strategize ways of becoming financially sustainable. In addition, their requests for revenue were often reduced by the Ministry of Finance which approved budgets and stationed representatives inside agencies to approve expenditures.

Companies formed by Presidential Decree 135 under Law 203/1991

- ✓ Cairo Water
- ✓ Cairo Wastewater
- ✓ Alexandria Water
- ✓ Alexandria Wastewater
- ✓ Aswan
- ✓ Fayoum
- ✓ Minya
- ✓ Beni Suef
- ✓ Daqahleya
- ✓ Beheira
- ✓ Damietta
- ✓ Kafr EL Sheikh
- ✓ Sharqeya
- ✓ Gharbeya

The new legal framework and subsequent subsidiary company debt reallocation opened the door for establishing the utilities as commercially-oriented and financially sustainable companies under the umbrella of the Holding Company.

WWSPR I provided support to the newly formed companies in a number of areas, including the process of “corporatizing” the companies by guiding them through the incorporation process, establishing their leadership and assisting them to effectively take charge of their financial destinies. WWSPR I progress included:

- ✓ Excel-based financial planning and tariff analysis model that the subsidiary companies used to develop 5 year financial plans
- ✓ Consolidation of company results into a Holding Company 5-year financial plan.
- ✓ System for monitoring the financial operations of the subsidiary companies
- ✓ Three standard organization designs: a water company organizational structure, a wastewater company organizational structure and a combined water/wastewater organizational structure.

WWSPR II built upon and continued the “corporatization” progress that took place during WWSPR I based on the following scope of work:

- ✓ C.1 Assist the Holding Company with financial planning
- ✓ C.2 Assist the Holding Company to implement procedures aimed at establishing the creditworthiness of four pilot subsidiary companies
- ✓ C.3 Assist the Holding Company with organizational development issues
- ✓ Amendment 2: Expand technical assistance to all water and wastewater subsidiary companies

C.1 Assist the Holding Company with Financial Planning

Like many water sectors around the world, the Egyptian sector faces a growing population and demand for water/wastewater services at the same time that funding is scarce. The sector has relied on Government of Egypt subsidies for its survival as well as donor assistance for financing major infrastructure. Established as commercial companies, the HCWW subsidiaries are charged with becoming financially independent. The intent of this task was to work with the HCWW and the companies to develop and implement strategies to achieve financial independence.

Process and Results

WWSPR II worked with HCWW to form an Economic Analysis Unit that has responsibility for five year financial planning and performance indicator reporting. Then, WWSPR II worked with this unit to pursue financial planning improvements.

The WWSPR I financial model was built in Excel with the drawback that users might inadvertently change formulas and the underlying integrity of the model. In order to overcome this drawback, WWSPR II developed an Arabic, custom-programmed model using a Delphi and SQL platform. This model also provides more detailed inputs and a reports program. The first version of the new model was tested at Cairo Water Company prior to further pilot testing at the Beheira, Gharbeya and Kafr El Sheikh Water Companies.

Through workshops, on-the-job training and coaching, WWSPR worked with pilot company staff on data collection, data entry and use of the model in financial planning. Feedback from the companies helped to enhance the model.

With the financial model fully tested, WWSPR worked with the Holding Company Economic Analysis Unit (EAU) to roll the model out in the rest of the 14 companies, enabling the Holding Company staff to assume the role that WWSPR II was playing. The comprehensive training provided by WWSPR II has enabled the HCWW EAU staff to work independently on the model, follow-up with the companies who are using it and introduce it to new subsidiaries. The work that WWSPR has done in cost accounting (Component D, Task 3) helped to provide reliable and accurate statistics for the financial modeling.

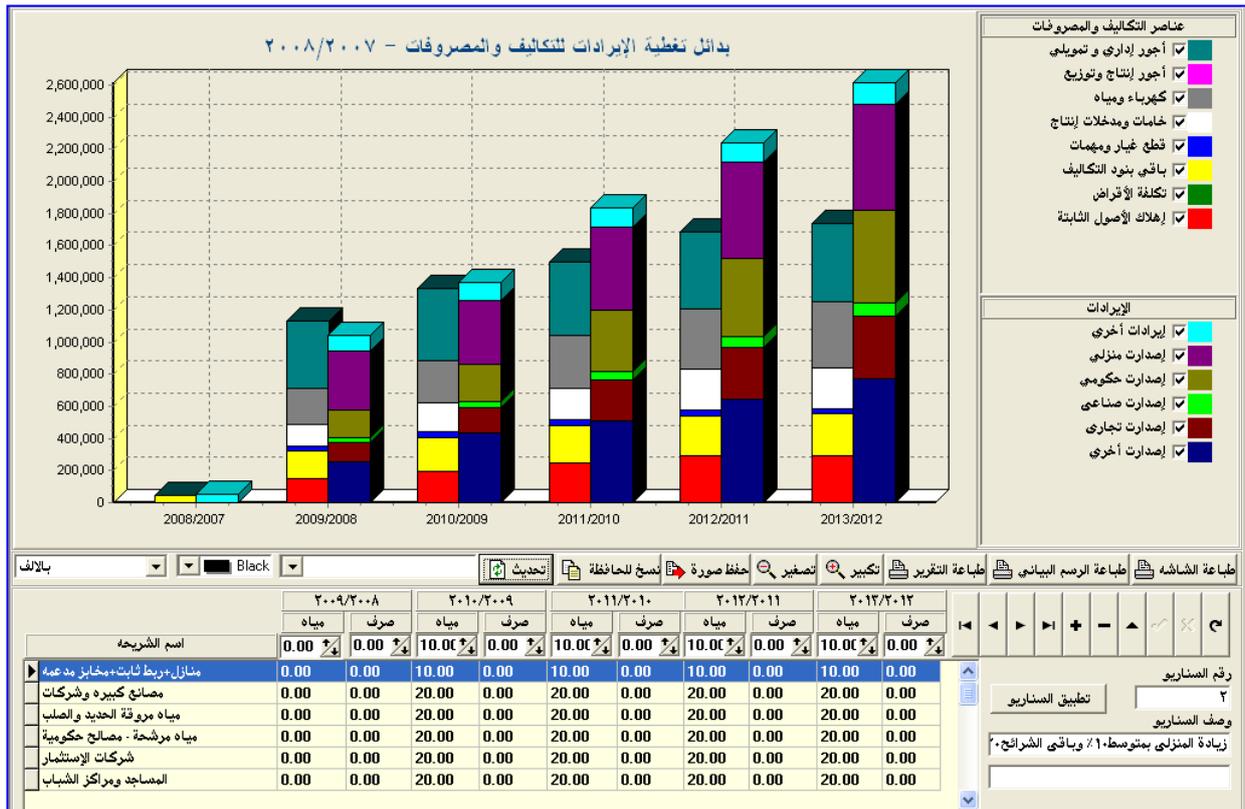
The 14 companies attained differing levels of achievements in the implementation of the five-year financial planning process as illustrated in Exhibit 4.C.1. Some of the utilities are using the plans as the basis for their budgets. In fact, one of the objectives of the financial planning model is to facilitate the budgeting process and related reporting. These companies now have valuable experience that they can share with the newly formed companies as they, too, begin five-year financial planning.

Exhibit 4.C.1 Five Year Financial Planning Status							
Company	Install & Train	Data Collection	Data Entry	Review Results	Adjust Results & Scenarios	Issue Reports	Start 2009-2014 Plan
Five Year Plan 2008-2013: Parts Completed							
Beheira	X	X	X	X	X	X	X
Gharbeya	X	X	X	X	X	X	X
Beni Suef	X	X	X	X	X	X	X
Kafr El Sheikh	X	X	X	X	X	X	
Cairo Water	X	X	X	X	X	X	
Cairo Wastewater	X	X	X	X	X	X	
Fayoum	X	X	X	X	X	X	
Alexandria Water	X	X	X	X			
Alexandria Wastewater	X	X	X	X			
Aswan	X	X	X	X			
Damietta	X	X	X	X			
Daqhleya	X	X	X	X			
Sharqeya	X	X	X	X			
Minya	X						

The five year financial planning model has powerful capabilities that allow users to estimate future results, test assumptions and try out different scenarios as they strive for full cost recovery and financial independence over time. As an example, Exhibit 4.C.2 shows the results screen for tariff scenarios. Based upon this type of analysis WWSPR II presented tariff recommendations to the Holding Company.

From December 2007 to December 2008, WWSPR II ran multiple tariff scenario analyses at the request of the Holding Company management. By early 2009, HCWW had developed enough justification to request a tariff increase.

Exhibit 4.C.2 Financial Planning Model Costs, Revenues and Tariff Scenarios



The Benefits

The five year financial planning model and effective data collection procedures enable the companies to reliably predict and report future financial results. The model allows for analyzing future results by varying key assumptions that include water demand, revenue collection rates, costs, unaccounted-for-water, production levels and depreciation related to new capital investments. It provides the capability to assess revenue requirements and tariff scenarios in order to achieve cost recovery in stages.

Subsidiary companies can demonstrate and support their need for tariff increases and subsidies from GOE. They now have the ability to look ahead five years at projected financial performance rather than the one year perspective that characterized the former governorate budgeting process. They can analyze scenarios to find the best ways of reaching full cost recovery in a defined period of time.

The financial planning process has opened the eyes of people working in the companies. They can look at the company as a whole rather than just their own department. They can see the connections between departments and the effects they have on each other and they can now see the benefits of looking beyond the next year to manage the financial future of their companies.

In the future, as EWRA develops and takes an active role in the sector, the financial planning models will allow the companies to make well-supported and documented tariff increase requests to EWRA and EWRA will have fundamentally sound information upon which to render decisions.

Looking Ahead

The five year financial planning model is now a proven and reliable tool being used by the original 14 companies to plan financial results. The next step is to implement the financial planning process at the remaining companies, all of which were formerly governorate departments that followed governorate accounting procedures. In order for them to be able to build their financial models, they need to have financial and technical information for one full year. WWSPR II has worked with these companies to identify information needs and the means of data collection.

The financial planning model and the budget process should be closely linked so that the budget for the next year is based on results from the financial model. The Holding Company can strengthen the financial planning/budgeting process by establishing procedures and following-up. Four of the companies have linked their financial planning models to the 2009-2010 budgeting process: Beheira, Cairo Water, Beni Suef and Gharbeya. It is time for the rest of the original 14 companies to do the same.

The financial planning model includes a component which calculates the costs of financing. The companies can make use of this feature when they succeed in borrowing funds on their own to make improvements.

It will also be beneficial to link performance improvement plans with the financial planning model, allowing people to analyze the costs, benefits and overall financial impact of various improvement scenarios.

As individual company five year financial planning become routine, it will also be beneficial to develop HCWW capability to consolidate these individual plans into an overall plan for the sector – one which can be used to test the expected results of various measures to be taken to improve performance and financial stability.

The Beheira, Beni Suef, Gharbeya and Daqahleya Companies have made especially good progress. Their experience and knowledge of the financial planning process positions them to act as resources to help other companies replicate their success.

C.2 Assist the HCWW to implement procedures aimed at establishing the creditworthiness of four pilot subsidiary companies

Water companies in Egypt rely entirely upon government and donor assistance to fund capital investments. In order to be truly independent and commercially sustainable, the companies must be able to access financial markets, demonstrate their creditworthiness and borrow money at commercial rates of interest. The purpose of this task was to assess the likelihood that the companies could demonstrate creditworthiness and determine what they would need to do to gain favorable credit ratings.

The scope of work for Task C.2 involved the following:

- ✓ Determine the process for establishing credit ratings for the four subsidiary pilot companies
- ✓ Assure the availability of data required for establishing subsidiary company credit ratings
- ✓ Implement the procedures for formally establishing subsidiary credit ratings by an internationally recognized rating body
- ✓ Submit a report specifying future requirements for improving the creditworthiness of the subsidiaries

Process and Results

As indicated earlier the Holding Company and WWSPR II first assessed the companies to determine those with sound enough financial results to qualify for investment grade credit ratings. Alexandria Water Company was selected for the creditworthiness pilot study because it was a profitable company. Profitability is a basic threshold to creditworthiness as companies that are not profitable will surely receive an unfavorable credit rating.

WWSPR II contracted with Middle East Rating and Investment Service (MERIS), a joint venture between Moody's Investors Service (among the world's foremost credit rating agencies) and Finance & Banking Consultants International. MERIS focuses on issuing independent credit ratings, giving opinions on the relative creditworthiness of issuers or bond issues and research and analysis for various corporate and banking market participants.

MERIS first gave a presentation to the Alexandria Water Company about the nature and importance of credit ratings as well as the procedures involved in applying for a credit rating. Then, MERIS provided the Alexandria Water Company with a list of the information needed to perform analyses and determine a credit rating. WWSPR II provided assistance to the company in data collection, documentation and due diligence during the period from April 2006 through February 2007

In April 2007, MERIS issued a report and presented it to HCWW and the Alexandria Water Company. The credit rating, expressed as a National Scale Rating (NSR), was A+ for a Government Related Institute (GRI) with Government of Egypt support (Sovereign Rating). Without government support, the rating dropped to B.

MERIS pointed out the following:

- ✓ An A+ rating is regarded as prime investment grade. Issuers or issues rated A represent above-average creditworthiness relative to other domestic issuers.
- ✓ B ratings are speculative. Issuers or issues rated "B" demonstrate weak creditworthiness relative to other domestic issuers.

Normally, the better the credit rating, the more likely it is that an entity will be successful in borrowing money at reasonable interest rates. Lower credit ratings indicate riskier borrowers and the interest rates climb because of that risk.

MERIS also made recommendations to HCWW and Alexandria Water Company about ways to increase the credit ratings – or creditworthiness – of the companies that included:

- ✓ Identify and appoint high caliber staff who can be prepared to take over senior management responsibilities.
- ✓ Improve collection policy and develop an accurate provisioning system linked to the aging of receivables system.
- ✓ Reduce the unaccounted-for and lost water percentage.
- ✓ Increase tariffs to be able to truly reflect the operating cost and maintain reasonable profit margins”.

MERIS further advised that, if Alexandria Water Company decided to access the capital market through bond issuance, it would need to enjoy the sovereign rating which could be established in either of two ways:

- ✓ Watertight guarantee committing the Government of Egypt (GoE) to pay to the bondholders the principal and interest of the bonds on a timely basis, in case the company fails to meet such obligations
- ✓ Memorandum of Understanding showing the GoE's intention to increase tariffs to cover projected total cost increases; or to state a clear declaration of total cost reimbursement (annual subsidy payment).

Based upon these results, the Holding Company decided that no further credit worthiness studies were required.

Benefits

The results of the Alexandria Water Company credit rating process provides guidance for future financial planning by HCWW and the subsidiary companies. In order for the companies to gain favorable credit ratings, however, they must be profitable and able to qualify for a sovereign rating backed by the promise of the GoE to make debt service payments if the company cannot or a GoE commitment to allow tariff increases to cover debt service and credit worthiness requirements.

Looking Ahead

At such time as HCWW and the subsidiary companies become profitable and take full responsibility for their capital investments, the experience of Alexandria Water Company on the WWSPR II project will be useful in showing how to go about qualifying to borrow money at commercial rates of interest.

C.3 Assist the HCWW with Organizational Development Issues

During WWSPR I, both the Holding Company and the subsidiaries were created and incorporated under Egyptian Law 203. The WWSPR I project guided the companies through the incorporation process which included:

- ✓ Formation of the General Assembly for each company by the Minister of Housing, Utilities and Urban Development.
- ✓ Appointment of the Board of Directors for each company by the General Assembly. This included the appointment of a Chairman for each company.
- ✓ Development of the Holding Company strategic plan and mission statement
- ✓ Development and approval of articles of incorporation for all companies

Exhibit 4.C.3 Holding Company Mission Statement

“It is the mission of the Holding Company for Water and Wastewater to provide high quality water service and environmentally safe disposal of wastewater on an economic basis.”

WWSPR I created three standard organization designs: a water company organizational structure, a wastewater company organizational structure and a combined water/wastewater organizational structure. Holding Company management and all subsidiary company Boards of Directors approved the structures by July 2005.

The following scope of work for WWSPR II was designed to continue the development of these newly-born entities:

- ✓ Assist with development of organization charts, department functions and job descriptions
- ✓ Assist in establishing a research and development function
- ✓ Assist in holding a self-financing national annual conference and expo in Cairo for public and private sector practitioners in the w/ww industry where research papers and analysis of subsidiary utility performance is the focus
- ✓ Assist in establishing the headquarters facilities, development of required systems and purchase of equipment required for subsidiary company monitoring, evaluation and provision of necessary training

Process and Results

WWSPR II continued organizational development through assistance in strategic planning, building organization structures and management development.

WWSPR II worked with the Holding Company to finalize its organization chart in July 2006. Then, at the request of the Holding Company Chairman, WWSPR II reviewed the Holding Company organizational structure in light of new functions which HCWW had recently assumed and made recommendations to modify the structure.

WWSPR developed a list of functions description for a Research and Development unit. The Holding Company chose instead to meet research and development objectives by forming a Scientific Committee.

The strategy for the subsidiary companies was two-fold:

- ✓ For the original 14 companies (formerly economic authorities), WWSPR II provided assistance to assess current staffing levels versus the levels needed and to explore actions to deal with surpluses and deficits. The results, discussed in more detail in Task D.4, at seven of the companies³ illustrate the benefits: staffing levels could be reduced by 14.5% and result in a savings of approximately LE 132 million per year. Task D.4 also discusses the Gharbeya approach to reduce staffing by offering early retirement.
- ✓ For the newly formed companies (formerly governorate departments), WWSPR II provided assistance to determine how many people were needed to staff the new company. This information was important because it allowed the Holding Company to transfer into the new company only the number of people needed and not the full complement of governorate water department staff. In the case of Menofeya, the differences in staffing were dramatic: 4,869 staff was needed which meant that 633 staff should remain with the governorate.

WWSPR II worked with the Sharqeya and Gharbeya companies to develop strategic plans which included delivering 4 training sessions in April 2006 for each company – Beheira and Damietta received assistance in developing organization structures to incorporate wastewater functions.

WWSPR II also conducted a management development program to identify and groom potential senior level managers. In October 2006, subsidiary chairmen and the Holding Company identified 80 people to participate in this program. A training contractor was hired to deliver the program between November 2006 and April 2007. The program included modules on:

- | | |
|--|--|
| ✓ Leadership and Management | ✓ Competitive Practices in Utility Management |
| ✓ Strategic Planning and Implementation | ✓ Delegation and Staff Empowerment |
| ✓ Team Building and Team Motivation | ✓ Total Quality Management |
| ✓ Management by Objectives | ✓ Managing Utilities as Commercial Enterprises |
| ✓ The Use of IT in the Management of Utilities | ✓ English Language |

At the end of this program, the training contractor evaluated the potential of the trainees which enabled the Holding Company to identify 24 managers for additional professional development. The names of these 24 potential managers, with information as to company, current position, age, degree and years of experience, are shown in Exhibit 4.C.4.

³ Sharqeya, Gharbeya, Cairo Water, Cairo Wastewater, Alexandria Water, Alexandria Wastewater and Aswan

Exhibit 4.C.4 Potential Managers

#	Name	Company	Current Position	Age	Degree	Years of Experience
1	Eng. Essam Helmy Gergis	Minya	WW Sector Manager	48	BA of Engineering	22
2	Mr. Moh. Badwey Mahmoud	Minya	Financial Manager	45	BA of Commerce	23
3	Eng. Nahed Kamel Sa'fan	Daqahleya	MIS Manager	47	BA of Engineering	27
4	Mr. Sabra Moawed Mahmoud	Fayoum	Sector Manager	48	BA of Commerce	23
5	Eng. Mahrous Moh. Mahrous	Cairo ww	Project Dept. Manager	46	BA of Engineering	22
6	Mr. A.-Malek Moh. Zayan	Daqahleya	Inventory Manager	53	BA of Commerce	27
7	Eng. Hamdy Moh. Shatta	Cairo w	Project Dept. Manager	43	BA of Engineering	19
8	Eng. Dina Omer Soliman	B. Suef	MIS Manager	47	BA of Engineering	22
9	Eng. Reda Ahmad Anian	Daqahleya	Sector Manager	49	BA of Engineering	30
10	Ms. Ola Yousief Salah	Alex w	Training Manager	53	BA of Engineering	22
11	Mr. Moh. Azmy Ragab	Daqahleya	Budgeting Manager	44	BA of Commerce	21
12	Eng. Hamdy Attia Mashaley	Gharbeya	Central Lab. Manager	46	BA of Engineering	21
13	Eng. Moh. Badwey Assel	Damietta	GIS Manager	43	BA of Engineering	13
14	Eng Ahmed Saad Atta	Alex w	General Manager	47	BA of Engineering	23
15	Eng. Sayed Saied Megahed	Minya	Economic Analysis Manager	53	BA of Engineering	16
16	Mr. Adel Ibrahim A. Mohsen	Alex w	Inventory Manager	54	BA of Commerce	24
17	Eng. Adel Attia Saad	Gharbeya	Sector Manager	47	BA of Engineering	17
18	Mr. Mohamed Nasr Drweesh	Beheira	Research Manager	48	BA of Engineering	16
19	Eng. Afaf Ahmed Abdou	Alex w	Maintenance Manager	56	BA of Engineering	24
20	Eng. Mohamed Ahmed A. Hamied	Beheira	Water Research Manager	43	BA of Engineering	14
21	Eng. Khalid Hassan Nasr	Daqahleya	Sector Manager	48	BA of Engineering	25
22	Eng. A. Salam Moh. A. Salam	Alex ww	WW Branch G. Manager	54	BA of Engineering	24
23	Eng. Moustafa Ahmed Elshiemey	Cairo ww	WW Plant Manager	52	BA of Engineering	22
24	Eng. A. Allahl Mosaad Elleithy	Gharbeya	O&M Sector Manger	54	BA of Engineering	24

The 24 potential managers participated in training courses in December 2007 covering the principles of manpower planning, organization development and the legal and regulatory structure of the sector.

In total, the WWSPR II delivered over 9,000 participant hours of training to these two groups.



From the 24 main participants, 5 people were chosen as the candidates with the most senior management leadership potential and were invited to participate in a study tour to the United States. (Exhibit 4.C.5) The objective of the study tour was to expose the participants to world class water and wastewater management techniques in order to prepare them for eventual upper level management responsibility. The techniques covered included program management, finance, operations, leadership, emergency management and technology application.

The study tour included visits to the following water and sewerage utilities:

- ✓ Upper Occoquan Sewerage Authority in Northern Virginia
- ✓ Aurora Public Utilities in Aurora, Colorado
- ✓ Denver Water and
- ✓ Denver Metropolitan Wastewater Reclamation District.

The following subsidiary company managers participated in the visits:

- ✓ Ms. Nahed Saafan, General Manager MIS, Dakhleya Company
- ✓ Eng. Khaled Nasr, Head of O&M, Daqahleya Company
- ✓ Mr. Sayed Megahed, Economic Analysis Manager, Minya Company
- ✓ Mr. Mostafa El Shimy, General Manager Water and Wastewater, Cairo Company
- ✓ Mr. Hamdy Shata, General Manager MIS, Cairo Water Company

Exhibit 4.C.5 Management Development Study Tour			
Dates	Visit Locations	Themes	Participants & Agency
August 9-21, 2008	Washington, DC Denver, CO	Program management Finance Operations Leadership Emergency management Technology application	2 Cairo Water 1 Minya 2 Mansoura

WWSPR II also provided logistics support, funding and public awareness materials to the Holding Company related to the organization and implementation of an exposition and conference that took place April 29-30, 2007. Over 350 people attended from the subsidiary companies as well as representatives of companies who could supply equipment and materials to the subsidiaries.



**HCWW
Expo
April 2007**



In the early stages of WWSPR II, the Holding Company's offices were located in rented space on Talaat Harb Street in the center of Cairo. WWSPR II provided support by funding the rental of this space until the new headquarters renovation was completed. The Holding Company took charge of renovating the historic building at Rod El Farag. WWSPR II provided support by installing the Information Technology network.



Benefits

The work of WWSPR II helped the HCWW and the 14 subsidiary companies come to life. This work has continued with the companies that were formed after the first fourteen. Both the Holding Company and many of its subsidiaries now have well-thought out organization structure, job descriptions and qualified staff on board. High potential future senior managers have been identified and they have been exposed to modern management techniques and practices. The organizational assessments and the staffing rationalization efforts in Task D.4 have helped the subsidiary companies identify surplus staff and control operating expenses. All of these efforts contribute to strengthening the ability of the subsidiary companies and the Holding Company to operate on a more commercial footing.

Looking Ahead

Some of the original and newly formed subsidiary companies have work to do to complete their organization structures and staffing. Component D, Task 4 discusses staffing assessments and five year staffing plans as a way to support this effort.

Many of the subsidiary companies are now well-structured and they have staffing profiles that are appropriate to a commercially driven enterprise. It will take diligence and monitoring to maintain this favorable condition. WWSPR II recommends formation of a Workforce Balance Committee at each subsidiary company, led by the Human Resource Department with input from key functional areas. The objectives of these Committees will be to review staffing plans and adjust them for changing circumstances such as changes in program or project activity, natural workforce attrition, etc. We recommend that the subsidiary companies update their staffing plans on an annual basis.

Component D **Assist the Holding Company to improve the commercial focus of the subsidiary companies through effective management and leadership**

Before WWSPR I began, the current companies were economic authorities, public companies or governorate departments. The utilities operated under a government model with little or no commercial orientation, relying on GoE subsidies to cover operating expenses and the GoE and donors to fund capital investment. There were also limits to the autonomy of these utilities.

During WWSPR I, the Holding Company was formed and 14 utilities were incorporated as companies. One of the WWSPR goals for these new companies was to move them towards financial independence. WWSPR I brought progress on a number of fronts, evolving the following developments:

- ✓ Foundation for Holding Company Internal Audit Department was created : job descriptions have been developed, potential candidates recruited and interviews underway.
- ✓ Cost centers and manual cost accounting systems were installed in Sharqeya and Gharbeya
- ✓ A subsidiary company staff rationalization plan was completed and the project was assisting the Sharqeya and Gharbeya companies to complete a personnel data base
- ✓ A billing and collection system assessment at all 14 subsidiaries was completed; recommendations were prepared for upgrades; and specifications for a computerized billing system were completed
- ✓ Request for proposals were sent to advertising agencies to plan and implement a national media campaign for the Holding Company

The WWSPR II scope of work for builds on these accomplishments under the following scope of work structure :

- ✓ D.1 Assist the Holding Company to develop, install and operate financial and technical monitoring systems
- ✓ D.2 Replication of individual centers of excellence
- ✓ D.3 Install cost accounting systems at all subsidiary companies
- ✓ D.4 Assist the Holding Company to rationalize staffing at the subsidiary companies
- ✓ D.5 Revenue Generation
- ✓ D.6 Public Awareness Program

D.1 Assist the Holding Company to develop, install and operate financial and technical monitoring systems

WWSPR I provided a financial monitoring system to that allows the subsidiary companies to generate annual and quarterly reports on key financial management parameters including budgeting, cash flow, revenue and collection, income statements and balance sheets. The financial monitoring system was mandated for the subsidiary companies by the Holding Company in September of 2005. By December of 2005 nine companies had submitted the reports required by the system. Development of an Internal Auditing Department was also initiated and job descriptions were developed.

Designed to build on this progress, the scope of work for WWSPR II called for the project to:

- ✓ Develop a system of plans and reports which will be required of the subsidiary companies to allow proper oversight of financial and technical operation
- ✓ Assist HCWW to organize, staff and manage teams of experts which will assess and develop plans for the upgrade of subsidiary company operations
- ✓ Assist to set up an internal audit department for financial, managerial/operational and compliance audits.

Progress and Results

WWSPR II developed the Monitoring, Analysis and Reporting System (MARS) tool to periodically transfer data from the subsidiary companies to the Holding Company through the Internet, including performance indicators, water and wastewater quality sampling, technical monitoring and financial monitoring data.

MARS is the main vehicle through which the subsidiaries gather and report comprehensive management information to the Holding Company. It enables the Holding Company to monitor the subsidiaries and to consolidate results. It allows the Holding Company to compare companies and forms the basis for a benchmarking system.

MARS is a powerful management tool that allows HCWW management to:

- ✓ Appraise subsidiary performance
- ✓ Identify areas for improvement
- ✓ Reward initiative or take remedial action
- ✓ Understand progress towards sector objectives such as full cost recovery

Appendix I provides the performance indicators developed by WWSPR II and the Holding Company. These performance indicators not only enable benchmarking but are also the focus of management reporting.

The WWSPR II team also worked with a group of HCWW counterparts to do plant assessments and improvement plans. WWSPR II provided training to HCWW staff in plant assessment, development of plans and the follow-up on plans.

Benefits

The benefits of the MARS system are as follows:

- ✓ Subsidiary companies submit their information electronically to the HCWW
- ✓ The automated system reduces the chance for human error
- ✓ Subsidiary company data can be automatically rolled up to the Holding Company level
- ✓ The HCWW has the ability to benchmark performance and compare companies
- ✓ As an indirect result, this effort builds the skills and abilities of the people at the companies.

Looking Ahead

HCWW will expand the MARS system to all the subsidiary companies and require that data be uploaded periodically. This will provide HCWW with the ability to monitor performance of companies based on standard metrics and exercise better control and monitoring of performance.

D.2 Replication of individual centers of excellence

USAID has funded water sector institutional development technical assistance projects in Egypt for more than fifteen years. During this time many programs and systems have been developed including cost accounting, MIS, billing, GIS, CMMS and personnel data bases. The Holding Company provides the platform to support performance improvement at all companies by replicating proven approaches (Centers of Excellence) implemented in some companies.

The WWSPR II scope of work calls for the project to:

- ✓ Identify centers of excellence within the subsidiary companies
- ✓ Assist to develop and implement a plan for the replication of the centers of excellence
- ✓ Assist to identify areas of strength in particular utilities which may be used to assist other utilities

Process and Results

WWSPR II developed a listing of the technical assistance programs that were introduced at the subsidiary companies under various USAID institutional development projects and divided them into three main functional areas: Technical and Operations programs, Finance and MIS programs and Utility Management Programs please see this break-out in the table below. (Exhibit 4.D.1)

Exhibit 4.D.1 Areas of Excellence		
Technical and Operations	Finance and MIS	Utility Management
Maintenance Management System	Computerized general ledger and cost accounting	Strategic planning
Industrial Waste Monitoring Program	Computerized payroll System	Staffing Plan
Asset Management Program	Computerized fixed assets system	Monitoring Analysis Reporting Systems (MARS)
Master Planning	Computerized Inventory and stock control	Public Awareness Programs
Geographic Information System (GIS)	Computerized billing system	Customer Service Systems
	Financial Planning and monitoring system	Training System
	Information technology / MIS department	Performance Monitoring

WWSPR staff then suggested criteria to define a center of excellence as follows:

- ✓ The program is maintained and upgraded periodically.
- ✓ Staff is sufficient, qualified and trained.
- ✓ The program is fully operational, efficient and effective.
- ✓ The company benefits from the program; the program outputs are requested by different stakeholders

Based upon these criteria WWSPR designated four utilities as centers of excellence, as shown in Exhibit 4.D.2.

WWSPR also identified which companies would benefit from replication of these programs in each of the areas of excellence. Exhibits 4.D.3, 4.D.4 and 4.D.5 show the results of this analysis.

Exhibit 4.D.2 Centers of Excellence	
Company	Expertise
Alexandria Wastewater	Industrial Waste Surcharge Program
Cairo Wastewater	Industrial Waste Surcharge Program
Cairo Water	Leak detection GIS Computerized billing system
Alexandria Water	GIS Department

Exhibit 4.D.3 Technical Program Needs

Program/ Subsidiary	TECHNICAL PROGRAMS					
	CMMS	Industrial Waste Monitoring	Asset Management	Leak Detection & Control	Master Planning	GIS
Alex Water	X		X			
Alex WW	X		X		X	
Cairo Water	X					
Cairo WW			X		X	
Daqahleya		X	X		X	
Beheira		X	X	X	X	
Gharbeya	X	X	X	X	X	
Sharqeya	X	X	X	X	X	
Kafr El Sheikh	X	X	X	X	X	X
Damietta	X	X	X	X	X	
Fayoum	X	X	X	X	X	
Beni Suef	X	X	X	X	X	
Minia	X	X		X	X	
Aswan	X	X	X	X	X	X
Qena	X	X	X	X	X	X

Exhibit 4.D.4 Finance and MIS Program Needs

Program/ Subsidiary	FINANCE AND MIS PROGRAMS						
	Computerized General Ledger & Cost Accounting	Computerized Payroll System	Computerized Fixed Assets System	Computerized Inventory stock control	Computerized Billing System	Financial Planning & Monitoring System	IT/ MIS Dept.
Alex Water			X				
Alex WW				X			
Cairo Water	X		X	X			X
Cairo WW	X		X	X	X		
Daqahleya			X	X			
Beheira							
Gharbeya		X		X	X		
Sharqeya		X	X	X			
Kafr El Sheikh	X	X	X	X			
Damietta	X		X				X
Fayoum	X		X				X
Beni Suef	X		X	X			
Minia	X		X				
Aswan				X			
Qena	X	X	X	X	X	X	X

Exhibit 4.D.5 Utility Management Program Needs

Program/ Subsidiary	UTILITY MANAGEMENT PROGRAMS						
	Strategic Planning	Staff Planning	MARS	Public Awareness	Customer Service	Training	Performance Monitoring
Alex Water		X					
Alex WW		X	X				
Cairo Water	X						
Cairo WW	X			X			
Daqahleya	X	X	X				
Beheira	X	X					
Gharbeya			X		X	X	
Sharqeya			X		X		
Kafr El Sheikh	X	X	X	X	X	X	
Damietta	X	X	X	X	X	X	
Fayoum		X	X		X		
Beni Suef		X	X		X		
Minia		X	X		X		
Aswan	X	X	X	X	X		
Qena	X	X	X	X	X	X	X

The recommended plan of replication involved the following:

- ✓ Adjust the implementation approach to the size and nature of the company
- ✓ Secure adequate resources and staffing
- ✓ Gain support and approval from the Holding Company and the receiving company chairman
- ✓ Select the appropriate staff with the required qualifications
- ✓ Train the staff using experts from the existing centers of excellence.
- ✓ Establish a reward program to ensure successful implementation
- ✓ Monitor progress of the receiving company
- ✓ Identify lessons learned to benefit future expansion of the center of excellence to other companies.

Sharqeya and Gharbeya were chosen to begin replicating of cost accounting, billing and personnel data base centers of excellence .

Benefits

Centers of Excellence can have many benefits to the subsidiary companies and the Holding Company:

- ✓ Promotes professional achievement and dedication to excellence by the individuals and subsidiaries involved
- ✓ Replication is beneficial to receiving companies because they do not need to reinvent the wheel and they have access to the experience of others
- ✓ When all companies follow similar approaches and use the same systems, these improvements are more likely to be sustained

Looking Ahead

The WWSPR Close-out Workshop held from March 10-12, 2009 was designed to focus attention on the major systems and tools developed by WWSPR II. In his concluding remarks, Dr. Abdelkawi Khalifa directed subsidiary companies to form teams to ensure implementation of each system or tool. This represents an opportunity to expand the “center of excellence” approach.

D.3 Install cost accounting systems at all subsidiary companies

Before WWSPR began, water utilities had basic, manual cost accounting systems that accumulated transactions into three functional categories: production and distribution, collection and administration. These manual systems did not have a sufficient level of detail on data by cost center for effective budgeting or management financial performance.



WWSPR I made the following progress in cost accounting and budgeting systems:

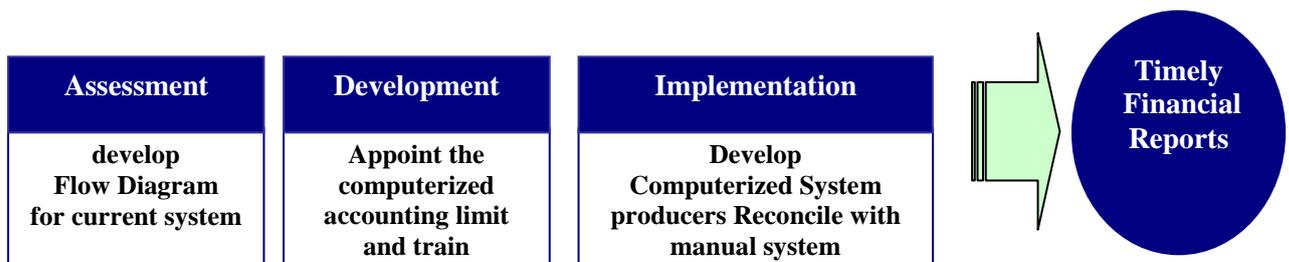
- ✓ The Sharqeya and Gharbeya companies were first chosen for implementation of cost accounting systems
- ✓ Cost center structures were developed for each subsidiary company and reviewed with the Holding Company and the chairmen of the subsidiary
- ✓ Manual cost accounting systems were implemented
- ✓ Guidelines were established for the preparation of annual budget plans to conform to the revised Egyptian Unified Accounting System, enabling all 14 subsidiary companies to submit budget plans for FY 2006 in the required form.

By the end of WWSPR I, many of the original 14 companies had a cost center system. The scope of work for WWSPR II was to:

- ✓ Assess the status of cost accounting for each of the fourteen subsidiary companies
- ✓ Develop a cost accounting system for use by subsidiary companies as needed
- ✓ Provide assistance to those subsidiary companies implementing the cost accounting system for the first time.

Progress and Results

WWSPR II began with an assessment of cost accounting systems at the 14 original subsidiaries. Six of the subsidiaries already had computerized cost accounting systems in place, some of which were developed by earlier projects. This included Alexandria Water, Alexandria Wastewater, Damietta, Beheira, Daqahleya and Fayoum. Therefore, WWSPR II focused on those without computerized accounting systems: Gharbeya, Sharqeya, Cairo Wastewater, Cairo Water, Kafr El Sheikh, Aswan, Menofeya and Minya. WWSPR II adopted a three step process to address the needs of these eight companies:



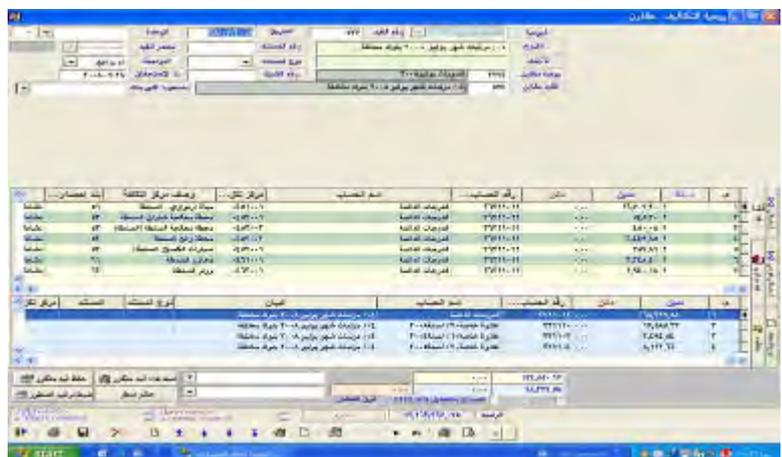
Assessment

The assessment phase involved reviewing the accounting systems of the subsidiary companies to determine if they had a proper cost accounting systems or not; whether they were able to generate useful reports for decision-making and budgeting; and the extent to which the existing systems and procedures will allow them to capture and post transactions into a computerized accounting system.

Development

The approach to developing the cost accounting systems at the subsidiaries focused on perfecting the manual system prior to computerizing.

First, the cost center structure was developed, reviewed, discussed and implemented. Next, WWSPR II worked with the subsidiaries to document existing procedures for gathering and reporting data through flow diagrams. These procedures were adjusted, as needed, to ensure accurate data gathering and posting into the new cost center structure and were implemented on a manual basis. In fact, the scope of work for WWSPR II did not specify general ledger or fixed asset accounting but these were required to be able to develop cost accounting systems because they are the source of all transaction data and depreciation.



Next, WWSPR II worked with the subsidiaries to establish Computerized Accounting Units staffed with adequate numbers of qualified people to assume responsibility for the new computerized systems. Assistance included developing function specifications for these units, job descriptions and training on General Ledger entries, cost distribution to cost centers and fixed asset accounting. Cost accounting guidelines were developed and provided to the subsidiaries. Below a description of each module is provided.

Accounting Modules	
General Ledger	Posting of all transactions; trial balance to ensure accuracy; basis of applying unified accounting system
Fixed Assets	Registry of all assets, their original cost and depreciation to arrive at current asset value
Cost Accounting	Cost centers accumulate costs by functional unit such as plant, department, branch or sector

Implementation

The computerized approach started with defining the requirements for computerized cost accounting processes and identifying the ways in which transactions would be posted to cost centers. A key aspect of this effort was review of stock control

processes since that area generates a large proportion of the transactions that flow to cost centers. These efforts were the basis for updating the manual procedures to fit with the computerized accounting approach.

Accounting software was selected based on ease of use and quick implementation while meeting the basic reporting requirements of the subsidiaries and the need for integration of the different modules (general accounting, cost accounting, fixed assets and payroll). WWSPR II worked with the software company to identify where customization of the software to meet the general ledger and cost accounting needs of the subsidiaries was needed. Computerization started in April 2006 in Gharbeya and Sharqeya and was extended to another 6 subsidiaries between 2007 and the end of the project.

During implementation, the subsidiaries maintained their manual systems, ran the computerized systems and then reconciled the two to ensure that both systems provide the same results.

Exhibit 4.D.6 shows that all eight subsidiaries now have computerized accounting systems covering general ledger, cost accounting and fixed assets. These systems provide financial statements and cost center management reports in sufficient detail to support effective decision-making.

Exhibit 4.D.6 Status of Computerized Accounting Systems at Subsidiaries						
Company	Start Date	General Ledger	Cost Accounting	Fixed Assets	Payroll and HR	Management Reporting
Gharbeya	Apr - 06	X	X	X	X	X
Sharqeya	Apr - 06	X	X	X		X
Cairo Wastewater	Jul-07	X	X	X		X
Cairo Water	Sep-07	X	X	X		X
Kafr El Sheikh	Jan-08	X	X	X		X
Aswan	Apr-08	X	X	X	X	X
Menofeya	Feb-09	X	X	X		X
Minya	Feb-09	X	X	X		X

Benefits

Computerized general ledger and cost accounting are the fundamental building blocks of financial management. without them, it is simply not possible to gather and report accurate information to use in financial decision-making in any enterprise. Having a

standard accounting approach for the subsidiaries also facilitates comparisons of financial results between the companies.

Computerization of accounting systems, furthermore, generates timely information for decision-making and tends to increase the accuracy of information as manual systems are more prone to human error. The subsidiaries have the capability to perform analysis, query the system for cost information, reconcile results to confirm accuracy and develop budgets effectively. The Holding Company, as a result, is better able to consolidate results and perform reliable cost comparisons between the companies, their departments and treatment plants.



For these reasons, the cost accounting systems implemented in the subsidiaries enable higher level financial and management initiatives such as five-year financial planning (Task C.1), financial performance monitoring (Task D.1), revenue generation (Task D.5) and tariff analysis (Component A).

Looking Ahead

Computerized accounting systems are now installed in the majority of the subsidiaries. The eight companies that worked with WWSPR II now have computerized accounting systems and they are also maintaining their manual accounting systems in parallel. When the computerized systems at these companies mature and are fully adopted, the manual systems can be abandoned .

D.4 Assist the Holding Company to rationalize staffing at the subsidiary companies

In 2004, fourteen general authorities were transformed into subsidiaries of the Holding Company as a result of Presidential Decree 135. when these authorities became companies, they retained existing staff. As a step towards commercialization, an important goal was to assess the adequacy of staffing levels and qualifications to determine where there were surpluses or deficits.

WWSPR I proposed a staff rationalization plan that was approved by the Holding Company. Implementation of this plan began at the Sharqeya and Gharbeya companies with completion of a personnel data base. The scope of work for WWSPR II, as specified below, was designed to continue this progress:

- ✓ Analyze staffing at each of the subsidiary companies and assist each company to develop an electronic personnel database
- ✓ Determine, based upon analysis of existing staff capabilities, the correct staffing level at each company. Calculate the cost of surplus staff and identify the surplus staff by number and job type
- ✓ Assist in identification of subsidiary company restructuring where needed

Progress and Results

One of the main challenges facing the HCWW and its subsidiaries is excess staff in some areas and shortages in other areas. Excess labor leads to the following problems:

- ✓ High production costs leave insufficient funds to provide acceptable levels of maintenance or to fund new investment and / or R&R.
- ✓ Underemployed workers lead to inefficiencies.
- ✓ Overstaffing limits the company’s ability to hire staff in needed areas.

According to international standards, labor cost as a percentage of O&M should be in the range of 20-30%. Exhibit 4.D.7 shows that in Egypt, this percentage ranges from 40-74%.

Exhibit 4.D.7 Average labor cost as % of O&M, FY 2006/2007			
Cairo Water Company	45%	Dakhleya Water & Wastewater	57%
Alexandria Water Company	40%	Gharbeya Water & Wastewater	74%
Cairo Wastewater Company	65%	Sharqeya Water & Wastewater	68%
Alexandria Wastewater Company	72%	Fayoum Water & Wastewater	55%
Damietta Water & Wastewater	49%	Beni Suef Water & Wastewater Utilities	66%
Beheira Water & Wastewater	58%	Minya Water & Wastewater	69%
Kafr el Sheikh Water & Wastewater	49%	Aswan Water & Wastewater	66%

Source: Financial statements 2006/2007

WWSPR II completed staffing assessments at 8 of the subsidiaries as shown in Exhibit 4.D.8. The assessments showed that, on average, staffing could be reduced by 14.5% which should result in annual savings of LE 132 million. This savings, in turn, would help the companies to make funds available for better maintenance of facilities and also improve O & M cost recovery.

Exhibit 4.D.8 Staffing Assessment Results				
Company	Yr/Mon	Surplus in Manpower	% of surplus	Average Cost of Surplus per year (L.E. Million)
Sharqeya	06-Jan	266	5.4%	2.5
Gharbeya	06-Mar	2000	32.20%	17
Cairo Water	06-Sep	3636	29%	87
Cairo Wastewater	07-Mar	1223	10.50%	20
Alexandria Water	07-Aug	-15	-----	
Alexandria Wastewater	07-ug	159	3%	2.7
Aswan	08-Sep	216	6.60%	3
Minya	09-Feb	-68	-----	
	TOTAL	7500		132.2

These assessments identified opportunities for reducing staff in some areas and identified areas in which staff need to be hired. The WWSPR team identified excess staff and required hiring for a five year period taking into consideration expected retirements and new projects coming into service. The results of the studies indicated the following:

- ✓ Sharqeya was suffering from a labor deficit in engineers, technicians, clerks and labor. This deficit would increase over the 5 year period.
- ✓ Gharbeya was suffering from excess labor in most job categories.
- ✓ Cairo Water had excess in all categories except technicians. A deficit in technicians would occur after two years.
- ✓ Cairo Wastewater had a deficit in the engineers and technicians, and an excess in clerical and administrative staff.
- ✓ Alexandria Water had an overall deficit in staff.
- ✓ Alexandria Wastewater had a 3% surplus in staff.
- ✓ Aswan had a 10% deficit in engineers, 83% surplus in chemists, 23% deficit in accountants, 150% surplus in technicians and a 62% deficit in draftsmen
- ✓ Minya had an overall deficit of 1.5% . This was comprised of a surplus of engineers, chemists and technicians and a deficits of craftsmen and of accountants

WWSPR II then undertook to answer the next obvious question: faced with surplus staffing, what can the utilities do to bring staffing levels into better balance?

One attractive strategy to deal with surpluses is early retirement.

The Holding Company asked WWSPR II to study the possibility of offering an Early Retirement Program (ERP) in the subsidiary companies. Gharbeya Company was selected for a pilot study. The study utilized the following sources:

- ✓ Data on the excess number of labor by job category based on the 2007 five year staff planning study for Gharbeya
- ✓ Number and status of existing employees based on Gharbeya Company payroll data base as of August 2007.
- ✓ The terms of the early retirement age and compensation based on a 2006 early retirement Ministerial decree from the Ministry of Investment (MOI)

The Gharbeya pilot study found that 2,424 employees would be eligible for early retirement – a full 52% of existing employees. The company could recover the early retirement “golden parachute” payout of LE 54 million in a two year period. Around 50% of this pay-out could be financed during the first year from salary savings. The rest could be financed from a GOE subsidy which is almost the same amount of subsidy received by the company during 2006/2007 (LE 50 million). The pilot study report concluded that the ERP would have a positive effect on the cost structure as well as the productivity of the company. It recommended that the program be implemented only for job categories with excess staff. WWSPR II presented the results of the study, recommending that the Holding Company institute an ERP program and provided advice as to financing.

In many cases, the staffing studies led to recommendations for organizational modifications. These were accomplished as part of Task C.3 Staff Restructuring.

In January 2006, the Cabinet decreed that water and wastewater subsidiaries would be formed in all governorates and Presidential Decree 249 transferred the fixed assets of all remaining governorate water departments to the Holding Company. As a result the staffing challenge became more acute and urgent. Many of the governorate departments were highly overstaffed. The new companies were under no obligation to accept all existing governorate utility staff as subsidiary employees – but the companies needed to inform the governorates as to which employees they would hire.

WWSPR II provided assistance to determine how many employees these newly formed companies would need to bring from the governorates. Exhibit 4.D.9 shows the results.

In the case of Menofeya, the governorate department had 5,501 employees of whom 4,868 were transferred to the new company – a reduction of 11.5%.

Benefits

The staffing assessments as well as the early retirement study enabled the new companies to fully understand their staffing needs and how finding a better balance of staff levels and qualifications could not only save money but also improve productivity. Since labor costs at the companies amounted to as much as 74% of total costs, staff rationalization was a key area in the effort to control costs and put the companies on a more commercial footing.

The results are telling. WWSPR II studies found that staff rationalization at just 6 companies could save as much as LE 132 million per year– an amount equivalent to \$ 24 million. This averages to LE 22 million in annual savings per company.

Looking Ahead

The overall status of staffing assessments, transfers and planning is shown in Exhibit 4.D.10. Completing this work in all companies has the potential for substantial cost savings for the sector.

Exhibit 4.D.9 Governorate Employee Transfers	
Company Name	Employees required from the governorate
Assiut	3,829
Giza	7,008
Luxor	1,450
Marsa Matrouh	1,095
Menofeya	4,868
Sinai	2,619
Sohag	4,880

Exhibit 4.D.10 Staffing Assessments, Transfers and Planning					
Subsidiary Company	Assessment Completed	Staffing Plan Completed	Subsidiary Company	Assessment Completed	Staffing Plan Completed
Former General Authorities			Former Governorate Departments		
Alexandria Wastewater	X	X	Assiut	X	
Alexandria Water	X	X	Giza	X	
Aswan	X	X	Luxor City	X	
Beheira			Marsa Matrouh	X	
Beni Suef			Menofeya	X	
Cairo Wastewater	X	X	North Sinai	X	
Cairo Water	X	X	Qena		
Damietta			Red Sea		
Daqahleya	X		Sohag	X	
Fayoum	X		South Sinai	X	
Gharbeya	X	X			
Kafr EL Sheikh					
Minya	X	X			
Sharqeya	X	X			

D.5 Revenue Generation

WWSPR I assessed billing systems at the original 14 subsidiaries. This assessment identified the need for introducing or upgrading computerized billing systems. WWSPR I developed specifications for billing and collection software and assisted the Cairo Water Company to procure a system based upon those specifications.

WWSPR II was tasked with assisting the Holding Company and its subsidiaries to carry out studies and implement solutions for chronic utility problems such as high unaccounted-for-water, metering and low billing and collection efficiency.

Progress and Results

The WWSPR II team consulted with Holding Company management to select a subsidiary company for a pilot study. The purpose of the study was to find ways to improve financial strength by increasing revenues and reducing expenses. Cairo Water Company was chosen for this study. The pilot approach was selected on the assumption that successful initiatives at Cairo Water could be implemented at other companies.

The study looked at three different areas of Cairo Water Company operations: commercial, technical and financial. Proposals and suggestions to improve efficiency were identified through discussions with company personnel.

Chronic challenges to financial stability were identified, as shown in Exhibit 4.D.11. These challenges formed the basis for further action. For each of these areas, analyses

were performed and action was initiated to find ways to improve and estimate costs and benefits.

Exhibit 4.D.11 Challenges to Financial Stability	
Commercial Sector	Technical Sector
Illegal connections	Water loss inside the plans (networks)
Incorrect classification of customers	Water loss in networks
Billing and collection of arrears	High electricity consumption and cost
Special rates for government entities.	Processes and equipment not optimized
No billing for fixed administrative costs	Use of chemical additives not optimized
Financial Sector	
General cost and accounting systems and the fixed assets registers	
Planning and following up liquid cash in the company	
Managing inventory	
Ability to provide accurate and detailed information for analysis of the company's performance and decision making by higher management	

The initiative of the Cairo Water Company and WWSPR II on illegal connections is a good example of the benefits of this effort. Over a six-week period, teams surveyed illegal connections in the Marg, Hagana and Nasr City districts. The survey found more than 12,000 illegal connections (see Exhibit 4.D.12 below). The Company was able to get about half of the residents with illegal connections to sign contracts and add them as customers in the Company's billing data base.

Exhibit 4.D.12 Illegal domestic connections in Marg, Hagana and Nasr City			
Initiative	Marg	Hagana & Nasr City	Total
Number of illegal connections discovered	8,264	4,414	12,678
Number of contracts signed up by the survey team and delivered to Subscriptions Department.	5,015	844	5,859
Annual income due from the 5,859 newly contracted customers. (LE Million)	5.4	0.9	6.3
Fines collected (from some of the new 5,859 newly contracted customers) (LE Million)	3.4	0.5	3.9
Fines not yet collected from the rest of the 5,859 new customers (LE Million)	2.0	0.4	2.4
Fines expected for the rest of the connections (i.e. from the 6,819 discovered connections that are still illegal) (LE Million)	3.5	4.0	7.5
Total Fines Collected LE Million			13.8

Over the course of 6 weeks in three districts, Cairo Water team actions resulted in an additional LE 6.3 million of annual revenue and fines in the amount of LE 13.8 million. The results for all areas of the study are highlighted in exhibit 4.D.13 on the next page. This exhibit shows the recommended improvements from the report, noting the estimated increased revenue or cost savings. The potential yield from the suggested improvements is LE 202 million per annum.

Exhibit 4.D.13 Revenue Generation and Cost Savings (LE Million)			
Improvement	Increased Revenue	Cost Saved	Remarks
Implement Immediately: Requires little financial outlay or time commitment			
1. Add administrative charges to monthly bills: LE 1 for domestic LE 1.5 for others.	11.9		<i>Requires</i> a decision by the Chairman of the Board, plus adding the changes to the billing system. (Adding a fixed monthly service charge for the 'service' of having water supply connected to the premises could be another new source of revenue to be applied in the same way, but has not been costed in the report).
2. Reconcile electricity bills with actual consumption.		0.9	Billing issues and failure to reconcile bills with actual consumption has led to substantial overpayments over the years. <i>Requires</i> release of 2 accounts dept. staff for several weeks to do reconciliations and negotiate with the Electricity Companies. <i>Requires</i> development and implementation of reconciliation procedures, meter logs, and staff training workshops to embed new procedures for regular use.
3. Charge fines to arrears.	27.3		This figure of 27.3M LE is calculated by applying a 10% fine on the 'collectable' arrears. If calculating 10% on all that is outstanding, the figure would be 136M LE per annum. <i>Requires</i> a decision by the Chairman of the Board on what percentage and how many days to allow for payment, plus adding the changes to the billing system.
4. Upgrade maps showing connections and routes.	21.9		Updating maps can reduce water loss by 2% - 5%. Assume 2% of daily production (120,000 m ³ /daily), average selling price LE 0.50. Potential revenue gain: 120,000 * 365 * 0.50 = 21.9M LE. <i>Requires</i> no decision. The work is already under way but it will take time before the financial gains become apparent.
Measures that will take longer to implement			
5. Detect illegal connections: A - Domestic B - Commercial.	24.3		A: 7.5M is the estimated income from FINES for illegal domestic connections in 3 suburbs of Cairo. More illegal domestic connections exist but have not yet been identified. The additional annual income has not been calculated. B: 16.8M is the amount of additional ANNUAL income that could be generated from the estimated 39,000 illegal commercial connections throughout Cairo. No fines included here. <i>Requires</i> more areas to be subjected to detailed research; may require more teams to speed up the work.
6. Amend protocols signed with the armed forces and others.	20.5		A study by Cairo Water Company in the year 2000 on water consumption by the armed forces revealed that, if all water supplied had been paid for at the agreed rate, Cairo Water Company would have received an additional 20.5M LE. <i>Requires</i> review of protocols by lawyers. Political factors may prevent revision of protocols.
7. Reduce costs by more efficient washing of filters within the plant and reducing internal leakage.		20.4	Water loss inside the plants is 12% of total daily production but expert advice indicates that it could be reduced to 9%. Daily production: 6,000,000 m ³ . Reduction of 3% = 180,000 m ³ . Production cost of water is 0.31 per m ³ . Return = 180,000 * 365 * 0.31 = 20.4M LE. <i>Requires</i> internal review of washing procedures and repairs of internal leaks
8. Reduce costs by more efficient washing of networks and reducing network leakage.		47.5	Installing leakage detection equipment could reduce loss by 5% which, after allowing for increased maintenance costs, could yield a financial benefit of 47.5 per annum. <i>Requires</i> review of network washing procedures, plus increased network leak detection and repair.

Exhibit 4.D.13 Revenue Generation and Cost Savings (LE Million)			
Improvement	Increased Revenue	Cost Saved	Remarks
			<i>Requires</i> installation of meters at turbid water inlets and at outlets to the distribution network to establish apportionment of losses to internal and external. Meters and auxiliary equipment have been bought for all plants (136 meters).
9. Improve the power factor by calibration or replace old capacitors that perform below 0.9.		Included with Number 2	When the power factor is below 0.9 the Electricity Companies impose fines to compensate for damage to their equipment by the blow-back. Three plants are currently being upgraded with new capacitors. Cost of capacitors for all the 11 plants that need them is 9.8M LE. The cost outweighs the savings in the first year. <i>Requires</i> follow-up of existing contract and then issue of additional contracts for more capacitors, and installation.
10. Improve efficiency of equipment at WW plants.		11.8	The fixed payment component of electricity bills is based on maximum loads. Installing petrol or oil-fired generators to be used at start-up (which takes max load) and during short periods of overload, and switching to the electricity supply for regular operation could reduce the total value of fixed payments by 8% per annum (=11.8M LE).. <i>Requires</i> development of workplan for phased installation and funds to purchase new motors.
11. Make more efficient use of chemical additives.		16.2	The cost of raw materials (alum and chlorine) can be reduced by 20% (=16.2M LE) by knowing water quantity accurately so that only the correct amount of chemical additives are applied and by adding chlorine in three stages, instead of two. <i>Requires</i> installation of meters at inflow and outflow points, and changing procedures.
Totals	105.9	96.8	
Grand Total	LE 202.7 Million		

Benefits

If the Cairo Water Company alone can reap an estimated LE 202 million per year by implementing the steps recommended in this study, it is easy to see the magnitude of what the financial improvements would be if all 23 companies took similar initiatives and achieved similar results.

Looking Ahead

Illegal Connections - Six weeks - Three districts - LE 6.3 Million additional annual revenue. The efforts of the Cairo Water Company are impressive and truly deserve applause. The teams took practical steps to reduce illegal connections, sign up customers and levy fines. These are steps that the other subsidiary companies can take that may achieve similar success in increased annual revenue and reduced costs.

Improvements 1-4 in Exhibit 4.D.13 are not difficult, time consuming or expensive to implement – and they represent about 30% of the total estimated revenues/savings. Items 5-11 may take longer and may involve some expense but it is possible that the savings will be enough to cover the costs. A next step, though, would be to estimate the costs to implement each improvement and compare them to the expected benefits before proceeding.

D.6 Public Awareness Program

Development of public awareness programs began in WWSPR I with a Request for Proposals aimed at procuring the services of a professional advertising agency. The Holding Company and WWSPR II conducted interviews with agencies interested in planning and implementing a national media campaign. During these interviews it became clear that a successful national campaign would require an expenditure of LE 40 million per year – an amount that far exceeded the budget.



Therefore the scope for WWSPR II was designed to develop an awareness program “in house”. The WWSPR II scope of work included the following:

- ✓ Design a water public awareness program which includes but is not limited to general media programs and articles, materials for use in the Ministry of Education curriculum and materials for distribution by subsidiary companies
- ✓ Work with the Holding Company and its subsidiaries to implement the program following approval

Process and Results

With the development of a strategic communications plan WWSPR II developed the framework for the public awareness program. The strategic communications plan,:

- ✓ Establishes objectives
- ✓ Identifies stakeholders
- ✓ Articulates themes and messages
- ✓ Describes tools approaches

As a newly formed agency, the Holding Company wished to inform the public about sector reforms and the new approach to owning and operating water and wastewater utilities. It also faced the challenge of communicating the new commercial approach to employees of the subsidiary companies who were accustomed to a more governmental approach. The Holding Company also wanted to gain public support for water conservation and acceptance of increased tariffs.



In order to conduct a successful Public Awareness Program, the Holding Company realized that it would need to develop awareness departments in the subsidiaries as well as in headquarters. WWSPR II helped structure these departments and provided training in public awareness planning and implementation.

Next, unified logos were developed to build the identity of the Holding Company and the subsidiaries as well as to inspire loyalty among employees throughout the system. The logo of each subsidiary is similar to the logo of the Holding Company (left), but graphics are added to distinguish each company.

With the basic foundation established, the Holding Company worked with WWSPR II to put the following programs in place.

Water Conservation Conference



On December 5, 2006, the Holding Company convened a joint press conference with the Ministry of Irrigation and Ministry of Housing, Utilities and Urban Development. Approximately 150 people attended and benefitted from the program which covered cooperation on water conservation measures and the parameters the EU budget support program for the water sector.

Media Workshop

This workshop included newspaper and media representatives and led to remarkable changes in coverage, showing greater awareness of the sector and the challenges faced.



Following this workshop, the Holding Company was highlighted on national television, including live interviews with the Holding Company Chairman on popular national programs. In addition, the subsidiaries took the initiative to deliver local messages such as the Gharbeya program on household plumbing repairs.

Partnerships

Opinion leaders in a community can be very helpful in understanding and communicating messages to the public. As an example, the Holding Company held a workshop in Sharqeya to establish a water conservation promotion network with Islamic and Christian religious leaders.



Publications

WWSPR II worked with the Holding Company to develop a number of publications and advertising materials that included posters on water conservation and accessing the services of the subsidiary companies. Children's coloring books and toys with a water theme, educational booklets and calendars were also developed.

Cooperation with the Ministry of Education

The Holding Company and WWSPR II formed a partnership with the Ministry of Education to develop a curriculum and teacher's guides for 4th and 5th grades students. The task involved 25 teachers and 1,000 students in 5 schools in Giza and Cairo. The themes in the curriculum were water conservation, the value of water, proper use of water and wastewater facilities and the role of citizens in preserving water. WWSPR II delivered teacher training to support the program which drew out the artistic

abilities of the children as they told the story of water in songs, poetry, plays and pictures. At the end of this program, a festival was held where children exhibited their art work and put on performances. This event was supported by GoE officials and had extensive media coverage. The success of this program was replicated in a summer camp for children from three schools in Alexandria. The student workbook from this program is provided in appendix N.

Benefits

Both the Holding Company and 22 of the subsidiaries have fully developed Public awareness programs. As these programs continue over the years, they will no doubt succeed in establishing the Holding Company and its subsidiaries firmly in the public consciousness and will help build public support for water and wastewater services.

In October 2008, the WWSPR II Public Awareness Specialist joined the Holding Company as the of General Manager of the Public Awareness and Customer Service General Department.

Looking Ahead

Public awareness efforts must be on-going to continue to reach a wide range of people in a population that is always changing. The accomplishments of the Holding Company and the WWSPR II project have laid a solid foundation for outreach to people throughout Egypt. Each of the 22 subsidiary companies has a public awareness plan that can be updated from time to time to promote additional strategic messages. The school education program fully developed go and awaits full implementation by all of the subsidiaries.

***Component E* Assist the Holding Company to Upgrade Technical Operations in the Subsidiaries**

At the start of WWSPR I, water and wastewater utilities were economic authorities companies or governorate departments. These utilities had varying levels of performance from technical, managerial and financial standpoints.

Decree 135 mandated the transfer of the original 14 water and wastewater utilities into Law 203 subsidiaries of the Holding Company. The new legal framework and relative independence of the companies enabled the HCWW to focus on operations improvement.

WSSPR I carried out a number of key studies including:

- ✓ Comprehensive assessment of the billing and collection systems in all 14 subsidiary companies recommending improvements to enhance revenue
- ✓ Hydraulic analysis of the entire Cairo Water Company network that pointed to hydraulic imbalances in Nasr City/Heliopolis, Giza, South Cairo and 13 water treatment plants
- ✓ Assessment of all 13 Cairo Water Company treatment plants.
- ✓ Survey of metered connections for 31,000 accounts in the Cairo Water Nasr City service area
- ✓ Capital projects prioritization on economic, environment and social criteria
- ✓ Development of model specifications for use in the procurement of a Cairo Water Company billing system and computerized handheld units

Both the studies and assessments and the new legal framework defined the scope for WWSPR II which includes the following:

- ✓ Provision of technical assistance to subsidiary companies (Four areas: technical, financial, managerial and IT areas)
- ✓ Provision of assistance in the management of a utility performance monitoring system
- ✓ Assistance to the Holding Company in the development and implementation of an integrated training program

E.1 Provision of technical assistance to subsidiary companies in four areas: technical, financial, managerial and IT

WWSPR I began the process of improving the performance of the subsidiary companies through the following efforts:

- ✓ Four WWSPR capacity building teams assisted subsidiaries in the areas of management, finance, technical operations and IT, beginning with the Sharqeya and Gharbeyah companies.
- ✓ The financial team assisted the two companies to close the FY2005 books and open FY2006 books in conformance with the new Unified System of Accounts. In addition, work was started on the implementation of cost accounting systems using the new Unified System of Accounts, and structured budgeting for FY 2005/06 at all fourteen subsidiaries.
- ✓ The project technical operations team carried out a comprehensive assessment of the operations and maintenance activities in all the wastewater and water treatment plants in

Sharqeya and Gharbeya companies and began development of performance improvement plans.

- ✓ Tender documents for contracting for master plans and procuring domestic meters were developed.
- ✓ The IT team assisted the Sharqeya and Gharbeya companies to develop customer databases and procedures for updating them.
- ✓ The management team assisted the two companies to develop an electronic personnel database program, organizational charts and job descriptions.

The intent of WWSPR II tasks was to work with the HCWW and the subsidiary companies to develop and implement the following:

- ✓ Assess of all fourteen subsidiaries in each of the four areas from above.
- ✓ Develop performance improvement plans and tender documents, where required, in each of the four areas.
- ✓ Assist the subsidiary companies in the implementation of the performance improvement plans
- ✓ Establish systems for assessing the current condition and future life of assets and to plan for renewal and replacement
- ✓ Collect existing utility master plans and develop the required tender documents to outsource master plan revision and review in every subsidiary company

This performance improvement focus has enabled the companies to concentrate on achieving the performance standards against which they are measured (see Sub-task E.2)

The WWSPR II project sub-task E.1 focused on treatment plant performance improvement. Other components (C, D and F) focused on improvements in financial, managerial and IT areas.

The achievements in Sub-Task E.1 is summarized in three topic areas:

- ✓ E.1.1 Plant Assessment and Performance Improvement
- ✓ E.1.2 Asset Management
- ✓ E.1.3 Utility Master Plans

E.1.1 Plant Assessments and Performance Improvement Plans

During WWSPR I, teams assessed the financial, managerial, technical and IT aspects of two pilot utilities (Gharbeya and Sharqeya) and then developed performance improvement plans. After review of these plans, HCWW asked the project to extend this approach to the other 12 subsidiary companies. This formed the basis for the WWSPR II scope of work.

Process and Results

Water and wastewater treatment plant assessments were carried out for 275 treatment plants at 15 of the subsidiary companies, as shown in Exhibit 4.E.1.

The assessments focused on the following key aspects of treatment plant operations and maintenance:

- ✓ Water quality results and environmental impacts

- ✓ Operation and Maintenance Processes
- ✓ Staff capabilities
- ✓ Laboratory capabilities

Exhibit 4.E.1 WWSPR II Water and Wastewater Treatment Plant Assessments				
Subsidiary Company	Number of Plants Assessed		Improvement Plans Completed	
	Water	Wastewater	Water	Wastewater
Alexandria	-	9		
Aswan	3	8		
Beheira	8	23		
Beni Suef	13	3		
Cairo	9	3		
Damietta	4	22		
Daqahleya	11	20		
Fayoum	4	15		
Gharbeya	7	17	X	X
Giza	1	2		
Kafr EL Sheikh	7	4	X	X
Menofeya	6	12		
Minya	22	8		
Sharqeya	7	14	X	X
Qena		2		

Once the performance improvement plans were developed, the implementation process began. At this point, the role of WWSPR II changed to following up, evaluating progress and providing feedback.

The WWSPR II team worked with a group of HCWW counterparts to do the plant assessments and improvement plans. Through on-the-job training, these young Holding Company engineers learned about treatment processes as well as how to do plant assessments and improvement plans. Looking to future capability, the HCWW Chairman asked the WWSPR II team to build the capacity of these young engineers and to develop a technical assessment unit at HCWW.

The WWSPR II team developed an assessment checklist that focuses on production, quality and productivity.

In addition to the treatment plant assessments, the WWSPR II technical team provided the following assistance:

- ✓ Measured production of water treatment plants at Cairo & Gharbeya (surface water only)
- ✓ Evaluated compact units at Fayoum and concluded that compact units should be used only when there is no other solution.
- ✓ WWSPR II established a Holding Company meter testing workshop, provided test benches and trained staff.
- ✓ Developed water quality assessment checklist for HCWW

The Benefits

The treatment plant assessments found a number of ways to improve performance which have been reported to the HCWW, the subsidiary companies and USAID. Improvements at Fostat Water Treatment Plant are examples of the benefits, as shown in Exhibit 4.E.2.

Exhibit 4.E.2: Water Treatment Plant Improvements		
Fostat Water Treatment Plant Improvements		
Action	Reason	Benefit
Stop chlorination at intake	Chlorination at the intake is not needed since water is chlorinated more effectively later in the process	Reduced consumption of chlorine and related cost
Add sand to water filters	The level of sand was not sufficient to do a good job of filtration	Water quality improved at low cost

In many cases, low cost improvements had an immediate and positive effect on performance.

Looking Ahead

WWSPR II completed treatment plant assessments for 15 subsidiary companies and performance improvement plans for 3 companies. The approach and tools applied by WWSPR II can form the basis of extending this process to all of the subsidiary companies.

The approach for carrying out assessments and developing improvement plans can also be the basis of a continuous improvement program. The HCWW should institutionalize plant assessments as an ongoing program. The WWSPR II approach will be useful to the HCWW as it performs assessments and performance improvement efforts in future.

The HCWW needs to have two technical support groups: one to respond to complaints and the second one to focus on assessments, improvement plans and follow-up. The HCWW engineers who worked with WWSPR II are prepared to take on this responsibility and they may benefit from further training and coaching. They will be most effective if they work cooperatively with the companies to improve performance.

E.1.2 Asset Management

Comprehensive Asset Management Focuses on:
Strategy, Assets, People and Processes



The original WWSPR II scope of work called for “establishing systems for assessing the current condition and future life of assets and to plan for renewal and replacement”. The project enhanced the original scope by taking a comprehensive asset management approach based on two key concepts:

- ✓ An integrated optimization process of “managing infrastructure assets help to minimize the total cost of owning and operating them, while continuously delivering the service levels customers desire at an acceptable level of risk”
- ✓ Comprehensive asset management which involves more than the physical asset – it needs a strategy, people and process components to achieve the goals of minimizing total cost of ownership while meeting service levels

It is important to note that Asset Management involves more than the traditional asset register: it is a process for managing assets, assigning resources according to priority and optimizing the capital and operating costs over the life of assets.

Exhibit 4.E.3 Asset Management Approach

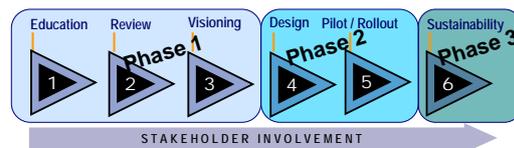
Process and Results

WWSPR II worked with the Holding Company and four subsidiaries (Cairo Water, Cairo Wastewater, Gharbeya and Minya) to implement a comprehensive asset management program, following the Asset Management Phased Implementation Approach shown in Exhibit 4.E.3.

During the WWSPR II project, activities focused on Steps 1 – 5, starting with pilot projects at Cairo Water, Cairo Wastewater and Minya. The steps were as follows:

- ✓ **Step 1 – Education:** Developed and delivered Asset Management awareness training to Holding Company and the four pilots.
- ✓ **Step 2 – Review:** Performed informal analysis of the current situation with respect to asset management at the subsidiaries. Essentially, there was very little evidence of asset management practices, limited technology and data to support asset management. Most existing asset data was not in electronic form and there were no assigned roles/responsibilities for asset management. The WWSPR asset management team developed requirements for implementation that were used by the four pilot companies to select staff.
- ✓ **Step 3 – Visioning:** Held visioning workshops with Cairo Water, Minya, Gharbeya and Cairo Wastewater companies. An asset management team was formed at each company and these teams received detailed Asset Management training. WWSPR II worked with the teams to develop an Asset Management team charter. Each group developed an

Asset Management Phased Implementation Approach



1. **Education** – Orientation on AM Best Practices & Concepts
2. **Review** – Understand the Current Situation
3. **Visioning** – How Does it Look When Successful
4. **Design** – Define Desired Attributes of Asset Management based on Best Practices
5. **Pilot / Rollout** – Implementation, Support and Benefits Tracking
6. **Sustainability** – Continuous Improvements

Asset Management roadmap for their company. The roadmap identifies the vision of Asset Management, the current situation and then defines strategies to achieve the vision.

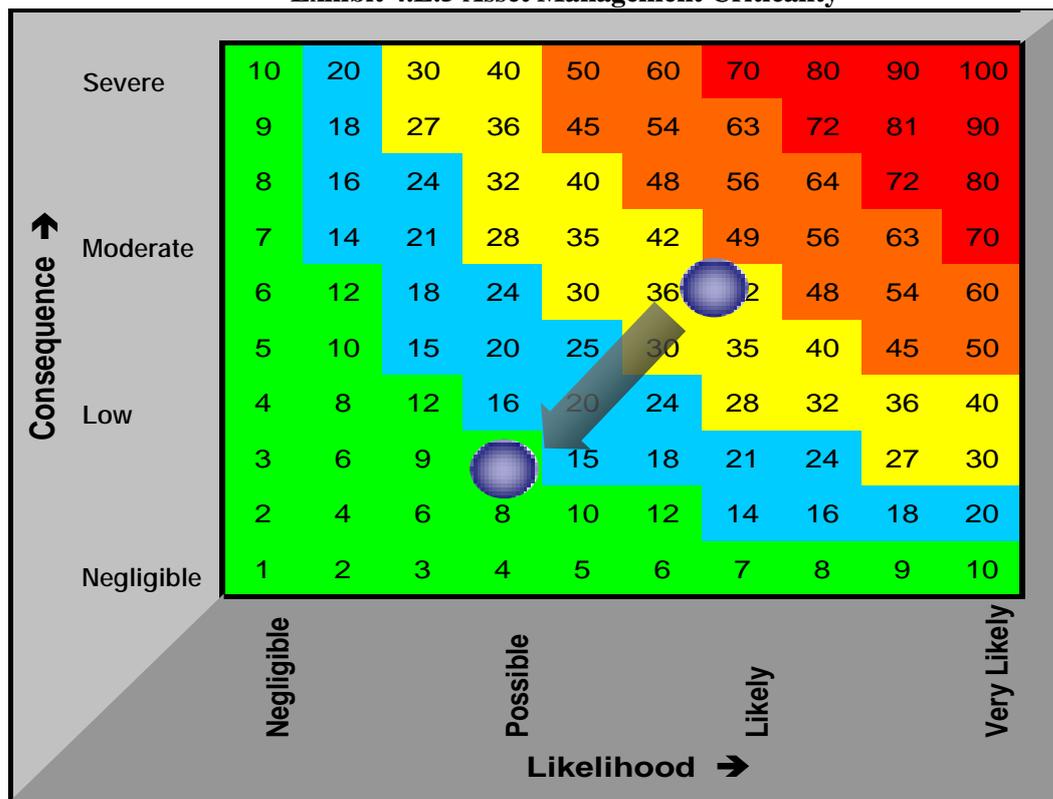
- ✓ **Step 4 – Design:** The WWSPR II team developed an organizational design for Asset Management together with supporting job descriptions. WWSPR II then assisted the Asset Management teams in getting set up with offices, furniture and computers. The groups then used the asset management roadmap to develop a detailed implementation plan.

The WWSPR team developed an asset management database. This database captures detailed asset attributes and condition data which it uses to compute a risk index based on asset condition. This represents the likelihood that the asset will fail and the consequence of failure. The risk index indicates which assets are most likely to fail and negatively impact levels of service. It can be used to identify those assets that are deserving of renewal and rehabilitation as well as revised O&M practices. The database was configured and tested to support asset evaluations in the pilot companies and staff was trained in its use.

- ✓ **Step 5 – Pilot/Roll-out:** The asset management pilot teams conducted plant visits, met with O&M staff, researched existing data, conducted evaluation of the assets in the pilot areas and used the asset management tool to develop a risk profile for the major assets. A summary of the number of assets evaluated and entered in the system, as of the end 2008, is provided in Table 2.1 below. The team also developed a summary presentation on its activities/results and presented this to the chairman of each subsidiary company.
- ✓ **Step 6 – Sustainability** - this will require subsidiary company management buy-in of the asset management approach and use of the approach to make good decisions about rehabilitation or replacement of assets.

A key aspect of asset management is the criticality assessment in which the likelihood of asset failure is weighed against the consequences of failure as shown in the following exhibit. This approach allows utility managers to focus on rehabilitating or replacing assets that fall into the red area and strive to have all assets in the green area.

Exhibit 4.E.5 Asset Management Criticality



The progress achieved during WWSPR II is illustrated in Exhibit 4.E.4.

Exhibit 4.E.4 : WWSPR II - Asset Management Progress As of 31 January 2009			
Company Name	Branch	Assets Evaluated	Assets Entered in the Asset Mgmt Software
Gharbeya	Tanta & El Mahalla ElKobra	2,275	2,275
Minya	7 Branches	12,500	7,478
Cairo Wastewater	North & East	2,800	2,738
Cairo Water	North & East	9,500	8,150
Total		27,075	20,641

Benefits

The asset management implementation has started at four subsidiary companies and there are clear benefits to these companies and the Holding Company. The following provides a summary of benefits that can be attributed to the asset management work completed under WWSPR II :

- ✓ Understanding of best in class asset management concepts by staff.
- ✓ Training materials can be used by the asset management teams to prepare other companies to pursue asset management.
- ✓ The draft asset management road map can be used by additional companies to plan their asset management efforts.
- ✓ The implementation plan can be used as a template for other companies.
- ✓ The asset management database is being used by various teams and will benefit companies that pursue asset management in the future. It can produce reports that identify high risk assets and allow the companies to allocate scarce resources to high priority assets – those that are most likely to fail.

- ✓ Key asset information is now available in the pilot companies and it will support management decision-making with regard to assets.

Looking Ahead

The Holding Company is prepared to continue development and rollout of an asset management program in all the subsidiary companies. In order to do that, the HCWW may consider establishing a corporate asset management unit to coordinate ongoing implementation, program monitoring and sustainability. Then, the steps involved in a full roll-out of asset management to the subsidiary companies will entail the following:

- ✓ **For the Existing Pilots**
 - Continue data collection efforts
 - Develop and implement sound O&M practices to ensure maximum asset reliability and extension of asset life as well as best in class operation practices
 - Populate the asset management database with data from ongoing O&M results
 - Initiate continuous improvement studies to understand the root cause of failures
 - Work with appropriate agencies to ensure that asset related recommendations from the Asset Management database are incorporated into the overall capital program for each company
 - Continue development of asset management design standards to support activities around the asset lifecycle
 - Support levels of service development and monitoring activities associated with the WPRR and WWSS projects
- ✓ **Rollout to Additional Companies**
 - Form an asset management team and follow all of the six steps laid out in the implementation methodology, using the tools and materials developed in WWSPR II
 - Involve existing pilot team members in helping the new asset management teams
- ✓ **Asset Management Tool**
 - Train Holding Company and subsidiary company staff in use and support of the Asset Management Tool
 - Update the Asset Management Tool to meet evolving asset management needs and technology changes
 - Implement new tools to support asset condition assessment techniques such as Close Circuit Television (CCTV) to film inside sewer networks to identify defects and leak detection to identify leaking or broken water mains
- ✓ **Asset Management Performance Tracking and Reporting**
 - Develop and implement a performance monitoring framework to track the progress and results of asset management practices
- ✓ **Skills Development**
 - Identify suitable asset management training opportunities (conferences, seminars, specialty workshops) for key staff
 - Conduct asset management awareness training for key staff at each utility

E.1.3 Utility Master Plans

The WWSPR II team prepared an initial scope of work for the HCWW to use in preparing subsidiary company master plans.

As of February 2009, draft master plans have been developed for 19 subsidiary companies

E.2 Provide assistance in the management of a utility performance monitoring system

WWSPR I made the following progress in performance monitoring:

- ✓ In coordination with USAID and the Holding Company a set of performance indicators was selected covering technical, managerial, and financial areas of the water and wastewater utility operation.
- ✓ A performance monitoring system was designed and developed. An HCWW engineer and an accountant were trained.
- ✓ Economic Analysis Units were formed at each of the 14 original subsidiary companies, and project staff assisted in staffing the units and provided training
- ✓ Starting in January of 2005, quarterly performance indicator reports were required from all subsidiary companies. Compliance improved throughout the year and by November of 2005 all subsidiary companies were routinely submitting performance indicator reports.
- ✓ All subsidiary companies submitted the FY 2006 targets for each performance indicator.

The HCWW and subsidiary companies were well-prepared to continue and enhance performance reporting. The WWSPR II scope of work involved the following:

- ✓ Write procedures for the operation of the HCWW performance monitoring systems and assist in communicating the requirements to the subsidiary companies
- ✓ Provide assistance to the subsidiary companies in the collection of data, preparation of performance indicator reports and analysis of data
- ✓ Monitor the performance indicator reports and develop benchmarking studies
- ✓ Assist the HCWW to establish performance standards based upon the current performance of the subsidiary companies and international standards

Process and Results

In discussions with USAID and the Holding Company, WWSPR II proposed developing an electronic reporting system to meet the objectives of this task. This electronic reporting system was called MARS: Monitoring Analysis and Reporting System.

WWSPR II developed MARS (Monitoring Analysis and Reporting System) to enable performance reporting. The benefits of the MARS system are as follows:

- ✓ Subsidiary companies submit their information electronically to the HCWW
- ✓ The automated system reduces the chance for human error
- ✓ Subsidiary company data can be consolidated to the total Holding Company level

- ✓ The HCWW can benchmark performance and to compare companies

Performance indicator reports are submitted to HCWW by 19 subsidiary companies on the 20th of each month following the end of a quarter. The HCWW via MARS Economic Analysis Unit analyzes and benchmarks results, comparing the companies through a performance indicator analysis program.

Appendix I identifies the, financial, technical and commercial performance indicators with definitions and the basis of calculation. Exhibit 4.E.5 below compares average results for the years 2005 and 2007 for 6 selected indicators. This exhibit shows that O&M cost recovery improved by 13% during that period and it also shows some improvement in wastewater treatment plant utilization. The other indicators show a slight decline.

Exhibit 4.E.5 Average Performance Improvements 2005-2008			
Indicator	Average for 10 Companies December 2005	Average for 11 Companies September 2007	Change
O&M Cost Recovery - Water	94%	91%	-3%
O&M Cost Recovery - Wastewater	36%	49%	+13%
Unaccounted for Water	32%	29%	-3%
Wastewater Plant Utilization	72%	75%	+3%
Collection Rates – Cairo and Alexandria Wastewater	75%	74%	-1%
Percentage of Wastewater Treated	72%	75%	-3%

The Benefits

The performance indicators have the following benefits to HCWW and subsidiary company management:

- ✓ Managers at HCWW and the subsidiaries know how they are performing on a quarterly basis
- ✓ The HCWW uses the performance indicators as a basis for annual reviews and resulting bonuses for the subsidiaries

Looking Ahead

Now that a performance indicator system is in place, the Holding Company and the subsidiaries may want to enhance it by adding new areas of focus. These might include safety, public awareness, training, laboratories, operation and maintenance, and landscaping

While some companies are using the indicators to internally manage, this is not true for all. A significant part of the value of indicators is to enable more effective management. As the Holding Company works with the subsidiaries, it can encourage using the indicators effectively to improve both performance and management.

E.3 Assist the Holding Company to Develop and Implement an Integrated Training Program

An assessment report completed at the beginning of WWSPR II involved the following:

- ✓ Training needs assessment forms .
- ✓ Training center assessments for all subsidiary companies. Information included the number of training facilities, types of equipment, number of trainers, types of training course material, training budget and current training plan.

The WWSPR II scope of included the following tasks:

- ✓ Inventory and assess the capacity of existing subsidiary company and NOPWASD training centers
- ✓ Present a Holding Company training facility plan which rationalizes the use of all existing training centers
- ✓ Carry out a training needs assessment and develop an annual Holding Company training plan including all subsidiary companies
- ✓ Assist the Holding Company to develop annual training plans in each of the fourteen subsidiary companies
- ✓ Plan and conduct two study tours for twenty-four Holding Company, subsidiary company and MHUUC upper and middle management staff

Process and Results

Sub-Task E.3 took responsibility for managing all of the training delivered during WWSPR II to HCWW and subsidiary company staff.

Training needs assessments were completed for 16 subsidiary companies by February 2006. The scope of these assessments covered the number of training courses needed and the approximate number of people to be trained.

Appendix F, entitled Training Courses, lists the courses and number of participants in training delivered during the project. This appendix demonstrates that the project delivered approximately 14,000 participant hours training across a number of disciplines. Appendix G summarizes the 6 study tours.

WWSPR II also inventoried subsidiary company training centers and facilities only to find that most subsidiaries had established training departments but had not yet established training centers. Sharqeya and Gharbeya had begun work on establishing training centers and by March 2009 Sharqeya completed a center in their headquarters building.

The Benefits

There are generally three stages in implementing new approaches and systems. First, a foundation is needed. Studies and analysis are needed to design the conceptual approach. Policies, procedures and system selection is required followed by installation and fine-tuning. Training is the next step – building the skills and knowledge of counterparts so that they understand the purpose of the new approach and are fully prepared to do their part to bring it to maturity. With the foundation and training completed, the new approach or system can be fully implemented and provide the desired benefits. WWSPR II training was a key component in implementing the new approaches and systems.

Looking Ahead

Training is never finished. There are always people leaving a position or an organization who take knowledge with them. There are always new people joining. The training courses delivered by WWPR II will prove useful to MHUUD, EWRA, the Holding Company and the subsidiaries in the future as they conduct training programs.

Component F Management Information Systems for the EWRA and the Holding Company

Both EWRA and the Holding Company were formed during WWSPR I. Both were in need of automated systems to gather and report data as a basis for sound management. WWSPR I began the process of building these systems. At the beginning of WWSPR II, the status of management information systems (MIS) at both agencies was as follows:

- ✓ EWRA: MIS was in place and populated with financial data from FY 2002 and 2003. The key components of this system are shown in Exhibit 4.F.1.
 - ✓ Holding Company: the following electronic systems were installed and operating:
 - The Holding Company web site
-
- Finance and administration software including general ledger, fixed assets, personnel and payroll modules (the ADVAC System)
 - Electronic document management and archiving system for tracking Holding Company correspondence. (Arabdocs)
 - ✓ Database for use by both EWRA and the Holding Company: detailed analysis of water and wastewater utility operations formed the basis for a comprehensive database covering financial, operational, commercial and technical areas. The application provides powerful reporting and analytical capabilities.

In sum, by the beginning of WWSPR II, basic management information systems were in place at the Holding Company and at EWRA.

Component F of WWSPR II was designed to build on these basic systems and involved the following scope of work:

- ✓ Assist MHUUD with implementation of an MIS for EWRA
- ✓ Design, procure and install a fully functional MIS that will develop all required reports and analyses for the Holding Company
- ✓ Provide training to EWRA and Holding Company MIS staff
- ✓ Assist the Holding Company and EWRA in development of a sector database

Exhibit 4.F.1: EWRA Management Information System- WWSPR I

Key modules

- ✓ Utility database maintenance: utility and technical information, data on tariffs, operations and maintenance, financial and commercial operations
- ✓ Performance monitoring module: indicators and reporting capability for operational, financial or technical information
- ✓ Customer affairs management: collection and reporting of customer issues
- ✓ Docket management: focal point for managing all EWRA activities
- ✓ Multi-dimensional analysis and reporting: flexible way to analyze any number of data elements in the system
- ✓ User-defined charting and reporting: ability to look at utility data in a number of different ways to assess performance and make relevant decisions about tariffs and certifications
- ✓ Geographic analysis and MIS: link geographic features to MIS data and provides capabilities for querying and reporting

Technical Information

Microsoft .NET platform with components including Janus Grid, Crystal Reports, Dynamic Cube and Map Objects

The essence of this scope is to fully implement management information systems – ensuring that both agencies make best use of the systems and their capabilities. This discussion of WWSPR II achievements is provided in two parts: one for the EWRA and one for the Holding Company and its subsidiaries.

EWRA Management Information Systems

WWSPR II built upon the MIS installation at EWRA by providing training in the use of the systems and supervision over full implementation which included full data input, manipulations and reporting. The Component E, Task 3 discussion detailed the training provided. Appendix J shows the IT procurement for EWRA that totaled \$143,871.

In summary, WWSPR II provided training covering these topics:

- ✓ Systems Administration
- ✓ Utility database module
- ✓ Performance Monitoring module
- ✓ Customer affairs module
- ✓ Docket Management module
- ✓ Tariff History module
- ✓ Financial Monitoring module
- ✓ Management Charting and reporting

During WWSPR II, the project MIS staff also worked with EWRA to build a website. The home page was designed and links were constructed to add required information such as sector organization, population, laws and mandates, EWRA strategy, related local and international agencies. WWSPR II delivered the site to EWRA and the site is being completed by adding, additional information that includes tariffs and technical assistance to the sector. The site address is www.EWRA.com.eg.



Holding Company for Water and Wastewater and its Subsidiary Companies

As indicated above under component E, Task 2 WWSPR II developed the Monitoring, Analysis and Reporting System (MARS) tool to periodically transfer data from the subsidiary companies to the Holding Company through the Internet, including performance indicators, water and wastewater quality sampling, technical monitoring and financial monitoring data.

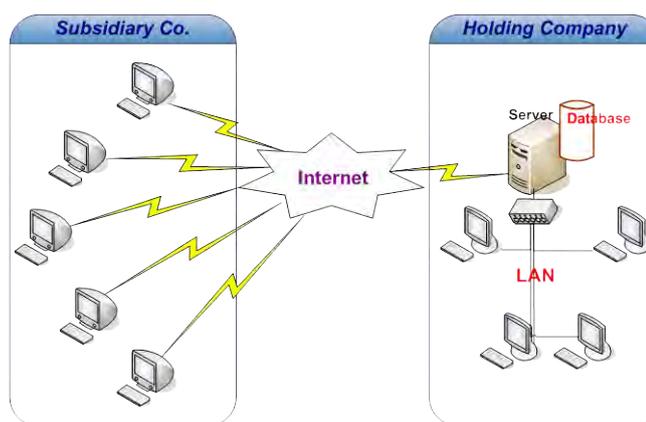


Exhibit 4.F.2 shows the capabilities and scope of MARS:

Exhibit 4.F.2 MARS System Components		
Module	Content	Frequency of Reporting
Performance Indicators	Water indicators	Quarterly
	Waste water Indicators	Quarterly
Water and Wastewater Quality Sampling	Water plants lab sampling	Daily
	Water central labs sampling	Monthly
	Wastewater plants lab sampling	Daily
	Wastewater central labs sampling	Monthly
	Networks sampling	Daily
Technical Monitoring	Water plants operation	Monthly
	Water plants maintenance	Monthly
	Water boosters maintenance	Monthly
	Water networks maintenance	Monthly
	Wastewater plants operation	Monthly
	Wastewater plants maintenance	Monthly
	Wastewater pump stations maintenance	Monthly
	Wastewater networks maintenance	Monthly
Financial Monitoring	Yearly Budget	Yearly
	Opening Balance	Yearly
	Actual trial balance	Quarterly
	Cost groups analysis	Quarterly
	Income statement	On demand
	Balance sheet	On demand
	Consolidation reports	On demand
	Comparison reports	On demand

MARS was installed in 19 locations and has at least 330 registered users. Exhibit 4.F.3 shows the installation locations and the number of users at each location. It remains for the Holding Company to decide when to install the system at the remaining companies.

The MARS system is documented through a User Guide and the Administration Manual – both of which were provided to the HCWW and the subsidiary companies in which MARS is installed.

WWSPR II provided training to the Holding Company and subsidiary company users of MARS, primarily through on-the-job training and workshops covering:

- ✓ MARS Administration
- ✓ Performance Monitoring module
- ✓ Quality Sampling module
- ✓ Technical Monitoring module
- ✓ Financial Monitoring module

The WWSPR II MIS team also helped the Cairo Water company to procure a new billing system. This assistance included developing technical specifications for software and hardware, vendor evaluation, supervision of software customization performed by the vendor and supervision of implementation of the new system.

In addition, it should be noted that very few of the subsidiary companies had Information Technology departments when they were formed. The WWSPR II MIS team worked with the companies to establish these departments and provide training to the employees covering such topics as networking, operating systems and maintenance.

And finally, WWSPR II procured software and hardware for the HCWW and the subsidiary companies. Exhibit 4.F.4 lists the items and the costs which amounted to a total of US \$585,514.00

Exhibit 4.F.3 MARS HCWW Installations	
Subsidiary Company Locations	Number of Users
HCWW Headquarters	26
Alexandria Wastewater	13
Alexandria Water	14
Aswan	24
Beheira	37
Beni Suef	15
Cairo Wastewater	11
Cairo Water	34
Damietta	11
Daqahleya	14
Fayoum	24
Gharbeya	14
Giza	2
Giza	24
Kafr EL Sheikh	11
Minya	23
Sharqeya	11
Qena	2
Menofeya	21
Marsa Matrouh	1
Total Users	330

Exhibit 4.F.4 MIS Procurement for HCWW and Subsidiary Companies

Item(s)	Quantity	Cost
Servers, UPS, Tape Drive and rack	25	\$79,200
Desktop and Laptop PCs	51	198,416
Printers and Plotters	24	89,770
Data Show	2	7,628
GIS Software	10	74,200
LCD TVs	3	7,700
Scanners	5	26,500
Firewall, Wireless Network	1 1	12,700
Finance and Admin Software		78,000
Copiers	2	7,000
Backup Software Software Development Tools	4	4,400

Benefits

MARS is the main vehicle for the reporting of comprehensive subsidiary company management information to the Holding Company. MARS enables the Holding Company to monitor the subsidiaries and to consolidate results. It allows the Holding Company to compare companies to each other and forms the basis for benchmarking.

Before MARS, companies submitted mainly hard copy. This took time, not only to transmit but also to then enter into the automated systems. This method was also prone to errors. Today, data reporting and transfer is instantaneous.

MARS is a powerful management tool that allows HCWW management to:

- ✓ Appraise subsidiary performance
- ✓ Identify areas for improvement
- ✓ Reward initiative or take remedial action
- ✓ Track progress towards sector objectives such as full cost recovery

Looking Ahead

MARS is ready to install in the subsidiary companies that have been recently formed including Luxor, Assiut, Sohag and Red Sea. The Holding Company is fully prepared to offer assistance to these companies as they proceed. The companies will need adequate equipment and Internet connections to run the system

The information in MARS will also be useful to the EWRA when it fully plays its role as regulator.

Component G Draft and assist MHUUC to secure passage of a law regulating the water sector

During the course of WWSPR I, presidential decrees formed the Holding Company for Water and Wastewater and the Egyptian Water Regulatory Authority. (Exhibit 4.G.1) Law 203 provided the legal structure for forming and actively managing the 14 subsidiary companies established by Decree 135.

Exhibit 4.G.1 Presidential Decrees April 27, 2004

Decree 135: Establish the Holding Company for Water and Wastewater (HCWW) and transform the fourteen largest utilities into subsidiaries

Decree 136: Establish the Egyptian Water Regulatory Authority (EWRA)

The scope of work for Component G of WWSPR II mandated the provision of assistance to MHUUD to secure passage of a law regulating the water sector and legitimizing the Holding Company and EWRA as the responsible organizations for water and wastewater services and regulation in Egypt. Presidential Decree 135 and Law 203 provided a way for the Holding Company and the subsidiaries to operate and manage the provision of potable water and wastewater treatment services. However it was determined that Presidential Decree 136 was not sufficient to give the EWRA the power it would need to set standards and enforce compliance.

The MHUUD Minister formed a High Committee by Ministerial Decree 124 for 2006. The High Committee formed a subcommittee to draft a law for its consideration under the High Committee decree 176 for 2006. The sub-committee's draft law focused on regulating the sector and had 44 articles. As the High Committee reviewed the draft law, its members added additional articles bringing the total to 135, making the draft law somewhat unwieldy. WWSPR II project staff reviewed the draft and made recommendations. The project team advised that the draft could be consolidated into 83 articles. WWSPR II also identified the 30 articles that are essential to provide EWRA the authority needed to regulate the sector.

A new water sector law is essential to the development of EWRA. Without a legislative mandate, EWRA does not have the authority to perform its function as a regulator.

***Component H* Coordinate with other donors**

The Presidential decrees of 2004 renewed donor interest in the water and wastewater sectors as illustrated in Exhibit 4.H.1. The WWSPR project was in a unique position to provide assistance in attracting donors: every donor mission interested in sector reform conferred with the WWSPR team. WWSPR shared background information and data with all donor representatives. Notably, all donor projects drew upon the performance indicators and five year financial plans produced during WWSPR.

Exhibit 4.H.1 WWSPR I contributions to donor programs

- ✓ **GTZ:** Scope of work to upgrade the Qena water department so that it could qualify to become a subsidiary of the Holding Company
- ✓ **KfW:** Report to Kreditanstalt für Wiederaufbau (KfW) on progress achieved in the water sector reform
- ✓ **European Union (EU) Grant Conditions:** assisted the EU team to understand the status of sector reform and commented on their final report with regard to grants to Ministry of Irrigation and the Ministry of Housing, Utilities, and Urban Communities.
- ✓ **SIDA:** drafted a description of areas where SIDA might provide assistance to the Holding Company
- ✓ **World Bank:** 1) Position paper for MHUUC to use with World Bank representatives describing how Holding Company initiatives could help reduce the reliance of water utilities on subsidies from the State. 2) Assisted the Holding Company to successfully apply for a World Bank Global Partnership on Output-Based Aid Grant to fund house connections to a new wastewater treatment plant in the Gharbeya Governorate
- ✓ **Dutch aid agency:** maintained connections to their assistance project in Alexandria, Beheira and Damietta Water
- ✓ **JICA:** provided information on progress through WWSPR tasks at Sharkeya company

The scope of work for WWSPR II called for continued interaction with donors to foster coordinated activities and to produce additional studies, as directed by USAID, to investigate targets for opportunity, unforeseen organizational issues and management systems/models. The deliverables for Task H included a database of donors working in the sector and a schedule of regular workshops aimed at sharing information and coordinating activities.

Progress and Results

WWSPR II took a creative and effective approach to donor coordination. The workshop held on May 9, 2006 provided an overview of the needs of the sector. The following donors attended: USAID, GTZ, World Bank, JICA, DANIDA, Italian Aid, KfW, City of Amsterdam, the Embassy of the Netherlands, EU, EIB, UNDP and SIDA.

Prior to the workshop, WWSPR II prepared a large matrix showing 29 areas of subsidiary company assistance needs. At the workshop, donors were invited to review the matrix and indicate, by sticker, where they were providing support and where they were prepared to provide support. This allowed the Holding Company to fully understand what donors were doing and to identify areas of overlap, enabling them to better deploy donor assistance. The matrix was maintained during WWSPR II additional donors were added as appropriate. The current status of the matrix of results is provided in Exhibit H.2 on the next pages.

Appendix C provides a listing of donor agencies with which WWSPR II has interacted along with the contact name and information. Appendix D provides a listing of over 75 meetings that WWSPR II held with donors on a variety of subjects.

WWSPR II worked especially closely with GTZ, which in 2007 began providing assistance to the Holding Company. GTZ efforts focused on the Qena Water Company and the provision of management development assistance to the Holding Company in the areas of training, investment planning, business planning and the creation of new companies. WWSPR II also provided data to the GTZ-funded Policy Advisory Unit and made recommendations on policy issues.

In addition, WWSPR took the following initiatives:

- ✓ The European Union offered a budget support grant of Euro 80 million to MHUUD. This grant was distributed to the Holding Company and the Ministry of Irrigation and Water Resources on the basis of completion of agreed upon milestones. WWSPR II worked with the Holding Company to develop suggested milestones.
- ✓ Assisted JICA to develop their project for the Sharqeya Company, sharing data and maintaining close cooperation to avoid assistance overlaps.
- ✓ Cooperated with DANIDA on public awareness activities in the Aswan Company
- ✓ Assisted a City of Amsterdam project in development of project objectives for the Beheira, Alexandria Water and Damietta Companies
- ✓ Assisted a KfW-led European Commission project team with the formation of a large project aimed at developing rural water and wastewater infrastructure in four Delta governorates (IWSP project). Assisted World Bank by carrying out five year financial planning studies with Beheira, Gharbeya, and Kafr El Sheikh Companies. These studies were integrated into the planning for the second stage of the Integrated Sewage and Sanitation Infrastructure Project (ISSIP)
- ✓ Provided a report on the Holding Company performance indicator system to the European Union Egypt office
- ✓ Provided information to the World Bank GPOBA unit which was considering funding a project for the Gharbeya Company for wastewater house connections.

Exhibit 4.H.2: Donor and Needs Matrix

Utility	Upgrade of wastewater plant and network operations	Upgrade of water plant and network operations	Asset Management	Inventory stock control	Lab TA	Leak Control	Finance TA Systems	Master Planning	Wastewater reuse	Billing & Collection
Alex Water		Amsterdam			USAID Amsterdam	Amsterdam				
Alex WW	WB				USAID					
Cairo Water		Italian AID USAID JICA	USAID		USAID	Italian Aid	USAID			USAID
Cairo WW					USAID		USAID			
Daqahleya					USAID					
Beheira	WB	Amsterdam			USAID Amsterdam	Amsterdam		WB	UNDP	
Gharbeya	WB USAID	JICA Amsterdam USAID			USAID Amsterdam		USAID	WB		USAID
Sharqeya	USAID	JICA USAID			JICA USAID	JICA	USAID			USAID
Kafr El Sheikh	KFW WB				USAID			WB		
Damietta					USAID					
Fayoum	Dutch Aid	Dutch Aid	Dutch Aid		USAID	Dutch Aid			UNDP	Dutch Aid
Beni Suef					USAID				UNDP	
Minia			USAID		USAID				UNDP	
Aswan	DANIDA	DANIDA	DANIDA	DANIDA	USAID	DANIDA		DANIDA	UNDP DANIDA	DANIDA
Qena	KFW	KFW	GTZ		KFW	GTZ KFW	GTZ			GTZ
Holding Company	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
					USAID		USAID	UNDP	UNDP	
New Companies										

Exhibit 4.H.2 Continued

Utility	Financial Planning	PSP	MIS	GIS	Strategic Planning	Metering	Staff Planning	Mgmt/Org development	Public Awareness	Performance Monitoring
Alex Water	USAID	USAID		Amsterdam				Amsterdam	UNDP Amsterdam	USAID
Alex WW	USAID									USAID
Cairo Water	USAID			USAID		USAID	USAID		UNDP	USAID
Cairo WW	USAID						USAID			USAID
Daqahleya	USAID									USAID
Beheira	USAID		Amsterdam	Amsterdam	WB			WB Amsterdam	WB UNDP Amsterdam	USAID
Gharbeya	USAID		USAID	USAID	WB USAID		USAID	WB Amsterdam	WB Amsterdam USAID	USAID
Sharqeya	USAID	USAID	USAID	USAID	USAID		USAID		JICA USAID	JICA USAID
Kafr El Sheikh	USAID				WB			GTZ WB	WB	USAID
Damietta	USAID									USAID
Fayoum	USAID	Dutch		Dutch Aid					Dutch Aid UNDP	USAID
Beni Suef	USAID								UNDP	USAID
Minia	USAID								UNDP	USAID
Aswan	USAID		DANIDA			DANIDA	DANIDA	DANIDA	UNDP	USAID
Qena	GTZ	GTZ	GTZ	GTZ	GTZ	GTZ		GTZ	Unicef	GTZ
Holding Company	EU	EU	UNDP		UNDP	EU	EU	Unicef	UNDP	EU
			EU		EU			GTZ	EU	EU
	USAID		USAID		USAID			EU USAID	USAID	USAID
New Companies							GTZ			

Exhibit 4.H.2 Continued

Utility	Industrial Waste Control	Legal T/A	Watershed Management	Customer Service	Training	Rural Sanitation	Renewal & Rehabilitation	New construction	Research & Development
Alex Water					UNDP				Amsterdam
Alex WW								KFW	
Cairo Water					Italian Aid UNDP				
Cairo WW									
Daqahleya									
Beheira			WB Amsterdam			WB			Amsterdam
Gharbeya			WB Amsterdam		USAID	WB			Amsterdam
Sharqeya					JICA USAID				
Kafr El Sheikh			WB		KFW	GTZ WB		KFW	
Damietta									
Fayoum						Dutch Aid			
Beni Suef									
Minia									
Aswan				DANIDA	DANIDA		DANIDA		
Qena					UNICEF	GTZ UNICEF			
Holding Company	EU	EU	EU		UNDP	EU			
		USAID			Italian AID				
		USAID			USAID				
New Companies									

Component I **Program Monitoring System, MHUUD**

The Ministry of Housing, Utilities and Urban Development (MHUUD) is responsible for comprehensive urban and community development, including housing and infrastructure for potable water and sewerage. The Ministry has four agencies in addition to the Holding Company for Water and Wastewater (HCWW) whose responsibilities include implementing capital investment projects:

- ✓ National Organization for Potable Water and Sanitary Drainage (NOPWASD)
- ✓ New Urban Communities Agency (NUCA)
- ✓ Construction Authority for Potable Water and Wastewater (CAPW)
- ✓ Central Agency for Development (CAD)

The annual MHUUD capital investment budget is in the neighborhood of LE 15 billion divided over nearly 2,500 active projects. The Minister of MHUUD wished to enhance the management of projects and also introduce best practices in project and program management. To assist in this effort, the Ministry requested USAID for assistance to better manage their infrastructure construction projects. USAID amended the WWSPR Project to include a Program Management Task that started in September 2006.

The scope of work for this new task was designed to initiate and bring order to the process of monitoring and managing capital investment projects conducted by the MHUUD and its agencies. The scope required of the following results:

- ✓ Fully trained program management and evaluation unit at MHUUD
- ✓ Hardware and software required for the program monitoring system
- ✓ Fully developed and operating program monitoring system
- ✓ Full set of procedures and manuals for use by the program management and evaluation unit and all agencies

Process and Results

The first step was to meet with each of the agencies. At these meetings, a list was submitted indicating the need for the following data on each project: name, code, planned start and end date, planned finish date, budget, expenditures to date, percent complete and estimated cost to complete. While the agencies had some of this information, none of them were able to provide all of the information for all of their projects.

Project Controls Units

Given the magnitude of the task in terms of bringing order and control to such a large number of capital investment projects a management unit was required within MHUUD to control the process. WWSPR II worked with MHUUD to establish a Program Management and Evaluation Unit (PMEU). WWSPR staff developed an organization structure, required positions, job descriptions and a list of functions to be carried out. This same concept was applied in establishing the Agency Project Controls Units (APCU) at NOPWASD, NUCA, CAPW, CAD and HCWW. WWSPR II helped evaluate potential APCU candidates for positions and made

recommendations. APCU managers were appointed in all five agencies, including the Holding Company. WWSPR work with the APCUs was beyond the scope of work but was necessary to accomplish the objectives of the task.

Training

Once the project controls units were established and staffed, WWSPR conducted a comprehensive training program that included the following:

- Workshops on the following project management topics (December 2007-May 2008):
 - ✓ Portfolio Management
 - ✓ Key Stakeholder Communications
 - ✓ Project Life Cycle & Project Chartering
- Week long training sessions for each agency based on the Project Manager Manual developed by WWSPR II (June and July 2008). These training sessions covered a number of important topics including risk management, project controls and engineering change management. Many of the concepts in the manual are influenced by the *Project Management Body of Knowledge*®.
- A Study Tour to the United States in August 2006 to observe world class approaches to program management employed by agencies in California, Florida and Washington, DC.

While the training was taking place, WWSPR was putting Project Information Systems for Management (PRiSM) in place. This system consists of a suite of integrated applications that work together to provide full project management functionality. These applications include Primavera, SharePoint and SQL database. An important feature of this system is the “Dashboard” which gives managers a summary of project status at a glance.



To prepare people in the agency project controls units to use the PRiSM system, WWSPR II prepared a manual. A series of training sessions for the PMEU, the APCU managers Holding Company staff and employees of 15 subsidiaries was started in May 2007.

Exhibit 4.I.1 shows the number of people trained from the PMEU, each of the agencies and the HCWW and its subsidiaries. A large number of people in the

Exhibit 4.I.1: Number of People Trained in Project Management

Agency	PRiSM	Project Management	Senior Management Workshops
MHUUD PMEU	6		
CAPW	22	14	
NOPWASD	80	19	
CAD	27	20	
NUCA	61	22	
HCWW/Subsidiaries	102	18	
Total	298	93	238

Ministry, the agencies and HCWW are now trained in project management and in the use of PRiSM. These people are an important core group who can operate and maintain the program management system and pass their knowledge on to others.

Hardware and Software

To support the project management system, WWSPR II procured hardware and software for MHUUD and the agency APCUs. Hardware included 74 desktop or laptop computers, servers for MHUUD and over 180 peripheral items including printers, scanners, switches, plotter, and print cartridges. WWSPR II also provided appropriate software and licenses for the computers and servers.

Data Entry

In May 2007, the agencies began to enter data into PRiSM. As of early March 2009, data has been entered for approximately 1,800 of the nearly 2,600 5-year plan capital investment projects. The agencies and HCWW are collecting data from regional/district offices, cities, or subsidiaries who, in turn, gather the information from project managers in the field. Exhibit I.2 shows a PRiSM screen shot showing the fields for Work Breakdown Structure number, cost and schedule data.

Results

As WWSPR II closed, the PMEU was fully engaged in carrying out project data review and reporting. The APCUs at four agencies and the HCWW are actively gathering, inputting and updating the data in PRiSM on a monthly basis. All agencies are now able to find project information and generate reports as needed, sorted by location, type of project, etc.

Exhibit 4.I.2: PRiSM Data

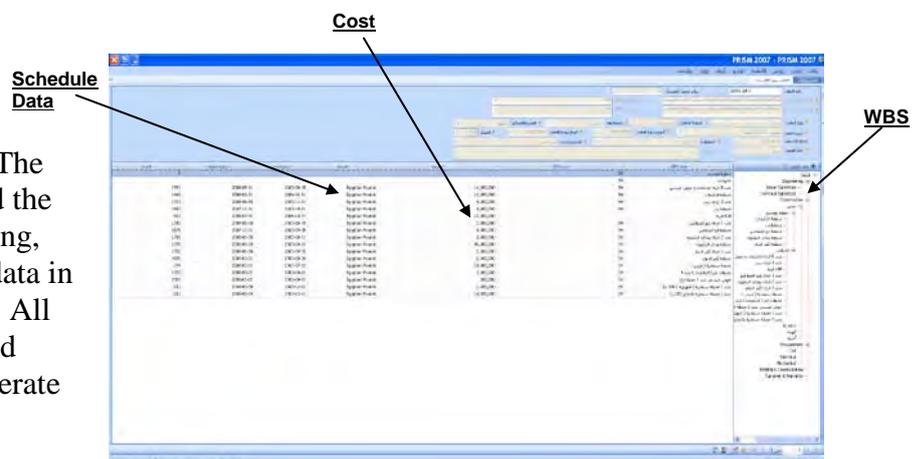


Exhibit 4.I.3 on the next page shows the current status of program data entry as of 4 March 2009, indicating tracking of nearly 1,800 projects among the agencies.

The PRiSM now routinely generates management reports covering the Cost Performance Index (CPI), the Schedule Performance Index (SPI), actual costs to date in addition to filtering by various options for location, agency and project type. This allows the agencies and HCWW to identify troubled projects and take action to improve as well as showing overall performance. The issue of the quality of data remains and must be aggressively addressed.

Benefits

The last three years have resulted in benefits to MHUUD and its agencies in terms of their ability to identify, monitor and manage capital investment projects. They can now identify projects with cost overruns or schedule delays and take steps to improve performance. These basic but vital improvements will likely also result in better use of capital investment funds.

Exhibit 4.I.3 Program Data Entry Status 04 March 2009

		Total Contracts	MoP 5-Year Plan Projects (Codes)	Donor Funded Projects	Housing Projects	5 year Plan Projects Entered To Date	5 year Plan Projects Remaining	Active Contracts			Active Contracts Received To Date (A)	Active Contracts Remaining To Be Received	Received Contracts Entered To Date (B) - Total	Received Active Contracts Remaining to be Entered (A-B)	Contracts Updated This Monthly Cycle	Contracts Updated Last Month	Project Location Data
								Total	Completed	In Progress							
NOPWASD	Original	755	528	5	0	634	121	587	118	469	469	0	469	0	96	461	
	NUCA Proj.	178	178	0	0	143	35	178	0	178	63	115	63	0	7	50	
	TOTAL	933	706	5	0	777	156	765	118	647	532	115	532	0	103	511	
CAPW	Original	309	76	4	0	309	0	244	28	216	216	0	216	0	9	181	89
	NUCA Proj.	224	120	0	0	224	0	235	42	181	181	0	181	0	5	100	65
	TOTAL	533	196	4	0	533	0	479	70	397	397	0	397	0	14	281	154
CAD		57	57	0	0	57	0	51	10	41	41	0	41	0	0	29	
NUCA		1,221	1,136	0	85	1,221	0	652	275	377	377	0	377	0	8	333	66
HC		496	496	0	0	404	0	496	0	496	351	145	351	0	2	134	
TOTAL		3,240	2,591	9	85	2,992	156	2,443	473	1,958	1,698	260	1,698	0	127	1,288	220

Looking Ahead

While reforms have taken place at MHUUD, some 50% of projects are still initiated by direct order whereby an agency calls a government contractor, orders him to implement a project and gives him a certain amount of money to do that. As direct order projects are completed, WWSPR II recommends that MHUUD reconsider that technique and require all projects to be undertaken with sufficient documentation to allow for monitoring cost, schedule and quality performance. In addition, WWSPR II recommends that projects begin with chartering sessions at which the concerned parties agree on goals, expected costs, scheduling, resource requirements and roles and responsibilities.

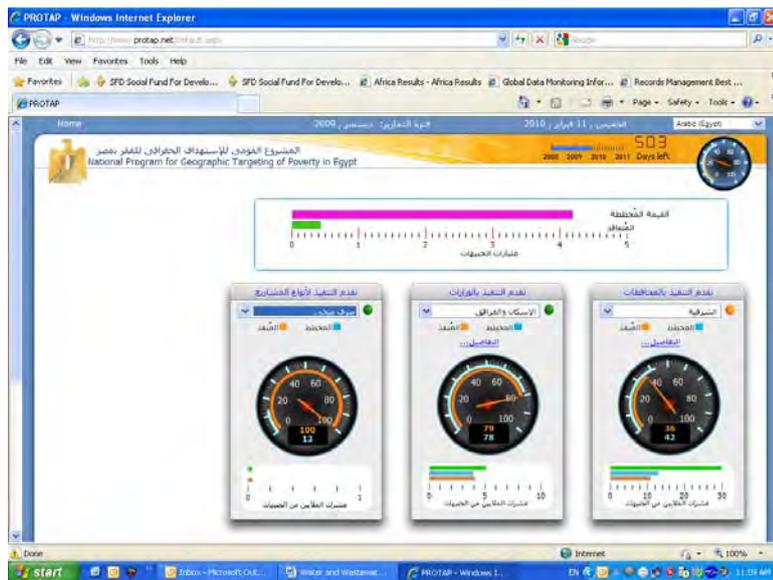
Approximately 1,800 projects are now entered into PRiSM. These projects represent 95% of active projects. In order for the system to be effective, the agencies and HCWW subsidiaries must continue to ensure that all MHUUD sponsored projects are entered into the project management system. They must also continue to update project data on a monthly basis for all projects in PRiSM. As indicated above, the quality of data entered as a part of the monthly updates must improve.

To ensure that agency staff embrace the new control systems, MHUUD may want to review system status from time to time and assess whether to provide incentives – not only to gain support but also to retain people who have developed marketable skills as part of the use of PRiSM. MHUUD may also want to consider reviewing the job specifications and qualifications for project managers in the field and ensure people in these positions have the requisite skills.

Targeting Poverty Project

Upon request by the Ministry of Housing, USAID amended WWSPR II contract to extend the Program Monitoring Task for six months from March, 2009 to September, 2009 to provide technical assistance, equipment and training support for Targeting Poverty Project of the Government of Egypt. Under phase I of this program, 151 villages were selected from six governorates in Egypt to provide an integrated support through interventions in 14 areas including housing, wastewater service, health care facilities, school buildings and others. The total planned investment of this program is 4.2 billion LE with an estimated number of projects in the range of 3,000. These projects are executed by 12 ministries with Ministry of Housing providing overall leadership. To support this program, Government of Egypt wanted a tracking system similar to PRiSM. As the program included project types other than construction and requirements for tracking was simpler, a different system based on the concepts of PRiSM was developed and implemented by WWSPR II project. The system was designed with extensive input from the Ministry staff and other stakeholders. Following development and testing, 36 users from six governorates were provided training on the system and data entry was started. The project procured 50 computers, 24 printers and 24 digital cameras and delivered to the Ministry to support implementation of the program. WWSPR II project worked extensively with the staff of Alexandria regional office to provide support for system installation, testing and on-the-job training. At the end of the project, 300+ projects from year one of the program were entered in the system and updated every month. The project also developed users and administrators guides for the program and delivered to the Ministry. At the request of the Ministry, the reporting web site was published for the general public access over the Internet. The site address is: www.protap.net.

The following exhibit provides a snapshot of the PROTAP web site:



Benefits

PROTAP system provides Ministry and high level GoE officials a quick summary of the progress for the entire program for 151 villages. It also summarizes progress by each Ministry and also by each Governorate. Such a high level overview highlights areas of concern and allows management to focus on those specific areas for timely action. On the data input side, the system is based on easy to use project progress tracking system requiring minimal training.

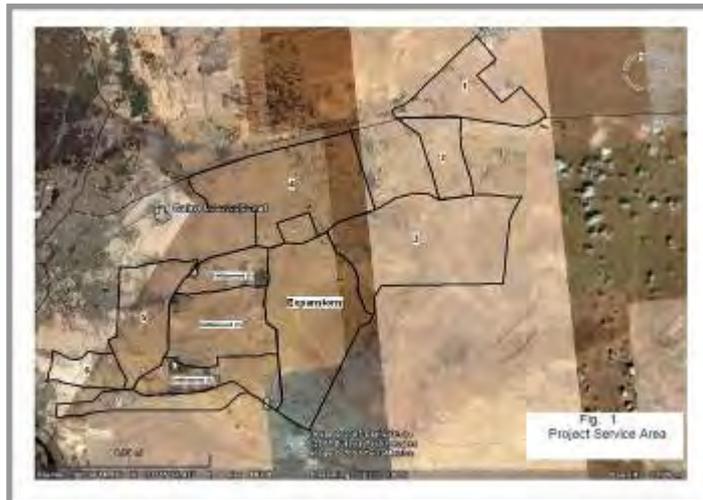
Looking ahead

The benefits of the system can be fully attained by ensuring that data is entered regularly, completely and on a timely basis in the system. This should be done through close follow-up with regional offices of CAD and reinforcing the training provided by the WWSPR project. It is also important that the benefits of the system should be expanded beyond Ministry of Housing by providing training to other 11 Ministries on the system. This will allow them to monitor projects of their Ministry and also introduce them to concepts of project and program management.

Component J Study the feasibility of a PPP for potable water in New Cairo

New Cairo is a fast growing new community located southwest of greater Cairo. The area is expected to have large future potable water requirements. On that basis, the Ministry of Housing, Utilities, and Urban Development (MHUUD) requested the assistance of USAID in assessing the feasibility of a PPP project for the construction and operation of a regional water treatment plant which would serve New Cairo and surrounding areas. As a result of this request, USAID modified the WWSPR contract in September of 2006 to allow for the completion of this study with the following scope of work requirements:

- ✓ Study land use and water demand study for next 20 years in New Cairo
- ✓ Analysis and assessment of raw water and required treatment levels
- ✓ Preliminary conceptual design of wastewater treatment plant
- ✓ Financial study on cost of a capital improvement program
- ✓ Paper on Public partnership approaches and Build-Own-Operate scenarios for water treatment plant
- ✓ Financial, technical and institutional feasibility study
- ✓ Analysis of legal, regulatory and institutional requirements for proposed mechanism
- ✓ Report on identification, capacity and interest of local and international private investors



In addition, the Government of Egypt (GOE) contracted the International Finance Corporation (IFC) as a transaction advisor. IFC was charged with supervising the WWSPR II feasibility study and then consummating a PPP transaction for the Government.

Two population growth scenarios were estimated taking into account historical growth trends of new urban communities in Egypt and Saudi Arabia and historical growth trends in a sampling of U.S. and European suburbs surrounding major urban centers. The study team calculated the New Cairo 30-year cumulative annual growth rate at 9% and 12% for the low and high growth scenarios, respectively.

Having settled on population projections over the study period, annual water demand was projected based on the following assumptions:

- ✓ Average Gross Per Capita Water Demand: 300 Liters/day
- ✓ Maximum Day Demand (MDD)/ Average Day Demand (ADD): 1.25
- ✓ Distribution System Losses: 15%

Based upon the fact that the GOE would fund a contract to construct a raw water intake and delivery system with a capacity of 2 million m³/day and based upon the determination by the study team that the water treatment plant should be phased in increments of 500,000m³/day, water demand calculations were made taking into consideration the following:

- ✓ The expected increase in demand for water in the project service area over the thirty year period of the study
- ✓ The existing or planned supply of water from sources outside the service area
- ✓ Potable water to be exported from the service area to meet demand in other locations.

MHUUD and the study team determined that the first 500,000m³/day of capacity (March 2007 contract awarded by the GOE) should be available by 2010 and the second phase, which is to be privately financed, should be in place by 2011.

Construction, operation and maintenance cost estimates for the proposed water treatment plant were undertaken using the CH2M HILL proprietary cost model, CPES (CH2M HILL Parametric Cost Estimating System). Using current Egyptian market prices, the following estimates were made:

- ✓ CAPEX, LE 516 million
- ✓ OPEX, LE 190/1,000 m³ for the first operating year at full capacity.

The financial analysis completed by the study team indicated that the NPV of investor bids would range between LE 1.1 and LE 1.3 billion, resulting in a cost to the Government of LE 0.43 per m³. This analysis also indicated that, assuming a 3% annual escalation of tariffs, the Government would have to subsidize one third of cost of the concession or approximately LE 500 million over the life of the project.

Taking into account the transaction size and PPP approaches which have proven attractive to private sector investors, the study team recommended a thirty year Design- Build-Operate-Transfer (DBOT) project.

According to the legal consultants in the Ministry of Finance, if the law regulating PPP projects in Egypt was not passed before the start of the New Cairo Potable Water transaction, the Ministry would request a special Presidential Decree for the project.

On February 21, 2007, the IFC made a presentation to the Minister of MHUUD entitled "Preliminary Assessment of New Cairo Potable WTP Project". Ministry of Housing representatives indicated that new data was available which would impact the study conclusions. This data reflected commitments made by the Ministry to developers in the New Cairo service area for the scheduled provision of water by a certain date. The WWSPR II team, in collaboration with representatives of the Holding Company, GOPP, NUCA, and CAPWO, reviewed the relevant data and completed revisions following a series of meetings and receipt of final data elements on April 22, 2007. Once the study was completed the GoE decided to provide public funding for the project.

Component K Study the feasibility of a PPP re-use solution for the effluent from the Abu Rawash wastewater treatment plant

Task 4 of modification 2 to the WWSPR contract added a feasibility study of a PPP solution for the use of effluent from the Abu Rawash wastewater treatment plant.

The Abu Rawash wastewater treatment plant, the larger of two plants serving Greater Cairo's West Bank, is being expanded to provide primary treatment for 1.2 million cubic meters of effluent per day (m³/d) which is the anticipated flow volume by 2015. The expansion from 400,000m³/d capacity to 1.2 Mm³/d is nearing completion (due March 2009) and will alleviate the current situation whereby nearly half of the daily flow of 875,000 m³/d is discharged without any treatment whatsoever into the agricultural drainage network that subsequently empties into the Rosetta Branch of the River Nile. However, even with the expansion, the Abu Rawash WWTP will not be in compliance with GoE's environmental standards for safe municipal wastewater disposal (Law 48/1982). The only permitted disposal of primary treated wastewater is land disposal for cultivation of industrial oil-producing plants such as jatropha, industrial fiber-producing plants and hardwood trees (Class C effluent under National Code on Wastewater Reuse, number 501 issued in 2005).



The Ministry of Housing, Utilities, and Urban Development (MHUUD) requested the assistance of the USAID-funded Water and Wastewater Sector Policy Reform (WWSPR) project in assessing the feasibility of private sector-financed projects to reuse Abu Rawash wastewater legally. The study examines whether the private sector could bear the investment and operating costs of 'legal' disposal of Abu Rawash effluent, either by land disposal on a plantation growing crops permitted to receive Class C wastewater, or by providing secondary treatment and growing crops permitted with Class B wastewater. The GOE contribution to the partnership would be the 1.2 Mm³/d of primary-treated Abu Rawash effluent, and 100,000 feddans \pm 10% of desert land for a wastewater reuse plantation, far enough from Greater Cairo to mitigate the risk of unpleasant odors reaching the urban population, and be situated in an area in which it posed no threat to groundwater resources.



The study started with a situation analysis covering maintenance of the national water balance, pollution abatement, legal framework for wastewater and the characteristics of the Abu Rawash Wastewater Treatment Plant. The feasibility analysis covered site search and cost of establishing plantation sites, crop selection, plantation operating costs and revenues and financial viability of plantations for edible (citrus) and non-edible (jatropha) crops.

The study found that under the specified conditions – namely full utilization of the primary treated wastewater from Abu Rawash WWTP on 100,000 feddans, PPP projects are not viable. However, if the requirements of the project were changed, PPP projects could be attractive. Three possible scenarios are listed below.

- ✓ A jatropha plantation would only be required to take one third of the expected output of Abu Rawash WWTP; The other two thirds (800,000m³) could be absorbed by a tree plantation (hardwood for timber) to be established nearby, for which only 30,000 feddans of additional land would be needed as timber trees use much more water than jatropha.
- ✓ If 300,000 feddans can be found reasonably close to the Abu Rawash plant, the full amount of projected wastewater could be absorbed by oil-producing jatropha.
- ✓ Full agricultural utilization of Abu Rawash effluent would also be economically viable if GOE bears the cost of secondary wastewater treatment at Abu Rawash so that a wider range of applications becomes permissible, including the plantation of edible crops and development of the urban areas around it.

Nevertheless, there remains a need to deal effectively and legally with Abu Rawash effluent. Egypt also needs to develop more economic activities on desert land, to consider its national water balance requirements, and to reduce pollution of the Nile. Consequently, the study recommended that the GoE consider the following objectives:

- ✓ Objective A: Eliminate the flow of primary treated sewerage to drains by upgrading the plant to secondary treatment and finding opportunities for reuse of the treated water.
- ✓ Objective B: Create an economic project that will consume some portion of primary treated effluent from the Abu Rawash wastewater treatment plant and will attract private sector investors.
- ✓ Objective C: Contribute to maintaining Egypt's National Water Balance by finding ways to reuse effluent in agriculture, returning it to the environment.

Since the time that the study was initiated, there have been strong indications that the Government of Egypt intends to upgrade the Abu Rawash Treatment Plant to secondary treatment. A clear finding of this study is that there are no feasible options for the reuse of the primary treated effluent. Once the Abu Rawash Treatment Plant is upgraded to secondary treatment, plantation of appropriate crops will be possible.

Section 4.0 Project Procurements

On February 13, 2006 the WSSPR II project submitted its Procurement Plan to USAID for approval (PI#67/2006). Upon approval by USAID, implementation of procurement plan was initiated. The procurement of these items was primarily driven by the requirements of project Components. The procurement and installation of IT equipment and associated development and training on information systems provided indirect support to the accomplishment of other components of the project.

Appendix J provides details about various procurements carried out by WWSPR II, which are summarized in Exhibit 6.1 below:

Exhibit 6.1 Procurement Summary		
Agency	Description	Cost in US \$
MHUUD	IT Equipment	\$ 329,712
EWRA	IT Equipment	\$143,871
HCWW and Subsidiary Companies	IT Equipment	\$585,514
HCWW	Meter Test benches	\$117,930
HCWW and Subsidiary Companies	Laboratory Equipment	\$154,557

Section 5.0 Project Close-out Workshop

As WWSPR II drew to a close, the project team proposed a closing workshop to encourage ownership, focus and continued implementation of a number of systems and tools developed during the project. Progress with the subsidiary companies is perhaps best illustrated by the results of that workshop.

The workshop, entitled “Making the Best Use of WWSPR Systems and Tools” was scheduled and conducted. Participants were the Holding Company, subsidiaries, the WWSPR II team and members of the WWSS project. The objectives of this workshop were:

- ✓ Ensure that a significant number of people in the subsidiary companies were aware of the systems and tools available,
- ✓ Inspire ownership
- ✓ Gain leadership commitment to continue moving forward.
- ✓ Provide smooth transition to the Waster and Wastewater Sector Support project

The workshop was designed to gather thoughts on the best way to move forward and the best ways of ensuring progress. In a very real sense, this workshop was a hand-over from consultants to counterparts. The WWSPR II team worked with carefully selected “champions” from the subsidiaries: people who are especially well-experienced in implementing and using the systems and tools.

The systems and tools that formed the content for the workshop were as follows:

- ✓ **Computerized Accounting:** these systems, installed in 8 subsidiaries, improve the gathering and posting of data by cost centers enabling all other financial management systems. Information can be compared effectively among the companies.
- ✓ **Organization Development:** The companies now have well-constructed organization structures and they have found possible solutions to overstaffing.
- ✓ **Five Year Financial Planning:** The companies are now able to test the impact of today’s decisions on tomorrow’s results, determining the magnitude and timing of the tariff increases and cost controls that will result in cost recovery.
- ✓ **Monitoring, Analysis and Reporting System (MARS) Financial and Technical Monitoring:** MARS enables the subsidiary companies to transmit performance data instantaneously; both the companies and the Holding Company have timely access to information for decision-making.
- ✓ **Performance Indicators:** Using this benchmarking system, the Holding Company is able to compare performance among the companies and the companies are able to analyze their performance.
- ✓ **Asset Management:** Four companies are implementing this system which minimizes asset lifecycle costs, at an acceptable level of risk, while continuously delivering established levels of service.
- ✓ **Plant Assessments and Improvement Plans:** this initiative has found a number of ways to improve quality or reduce costs in 275 water and wastewater treatment plants.
- ✓ **Information Technology:** improved systems allow company management to make better decisions and improve performance.
- ✓ **Public Awareness:** this initiative has made the public aware of the HCWW and the subsidiaries as well as promoting water conservation efforts.
- ✓ **Program Management use of PRiSM should result in:** improved project cost and schedule performance.

On the first day of the workshop, the WWSPR II team and the champions made presentations to over 70 subsidiary company representatives: financial, technical and economic analysis unit leaders. These presentations were followed by working group sessions at which participants discussed the best way to sustain progress.



On the second day, the WWSPR II team and the champions met to review the results of the working group sessions, prepare recommendations for sustaining improvements, finalize presentations and rehearse. This day included a tutorial on making effective presentations.



On the third day, the WWSPR II team and the champions presented the ideas to the HCWW leadership and the subsidiary company chairmen for moving forward.



The recommendations for continued implementation and use of the systems and tools are provided in Appendix M. Common themes that emerged from the work of the 10 workshop teams are as follows:

- ✓ Establish a mechanism for exchange of experience between the subsidiaries
- ✓ Ensure that users have the required system infrastructure (software and hardware)
- ✓ Provide ongoing training of users

- ✓ Strong leadership by a Holding Company champion or program administrator
- ✓ Maintain upper management support
- ✓ Keep systems and tools up-to-date



In concluding the workshop, Dr. Abdelkawi, Chairman of the Holding Company, ordered that teams be established within the Subsidiaries companies to ensure that the recommendations are implemented.

The workshop also offered perspective and guidance to the Water and Wastewater Sector Support (WWSS) project, whose leadership team attended.

Section 6.0 Recommendations

In addition to recommendations generated during the close-out workshop as listed in Appendix M, the WWSPR II team offers the following thoughts about the road ahead:

The EWRA was formed during the term of the WWSPR project and will benefit from legislation that establishes its authority for enforcing regulations. This legislation should consider the advisability of certifying water and wastewater utilities for operation; EWRA authority to analyze and set tariffs; and the right for EWRA to charge the regulated utilities fees sufficient to cover its own operating costs.

The Holding Company will benefit from working through the Minister of MHUUD to establish a protocol with NOPWASD that will involve the Holding Company and subsidiary companies in the planning, prioritization, design, construction and handover of new water and wastewater infrastructure.

With renewed interest and investment by various donors and financial institutions in the sector, it is critical that activities of donors are coordinated well to ensure maximum benefit of donor funds as well as to avoid duplication of effort. The new WWSS project working with Holding Company should continue the donor coordination efforts being done by WWSPR II project.

Many of the tools, systems and approaches developed under WWSPR have been implemented in many of the subsidiary companies– but they have not been fully implemented in every company. The USAID funded Water and Wastewater Sector Support project, currently underway, is one vehicle for completing implementation. In addition, it may be advisable for the Holding Company to develop a strategy for ensuring that these valuable improvements are fully implemented and sustained for all subsidiaries. These systems and tools, with corresponding benefits, are as follows:

- ✓ **Computerized Accounting:** these systems, installed in 8 subsidiaries, improve the gathering and posting of data by cost centers enabling all other financial management systems. Information can be compared effectively among the companies that apply this system.
- ✓ **Organization Development:** Many of the companies now have well-constructed organization structures and they have found solutions to overstaffing. These companies serve as an example for the newer companies. All companies will benefit from close attention to effective staffing: having enough well-qualified people with balanced workloads
- ✓ **Five Year Financial Planning:** The original 14 companies are now able to test the impact of today's decisions on tomorrow's results, determining the magnitude and timing of the tariff increases and cost controls that will result in cost recovery. This system will also be beneficial for the rest of the companies.
- ✓ **Monitoring, Analysis and Reporting System (MARS) Financial and Technical Monitoring:** MARS enables the subsidiary companies to transmit performance data instantaneously; both the companies and the Holding Company have timely access to information for decision-making. The system is in use at 19 companies and 330 users have been trained. The system will achieve its maximum effectiveness when all subsidiary companies are using it.
- ✓ **Performance Indicators:** Using this benchmarking system, the Holding Company is able to compare performance among the companies and the companies are able to analyze their performance. These indicators can form the basis for a Holding Company benchmarking system.

- ✓ **Asset Management:** Four companies are implementing this system to minimize the lifecycle costs of infrastructure assets, at an acceptable level of risk, while continuously delivering established levels of service. It can also bring benefits to the other companies.
- ✓ **Plant Assessments and Improvement Plans:** this initiative has found a number of ways to improve quality or reduce costs in 275 water and wastewater treatment plants at 19 companies. Many of these improvements could be made immediately with little or no cost. We recommend that the Holding Company extend this program to the rest of the companies and repeat the process from time to time to ensure optimized performance.
- ✓ **Information Technology:** improved systems allow company management to make better decisions and improve performance. In order to do this, all companies will need hardware, software and Internet connectivity.
- ✓ **Public Awareness:** this initiative has made the public aware of the HCWW and the subsidiaries as well as promoting water conservation efforts. Continuing attention to Public Awareness programs will help to maintain and strengthen the public support that the Holding Company and the subsidiaries will need in the years ahead.

WWSPR II found ways to improve cost and performance of the companies. A case in point is the Cairo Water pilot study on solutions for chronic utility problems such as high unaccounted-for-water, metering and low billing and collection efficiency (Component D.5). This study found ways to increase revenue by LE 106 million or reduce costs by LE 97 million. One component of this study is telling: The effort to reduce illegal connections in three suburbs took six weeks and resulted in additional annual revenue of LE 6.3 million. Efforts such as these, carried out in all companies, can make a major contribution to cost recovery and financial independence.

The Project Information for Systems Management (PRiSM) is a suite of integrated applications that work together to provide full project management functionality. Approximately 1800 projects are now entered into PRiSM. In order for the system to be effective, the agencies and HCWW APCUs must continue to ensure that all MHUUD sponsored projects reside in the project management system. They must also continue to update data for all projects in PRiSM.



USAID | **EGYPT**
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WWSPR II

TECHNICAL ASSISTANCE TO THE W/WW SECTOR

Water Wastewater Sector Policy Reform Project II

USAID Task Order No. 263-M-00-05-00053-00, as amended

End of Contract Report
Appendices
September 2009



CH2MHILL

In association with AAW, FINBI, PADCO

Appendix A: WWSPR II Scope of Work

A Support to Operationalize the Egyptian Water/Wastewater Regulatory Agency		
	Sub-Task	Deliverables
A.1	Assist MHUUD to identify and hire senior EWRA staff and assist that staff to implement the performance monitoring, benchmarking, and utilities certification systems developed by CH2M HILL	i. Staff EWRA and provide required training
		ii. Implement a comprehensive utility Performance Monitoring System
		iii. Implement the Utility Certification System
		iv. Develop Benchmarking Studies incorporating performance indicators, existing variables and utility data from the 14 subsidiary companies
		v. Establish reasonable standards for utility performance
A.2	Assist EWRA to implement the tariff rate application system including the electronic tariff analysis model developed by CH2M Hill	i. Provide training to the regulated utilities in the development of tariff rate studies
		ii. Provide training to EWRA in the review and evaluation of utility tariff applications
A.3	Design a new w/ww tariff rate structure	i. Develop comprehensive guidelines on w/ww tariff rate structure including all customer classes
		ii. Comprehensive analysis of the impact of various tariff/customer classification structures.
		iii. Conduct studies to determine what ongoing subsidies would be needed if current tariffs remain unchanged and studies to determine what tariffs would be needed to reach various levels of cost recovery

B PSP Transaction, Promotion and Negotiation Support to the Holding Company and its Subsidiaries		
	Sub-Task	Deliverables
B.1	Assist Holding Company to identify selected subsidiary companies which could outsource functions to the private sector and also identify areas where the DCA facilities could be used, if required	i. Conduct seminars for the purpose of explaining the Development Credit Authority (DCA) program to subsidiary company managers and representatives of the private sector
		ii. Identify candidate projects for possible DCA loan guarantees and conduct feasibility studies as needed.
		iii. Identify and develop proposed projects, arranging licensing agreements that would permit private suppliers of services to provide these services directly to company customers; procedures for monitoring private suppliers of services to ensure that applicable GOE laws and regulations are met; develop procedures for procuring services from private suppliers of services that might benefit from DCA loan guarantees
		iv. Identify potential PSP projects in the subsidiary companies which generate internal streams of revenue and therefore could be self-financing
		v. Assist with PSP transactions in the subsidiary companies

B	PSP Transaction, Promotion and Negotiation Support to the Holding Company and its Subsidiaries	
		vi. Assist in accessing the services of local transaction advisors on a fee-basis
B.2	Assist the HC to develop strategic alliance with the private sector	i. Assess the feasibility of alliances with the private sector to manufacture products essential to the w/ww industry
		ii. Assist in expanding the database of private sector contractors with an interest in and expertise relevant to the w/ww sector

C	Corporatization Support: Amendment 2, Task 1 adds 15 subsidiary companies to this component – logged as sub-task C.4	
	Sub-Task	Deliverables
C.1	Assist the Holding Company with Financial Planning	i. Assist to develop strategic and action plans which include strategies for improving the financial condition of HCWW and its subsidiaries
		ii. Assist in implementing strategies aimed at achieving financial independence from external support for operations. This will involve the development of five year financial plans which will identify tariff needs, potential operational upgrades aimed at increasing revenues and the potential for the rationalization of subsidiary company costs
C.2	Assist the HC to implement procedures aimed at establishing the creditworthiness of four pilot subsidiary companies	i. Determine the process for establishing credit ratings for the four subsidiary pilot companies
		ii. Assure the availability of data required for establishing subsidiary company credit ratings
		iii. Implement the procedures for formally establishing subsidiary credit ratings by an internationally recognized rating body
		iv. Submit a report specifying future requirements for improving the creditworthiness of the subsidiaries
C.3	Assist the HC with Organizational Development Issues	i. Assist with development of organization charts, department functions and job descriptions
		ii. Assist in establishing a research and development function
		iii. Assist in holding a self-financing national annual conference and expo in Cairo for public and private sector practitioners in the w/ww industry where research papers and analysis of subsidiary utility performance is the focus
		iv. Assist in establishing the headquarters facilities, development of required systems and purchase of equipment required for subsidiary company monitoring, evaluation and provision of necessary training
C.4 New	Expansion of Technical Assistance to all water and wastewater subsidiaries	Expand corporatization to an additional 15 subsidiary Companies Amendment 2 Provision

D	Assist the HC to improve the commercial focus of the subsidiary companies through effective management and leadership	
	Sub-Task	Deliverables
D.1	Assist the HC to	i. Develop a system of plans and reports which will be required of the

D	Assist the HC to improve the commercial focus of the subsidiary companies through effective management and leadership	
	develop, install and operate financial and technical monitoring systems	subsidiary companies to allow proper oversight of financial and technical operation
		ii. Assist to organize, staff and manage teams of experts which will assess and develop plans for the upgrade of subsidiary company operations
		iii. Assist to set up an internal audit department for financial, managerial/operational and compliance audits.
D.2	Replication of individual centers of excellence	i. Identify centers of excellence within the subsidiary companies
		ii. Assist to develop and implement a plan for the replication of the centers of excellence
		iii. Assist to identify areas of strength in particular utilities which may be used to assist other utilities
D.3	Install cost accounting systems at all subsidiary companies	i. Assess the status of cost accounting are each of the fourteen subsidiary companies
		ii. Develop a cost accounting system for use by all subsidiary companies as needed
		iii. Provide assistance to those subsidiary companies in which the accounting system can be implemented
D.4	Assist the HC to rationalize staffing at the subsidiary companies	i. Analyze staffing at each of the subsidiary companies and assist each company to develop an electronic personnel database
		ii. Determine, based upon analysis of existing staff capabilities, the correct staffing level at each company. Calculate the cost of surplus staff and identify the surplus staff by number and job type
		iii. Assist in identification of subsidiary company restructuring where needed
D.5	Revenue Generation	i. Assist to carry out studies and implement solutions of chronic utility problems such as high unaccounted-for-water, metering and low billing and collection efficiency
D.6	Public Awareness Program	i. Design a water public awareness program which includes but is not limited to general media programs and articles, materials for use in the Ministry of Education curriculum and materials for distribution by subsidiary companies
		ii. After approval from the Holding company, work with subsidiaries and HC to implement the program

E	Assist the HC to Upgrade Technical Operations in the Subsidiaries	
	Sub-Task	Deliverables
E.1	Provision of technical assistance to subsidiary companies (Four areas: technical, financial, managerial and IT areas)	i. Provide initial assessments for all fourteen subsidiaries in each of the four areas and make presentations to the Holding Company
		ii. Review all documents, reports and recommendations from WWSPR I within 90- days of contract start date and provide USAID and MHUUC with complete assessment of the current situation
		ii. Assist the subsidiary companies to develop performance improvement plans and tender documents, where required, in each of the four areas.
		iii. Assist the subsidiary companies in the implementation of the performance improvement plans
		iv. Assist to establish systems for assessing the current condition

E	Assist the HC to Upgrade Technical Operations in the Subsidiaries	
		and future life of assets and the plan of renewal and replacement
		v. Assist to collect existing utility master plans and the develop required tender documents to outsource the master plan revision and review in every subsidiary company
E.2	Provide assistance in the management of a utility performance monitoring system	<p>i. Write procedures for the operation of the HC performance monitoring systems and assist in communicating the requirements to the subsidiary companies</p> <p>ii. Provide assistance to the subsidiary companies in the collection of data and preparation of performance indicator reports</p> <p>iii. Monitor the performance indicator reports and develop benchmarking studies</p> <p>iv. Assist the HC to establish performance standards based upon the current performance of the subsidiary companies and international standards</p>
E.3	Assist the HC in the development and implementation of an integrated training program	<p>i. Inventory and assess the capacity of existing subsidiary company and NOPWASD training centers</p> <p>ii. Present a HC training facility plan which rationalizes the use of all existing training centers</p> <p>iii. Carry out a training needs assessment and develop an annual HC training plan including all subsidiary companies</p> <p>iv. Assist to develop annual training plans in each of the fourteen subsidiary companies</p> <p>v. Plan and conduct two study tours for twenty-four HC, subsidiary company and MHUUC upper and middle management staff</p>

F	Management Information Systems for the EWRA and the Holding Company	
	Deliverables	
	i. Assist MHUUD with implementation of an MIS for EWRA	
	ii. Design, procure and install a fully functional MIS that will develop all required reports and analyses for the Holding Company	
	iii. Training to EWRA and Holding Company MIS staff	
	iv. Assist HC and EWRA in the development of a sector database	

G	Draft and assist MHUUC to secure passage of a law regulating the water sector	
	Deliverables	
	i. Draft a water sector law which will legitimize the HC as the responsible organization for water and wastewater services in the country	
	ii. After approval by the HC and USAID, work with GOE officials to secure passage of the law by the Parliament	

H	Coordinate with other donors for the purpose of coordinating activities and produce additional studies to investigate targets for opportunity, unforeseen organizational issues & management systems/models as directed
	Deliverables
	i. Maintain a database of donors working in the sector and establish and implement a schedule of regular workshops aimed at sharing information and coordinating activities

I	Program Monitoring System (Amendment 2, Task 2)
	Deliverables
	i. Fully trained program monitoring unit at MHUUD
	ii. Provide hardware and software required for the program monitoring unit
	iii. Fully developed and operating program monitoring system
iv. Full set of procedures and manuals for use by the program monitoring unit	
	Targeting Poverty Project Support (Amendment 7, Task 2)
	Deliverables
	i. Provide technical assistance, equipment and training through the Program Monitoring System to the Targeting Poverty Project

J	Provision of a study on the feasibility of a PPP for potable water in New Cairo (Amendment 2, task 3)
	Deliverables
	i. Land use and water demand study for next 20 years in New Cairo
	ii. Analysis and Assessment of raw water source and required treatment levels
	iii. Preliminary conceptual design of wastewater treatment plant
	iv. Financial study on cost of Capital Improvement program
	v. Paper on Public partnership approaches and Build-Own-Operate scenarios for water treatment plant
	vi. Financial, technical and institutional feasibility study
	vii. Analysis of legal, regulatory and institutional requirements for proposed mechanism
	viii. Report on identification, capacity and interest of local and international private investors

K	Provision of a study of the feasibility of a PPP re-use solution for the effluent from the Abu Rawash wastewater treatment plant (Amendment 2, Task 4)
	Deliverables
	i. Project formulation document
	ii. Preliminary designs
	iii. Prefeasibility study
	iv. Environmental impact assessment
	v. Prequalification documents
vi. Tender documents	

Appendix B : Project Reporting

Name of Report	Date Delivered
October 2005 Monthly Report	November 23, 2005
November 2005 Monthly Report	December 20, 2005
October - December 2005 Quarterly Report	January 23, 2006
Assessment of the Current Situation	January 4, 2006
Procurement Plan	February 13, 2006
January 2006 Monthly Report	February 20, 2006
February 2006 Monthly Report	March 22, 2006
January - March 2006 Quarterly Report	April 20, 2006
April 2006 Monthly Report	May, 2006
May 2006 Monthly Report	June 14, 2006
April - June 2006 Quarterly Report	July 19, 2006
July 2006 Monthly report	August 24, 2006
August 2006 Monthly report	September 18, 2006
July - September 2006 Quarterly Report	October 23, 2006
October 2006 Monthly Report	November 11, 2006
November 2006 Monthly Report	December 28, 2006
Oct – Dec 2006 Quarterly Report	February 12, 2007
January 2007 Monthly Report	March 6, 2007
February 2007 Monthly Report	March 28, 2007
January - March 2007 Quarterly Report	April, 2007
April 2007 Monthly Report	May 31, 2007
May 2007 Monthly Report	June, 2007
April - June 2007 Quarterly report	July 30, 2007
July 2007 Monthly Report	August, 2007
August 2007 Monthly Report	September, 2007
July – September 2007 Quarterly Report	October. 28, 2007
October 2007 Monthly Report	November, 2007
Amendment 2 requirement for Workplan for tasks I, J, K and L	December 19, 2005 in Chartering Workshop
Amendment 2 requirement for Updated Staffing Plan	December 19, 2005 in Chartering Workshop
Amendment 2 requirement for Project Monitoring Plan	December 19, 2005 in Chartering Workshop
November & December 2007 Monthly Report	January 28, 2008
October – December 2007 Quarterly Report	January 28, 2008
January & February 2008 Monthly Report	March 17, 2008
January – March 2008 Quarterly Report	April 30, 2008
April – June 2008 Monthly & Quarterly Report	July 15, 2008
July 2008 Monthly Report	August 26, 2008

Name of Report	Date Delivered
August 2008 Monthly Report	September 22, 2008
Demobilization Plan	October 13, 2008
July – September 2008 Quarterly Report	October 18, 2008
October 2008 Monthly Report	November 24, 2008
November 2008 Monthly Report	January 8, 2009
Oct-Dec 2008 Quarterly Report	January, 2009
January 2009 Monthly Report	February, 2009
February 2009 Monthly Report	March, 2009
Jan-Mar 2009 Quarterly Report	April, 2009
April 2009 Monthly Report	May, 2009
May 2009 Monthly Report	June, 2009
Apr-June 2009 Quarterly Report	July, 2009
July 2009 Monthly Report	August, 2009
August 2009 Monthly Report	September, 2009
Close-Out Report	February, 2010

Appendix C: Donor Listing

#	Organization	Name	E-mail	Tel & Fax
1	USAID	Richard Rousseau, Office Director, Productive Sector	rrousseau@usaid.gov	2522-7000
		Eng. Moenes Youannis, Team Leader, Water & Wastewater Sector Reform	myouannis@usaid.gov	012-214-1791
2	EU – Program Mgr Social and Regional Development	Dr. Pascal Odul, Environmental Sector	pascal.odul@cec.eu.int	2749-4680
		Memendez Social Affair		2749-4680
		Ahmed Badr Utilities & Economic development Specialist	Ahmed.badr@cec.eu.int	2749-4680 Ext: 413
3	Embassy of Netherlands	Dr. Carel Richter,	Carel.richter@minbuza.nl	2739-5500 0122920302 Fax 7357928
		Dr. Tarek Morad, Deputy Head, Economic and Development Cooperation	Tarek.morad@minbuza.nl	2739-5500 Fax 7357928
4	Royal Danish Embassy / DANIDA	Dina Hamed Commercial Advisor	Dinham.om.dk	2739-6500 Fax 7396588
4	World Bank	Eng. Ayat Soliman,	asoliman@worldbank.org	2574-8240 0101168333 Fax 2574-1676
5	JICA Japan International Cooperation Agency	Mr. Nour El Dien Technical Cooperation	nour.eg@jica.go.jp	2574-8240 Fax 5748243
		Ms. Taka Hashi Representative	takahashi.tetsuo@jica.go.jp	2574-8240 Fax 2574-8243
		Dr. Ashraf Mabrook	Mabroukashraf.eg@jica.go.jp	2574-8240
6	GTZ	Hans-Werner Thiessen	Hans-werner@gtz.de	2459-8405 Ext:103
		Dr. Strephan Sennewald		
		Ms. Maha Khallaf	Maha.khallaf.iru@gtz-eg.com	2545-6794 Fax: 2540-7855
7	City of Amsterdam Team	Dr. Hassan Warda		012-323-2524
8	EIB	Ms. Jane Macperson Head of the regional office for the near east	macpherson@eib.org	2336-6583 Fax 2336-6584
9	UNDP	Dr. Ali El Faramawi Habitat- coordinator (ministry of housing)		2578-4840/6

10	CIDA Project – NWQI	Ms. Manal Guindi, Field Representative		2791-8795 012-337-0338
		Dr. Sameh Sakr, Project Manager		2218-1248/2218-6072
11	KfW	Waleed Abdel Reheem		2736-7496/9525 ext. 16
12	UNICEF	Youssef Seoud	yseoud@unicef.org	2526-5083/7
		Rania Elessawi		2526-5083

Appendix D: WWSPR II Donor Meetings

Quarter	Donor Agency	Purpose of the Meeting
October – December 2008	EU Contractor to EWRA	Identify common areas of work and coordinate current and future activities.
	New USAID financed WWSS project	The accomplishments of the WWSPR project
	ACQWA conference in Alexandria	Interaction with many donors
	GTZ Project at Holding Company	complete review was conducted of the GTZ and USAID project components in order to identify areas of overlap and potential coordination
July – September 2008	InWent	.The workshop focused on management training needs assessment.
	GTZ	Workshop conducted by the GTZ Policy Advisory Unit
	UN	UN regional water workshop on July 15 th
	GTZ	Coordination issues were discussed.
April – June 2008	GTZ	Areas of coordination were discussed and a second meeting was scheduled to discuss the WWSPR performance indicator system
	KfW	Meeting was held on April 10 th
	GTZ	The meeting covered the details related to the WWSPR performance indicator program
	Royal Haskoning	The purpose of the meeting was to provide information about the WWSPR work in the areas of performance indicators and staff planning
January – March 2008	KfW	The focus of the meeting was on WWSPR activities and how that work can be coordinated with the TA component of the new KfW project.
	GTZ	Attended the MHUUD/GTZ policy workshop
	World Bank	Five year plans were given to the World Bank on February 6th.
	KfW	Discussion focused on WWSPR technical assistance activities.
	GTZ	Coordination meeting
	GTZ	Provided details on the WWSPR scope of work
	PMU	Holding Company asked that the next donor workshop be scheduled for July of 2008
	JICA	Workshop on the achievements of the JICA project in the Sharqeya Company
	KfW	Discuss the new IWSP project.
GTZ	Introduce the WWSPR asset management and five year financial planning programs.	

Appendix D: WWSPR II Donor Meetings

Quarter	Donor Agency	Purpose of the Meeting
October – December 2007	GTZ	Discuss planning of a donor coordination meeting.
	GTZ	Development of a technical assistance planning strategy
	KfW	Identify the technical assistance programs which have been started by the WWSPR project and which could conceivably be continued in a new KfW project in four Delta governorates
	KfW	Planning the institutional components of the new KfW project.
	World Bank	Agreed to carry out five year financial planning studies in the companies participating in the ISSIP project: Beheira, Kafr El Sheikh and Gharbeya
	GTZ	Review and coordinate activities
	GTZ	Workshop on water sector policy.
	IFC	Organizations interested in participating in the New Cairo wastewater BOT
	EU	Met with an EU audit team.
July – September 2007	HCWW	Agreement was reached with Holding Company management on the scheduling of a donor workshop which will focus on informing donors of the need for assistance in operationalizing new subsidiary companies.
	GTZ	To continue coordinating WWSPR efforts with the GTZ projects in Qena, the Holding Company and MHUUD.
	JICA	Based upon recommendations from the Ministry of International Cooperation, the JBIC group was investigating developmental projects which they might fund.
	IFC	Presentation on the proposed New Cairo water treatment plant PPP.
	Dutch Aid	The Dutch Aid conference held in Alexandria, on September 4 th through 6 th .
	GTZ	Attended sessions of the GTZ wastewater technologies conference on September 9 th and 10 th .
	GTZ	A presentation on the project financial planning and tariff analysis model to GTZ staff, on September 12 th .
April – June 2007	World Bank	A workshop on the World Bank funded Integrated Sanitation and Sewerage Infrastructure Project.
	GTZ	Coordination between the WWSPR project and the GTZ projects in Qena. In May, agreement was reached with the GTZ funded Qena Water Company project on the scheduling of presentations by WWSPR staff to Qena project staff on performance indicators, the five year financial planning model and the cost accounting system

Appendix D: WWSPR II Donor Meetings

Quarter	Donor Agency	Purpose of the Meeting
	GTZ	Workshop, materials on the Holding Company performance monitoring program was sent to the GTZ project office.
	GTZ	Planning workshop conducted on June 5 th and 6 th
	GTZ	Working on the investment component of the GTZ funded Holding Company project. GTZ interested in gathering information on the master planning contracts being managed by the Holding Company.
	DANIDA	Presentation on computerization of finance systems in the subsidiary companies.
	Joint US-Egypt conference on treatment technologies	A presentation on sector reform in Egypt
	JICA	Achievements workshop held on June 10 th
	EU	OECD team which will be providing technical assistance to the Holding Company through the EU.
January – March 2007	GTZ	Asked questions regarding the feasibility of establishing a water sector policy unit in the Ministry of Housing, Utilities and Urban Development.
	City of Amsterdam	GIS requirements at the Damietta Water Company.
	KfW	The development of projects in Egypt, valued at Euros 300 million.
	EU	WWSPR work in the regulatory sector
	City of Amsterdam	Planning for a joint WWSPR/City of Amsterdam project GIS workshop.
	GTZ	Agreements were reached on coordination of technical assistance efforts to the Holding Company.
October – December 2006	World Bank	World Bank rural sanitation program. The World Bank is particularly interested in the institutional components of the WWSPR program
	JICA	Coordinate technical assistance efforts.
July – September 2006	City of Amsterdam	Agreement was reached on a plan for cooperation on a GIS system for Damietta. This cooperation will involve procurement, technical assistance and the joint planning of a workshop.
	GTZ	The meeting aimed at forming an association of Arab waster and wastewater utilities.
	EU	Twinning arrangement for the EWRA with a European regulatory commission
	JICA	Discuss the JICA project with the Sharqeya Water Company.
April – June 2006	Holding Company	Agreement was on a June coordination workshop for

Appendix D: WWSPR II Donor Meetings

Quarter	Donor Agency	Purpose of the Meeting
		donors working in the water sector.
	GTZ	Identifying water sector technical assistance needs over the next nine years.
	Dutch Aid	Explaining the components of the Dutch aid program in Egypt
	Dutch Aid	Discussing areas of cooperation
	JICA	Discussing JICA programs in the Sharqeya Company
January – March 2006	USAID	A preliminary plan for a donor workshop was discussed with the USAID CTO and Holding Company management.
	Holding Company	The date for the first donor workshop was tentatively set for June 2006.
		A list of donors working in the water sector was compiled.
October – December 2005	City of Amsterdam	The cooperation between that project and the WWSPR project
	GTZ	Cooperation between the WWSPR project and GTZ on water sector public awareness activities

Appendix E: Deliverables Listing

Task	Name of Deliverable	Delivered	PL # ¹
A	Study on Regulatory Issues	Feb 13, 2006	69/2006
A	Study Tour for EWRA Candidate	Mar 23, 2008	330/2008
A	Proposal for Study Tour to USA in Utility Regulation and Strategy in January 2009	Nov 12, 2008	381/2008
A.1	Implementation of EWRA Organization Development Technical Assistance by LOGIC Consultant	Nov 26, 2007	308/2007
A.3	Subsidy requirement Tables for Aswan, Sharqeya, Alexandria Water, Alexandria Wastewater and Cairo Wastewater Companies	Apr 20, 2006	97/2006
A.3	Requested Tariff Studies Report for HCWW (following scenarios reported in meeting of April 14)	Apr 15, 2008	336/2008
B.1	Alexandria West Wastewater Treatment Plant: Report on PPP and Performance Improvement	Jul 12, 2006	135/2006
B.1	Alexandria Wastewater Septic Hauling Feasibility Study	Oct 19, 2006	189/2006
B.1	Report on Self-Financing Public-Private Partnership Projects in Egypt	Nov 2, 2006	192/2006
B.2	Tender Document for Domestic Meters	Jan 2, 2006	47/2005
B.2	Evacuation of Septic Tanks	Jul 12, 2006	136/2006
B.2	Study on managing dry sludge	Sep 20, 2006	160/2006
B.2	Private Sector Database	May 6, 2007	250/2007
C.1	Financial Planning Model	Nov 30, 2005	36/2005
C.1	Analysis for Aswan Company	Apr 16, 2006	94/2006
C.1	Five Year Financial Plan results	May 29, 2006	108/2006
C.1	Strategic Planning Sharqeya and Gharbeya	Jul 3, 2006	128/2006
C.1	Five year Financial Planning for Beni Suef and Fayoum	Dec 30, 2007	320/2007
C.1	Kafr E; Sheikh Five Year Financial Planning	May 14, 2008	343/2008
C.1	Five Year Financial Planning Status: Completed for Gharbeya, Kafr E; Sheikh, Beheira and Cairo Water; currently working on Beni Suef, Fayoum, Aswan and Cairo Wastewater; ready to begin in Alexandria Water and Wastewater Companies	May 07, 2008	344/2008
C.1	Five Year Financial Planning and Tariff Analysis Studies Beginning for last 4 companies	Sep 16, 2008	375/2008
C.1	Five Year Planning and Budgeting Workshop to be held on January 18, 2009 fro Cairo Water, Beheira, Gharbeya and Beni Suef	Jan 11, 2009	415/2008
C.2	Moody's – Middle East Rating and Investor Service (MERIS) fee for credit rating	Jul 10, 2006	133/2006
C.2	MERIS Report for Creditworthiness Study on Alexandria Water Company	Jul 11, 2007	270/2007

¹ PL = Project Letter, sequential throughout a year

Task	Name of Deliverable	Delivered	PL # ¹
C.3	HCWW Organization Structure Report	Sep 25, 2007	290/2007
C.3	Updated Cairo Water Organization Structure	Mar 31, 2008	332/2008
C.3	Planning for HCWW US Study Tour from August 9-21	Jul 6, 2008	358/2008
D.3	Implementation of Stores and Cost Accounting Systems in Gharbeya	May 7, 2006	102/2006
D.3	Implementation of Stores and Cost Accounting Systems in Sharqeya	May 7, 2006	103/2006
D.3	Follow-up of financial and cost accounting systems installed in Sharqeya and Gharbeya in June 2006	Jul 8, 2007	268/2007
D.3	Computerization of Accounting Functions and Cost Accounting Systems at Subsidiary Companies	Sep 18, 2007	288/2007
D.3	Follow-up of Accounting Automation in Sharqeya Company	Sep 30, 2007	292/2007
D.3	Computerization of Accounting Systems at Sharqeya Water and Wastewater Company	Sep 7, 2008	370/2008
D.4	Staffing Plan for the Sharqeya and Gharbeya Companies	Apr 11, 2006	92/2006
D.4	Manpower Plan for Alexandria Water, Alexandria Wastewater, Cairo Wastewater, Aswan Company and Sharqeya Company	Apr 20, 2006	96/2006
D.4	Manpower Report	Oct 12, 2006	183/2006
D.4	Staffing Cairo Water	Jan 15, 2007	217/2007
D.4	Completion of four Five Year Staffing Plans for Sharqeya, Gharbeya, Cairo Water and Cairo Wastewater	May 17, 2007	243/2007
D.4	Comprehensive Staffing Plan Cairo Wastewater	Apr, 29 2007	247/2007
D.4	Menofeya Staffing Report	Aug 13, 2007	279/2007
D.4	Alexandria Water Five-year Staffing Plan	Oct 8, 2007	297/2007
D.4	Alexandria Wastewater Five-year Staffing Plan	Oct. 8, 2007	294/2007
D.4	Optimal Staffing Study for New Giza Company for Water & Wastewater	Jan 10, 2008	323/2008
D.4	Staffing Study for new Assiut Water & Wastewater Company	Apr 23, 2008	339/2008
D.4	Staffing Study for New Sohag Water & Wastewater Company	May 25, 2008	350/2008
D.4	Staffing Study for Matrouh Water & Wastewater Company	Jul 17, 2008	359/2008
D.4	Staffing Plan For Aswan Water & Wastewater Company	Sep 29, 2008	381/2008
D.6	Summary of Public Awareness Graphics	Jul 5, 2007	267/2007
D.6	Follow-up on Public Awareness programs in Sharqeya and Gharbeya	Aug 22, 2007	283/2007
D.6	Water Sector, Elementary Level Public Awareness Materials – Student and Teacher Manual (training workshop scheduled for November 27)	Nov 10, 2007	304/2007
E.1	Production Measurements from Cairo	Nov 18, 2005	18/2005

Task	Name of Deliverable	Delivered	PL # ¹
	Water treatment plants		
E.1	Assessment of Alexandria West Treatment Plant	Nov 20, 2005	22/2005
E.1	Status Assessment Report for Husseineya Plant in Sharqeya	Dec 13, 2005	40/2005 41/2005
E.1	New Sharqeya report	Jan 24, 2006	63/2006
E.1	Capacity Building for Old and New Zagazig Treatment	Feb 20, 2006	73/2006
E.1	Capacity Building in Sharqeya and Gharbeya: Performance Improvement Plans	Feb 22, 2006	76/2006
E.1	New Tanta Treatment Plant Assessment Report	Feb 22, 2006	78/2006
E.1	West Alex Station Report	Mar 21, 2006	79/2006
E.1	Laboratory Assessment Reports	Apr 5, 2006	85/2006
E.1	Report on Monitoring of Alex Wastewater Company West Treatment Plant and Dewatering Facility	Apr 9, 2006	89/2006
E.1	Husseineya Treatment Plant Assessment Report	Apr 27, 2006	99/2006
E.1	Sharqeya Capacity Building	Jun 19, 2006	106/2006
E.1	Report on Monitoring of Alex Wastewater Company West Treatment Plant and Dewatering Facility	Jun 4, 2006	113/2006
E.1	Assessment of Damietta Wastewater Treatment Plants	Jun 22, 2006	119/2006
E.1	Report on Monitoring of Alex Wastewater Company West Treatment Plant and Mechanical Dewatering Facility	Jun 22, 2006	120/2006
E.1	Gharbeya Performance Plan Implementation Report	Jun 22, 2006	121/2006
E.1	Beni Suef Wastewater Treatment Plant Assessment Report	Jun 22, 2006	122/2006
E.1	Status Report on Sharqeya Water Performance Improvement Plans	Jul 12, 2006	140/2006
E.1	Status Report on Aswan Wastewater Plants	Jul 17, 2006	141/2006
E.1	Status report on Beni Suef Water Plants	Jul 18, 2006	143/2006
E.1	Safety and Security Recommendations to HCWW	Aug 23, 2006	149/2006
E.1	Lab Assessments for 12 companies; OTJ training in Sharqeya, Gharbeya and Kafr El Sheikh; and identified equipment needs at Kafr El Sheikh, Gharbeya and Sharqeya	Sep 20, 2006	161/2006
E.1	OTJ training for Damietta Lab and identification of equipment needs	Sep 20, 2006	162/2006
E.1	Damietta Lab Assessment	Oct 16, 2006	186/2006
E.1	Fayoum Wastewater Treatment Plant Assessment and Performance Improvement Plan	Oct 24, 2006	187/2006
E.1	Assessment of Beheira Wastewater Treatment Plants Technical Report	Apr 3, 2007	238/2007
E.1	Assessment of Damietta Wastewater Treatment Plants Technical Report	Apr 4, 2007	239/2007

Task	Name of Deliverable	Delivered	PL # ¹
E.1	Assessment of Qena Wastewater Treatment Plants Technical Report	Apr 4, 2007	240/2007 241/2007
E.1	Cairo Water Treatment Plant Assessments Completed: Mostorod, Fustat, Shobra Khema, Ameriya and North Helwan	Apr 18, 2007	244/2007
E.1	Cairo Water Treatment Plant Assessments: Status of performance improvement work at Mostorod, Fustat, Shobra Khema, Ameriya and North Helwan plants	Apr 23, 2007	245/2007
E.1	Leak Detection Equipment and training	Apr 23, 2007	249/2007
E.1	Status of Gharbeya and Sharqeya Performance Improvement Plans	May 10, 2007	250/2007 Duplicate number
E.1	Tender for Gharbeya Water Meters	May 16, 2007	252/2007
E.1	Sharqeya Performance Improvement Plans Technical Follow-up Report	Jul 15, 2007	272/2007
E.1	Sharqeya Wastewater Treatment Plant Follow-up Report	Jul 30, 2007	274/2007
E.1	Beni Suef Wastewater Treatment Plant Follow up Report	Jul 30, 2007	275/2007
E.1	Fayoum Wastewater Treatment Plant Follow up Report	Jul 30, 2007	276/2007
E.1	Daqahleya Wastewater Treatment Plant Follow up Report	Aug 2, 2007	278/2007
E.1	Minya Water and Wastewater Treatment Plant and Pumping Station Assessment Report	Aug 15, 2007	280/2007
E.1	Sharqeya Water and Wastewater Treatment Plant Assessment Report	Aug 15, 2007	281/2007
E.1	Fayoum Water Treatment Plant Assessment Report	Sep 18, 2007	284/2007
E.1	Daqahleya Water Treatment Plant Assessment Report	Sep 20, 2007	289/2007
E.1	Meter Test Benches	Oct 21, 2007	293/2007
E.1	Damietta Water Treatment Plant Assessment Report	Oct 24, 2007	301/2007
E.1	Minya Water Treatment Plant and Pumping Stations Assessment Report	Nov 18, 2007	305/2007
E.1	Beni – Suef Water Treatment Plant and Pumping Stations Assessment Report	Nov 19, 2007	306/2007
E.1	Fayoum Water Treatment Plant and Pumping Stations Assessment Report	Nov 19, 2007	306/2007
E.1	Kafr El Sheikh Water Treatment Plant Assessment Report	Nov 20, 2007	307/2007
E.1	Beheira Water Treatment Plant Assessment	Dec 31, 2007	321/2007
E.1	Asset Management in Arabic	Mar 12, 2008	328/2008
E.1	Menofeya Water and Wastewater treatment Plant Assessment Report	May 22, 2008	349/2008
E.1	Cairo Wastewater Treatment Plant Assessment Report	Aug 07, 2008	364/2008
E.1	EWRA Plant Assessment Training Plan	Sep 7, 2008	372/2008
E.1	Alexandria Wastewater Treatment Plant Assessment Report	Nov 12, 2008	395/2008

Task	Name of Deliverable	Delivered	PL # ¹
E.1	Daqahlya Wastewater Treatment Plant Assessment Report	Nov 12, 2008	396/2008
E.1	Cairo Water – Assessment of Obour Water Treatment Plant	Nov 12, 2008	397/2008
E.1	Cairo Water and Kafr El Sheikh Water Treatment Plant Assessment Report	Jan 12, 2008	416/2008
E.2	O&M Monitoring Forms	Jul 12, 2007	271/2007
E.2	MARS Report in Arabic?	Aug 2007	282/2007
E.2	Customer Service - International Best Practices	Sep 17, 2007	287/2007
E.2	MARS Technical Module Regional Workshops	Jun 2, 2008	353/2008
E.3	Meter Test Bench Training (Arabic)	Nov 8, 2007	303/2007
F	MIS Billing System	May 22, 2006	105/2006
F	IT Infrastructure at Damietta Water and Wastewater Company	Jun 20, 2006	118/2006
F	Cairo Water Computer Hardware Needs	Apr 2, 2007	237/2007
F	MIS Users Guide to EWRA and completion of MIS Administration training	Jun 19, 2007	265/2007
F	MARS Technical Module Workshop Agenda	Apr 1, 2008	333/2008
F	MARS Financial Model	Jul 06, 2008	357/2008
F	MARS Users Manual	Oct 19, 2008	376/2008
I	MHUUD regarding project charters	Dec 18, 2006	208/2006
I	MHUUD Connectivity with Prism	Sep 6, 2007	286/2007
I	Project Manager's Manual submitted to HCWW, NUCA, CAD, CAPW and NOPWASD	Oct 14, 2008	389/2008390/2008
I	Project Manager Manual and PRiSM Manual to MHUUD	Nov 18, 2008	398/2008
J	New Cairo PPP Feasibility Study	Dec 16, 2007	315/2007
K	Feasibility Study for Public-Private Partnership for Abu Rawash Wastewater Treatment	Feb 5, 2009	423/2009 424/2009 425/2009

List of Training Conducted during WWSPR II

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
EWRA		Understanding Utility Regulation	January 22, 2006	5	7	35
EWRA		Organization versus operation	January 24, 2006	5	7	35
EWRA		Organizational document	January 29, 2006	5	7	35
Subsidiary Companies		OJT on Water Central Lab	January 2006	8	20	160
Subsidiary Companies		GIS	January 14, 21 and 28, 2006	12	10	120
EWRA		Performance Indicators	February 5, 2006	5	7	35
EWRA		Rules and Regulations	February 5, 2006	5	7	35
EWRA		MIS	February 7, 2006	5	7	35
EWRA		Tariff and Financial Planning	February 7, 2006	5	7	35
EWRA		Complaints and dispute resolution	February 12, 2006	5	7	35
EWRA		Workshop organization and secretarial skills	March 9, 2006	2	1	2
Budget Planning			March 14, 2006	5	65	325
Subsidiary Companies		Surface Water Purification	March 13 – 16, 2006	15	25	225

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
		Technology				
Subsidiary Companies		Underground Water Purification Technology	March 21 -23, 2006	15	25	225
Subsidiary Companies		Basic Water Treatment	March 28 - 30, 2006	15	25	225
Subsidiary Companies		Present and Future in Water Environment - Sharqeya	March 26, 2006	6	100	600
Subsidiary Companies		Plumbing workshop - Sharqeya	March 26, 2006	4	75	300
Subsidiary Companies		Plumbing Workshop – Gharbeya	March 29, 2006	4	42	168
Subsidiary Companies		Plumbing Workshop – Sharqeya	March 30, 2006	2	16	32
Subsidiary Companies		School students workshop – Tawakol – Gharbeya	April 2, 2006	2	23	46
Subsidiary Companies		Strategic Planning – Sharqeya	April 11, 2006	4	13	52
Subsidiary Companies		Strategic Planning – Sharqeya	April 17, 2006	4	13	52
Subsidiary Companies		Strategic Planning – Gharbeya	April 19, 2006	4	12	48

List of Training Conducted during WWSPR II

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
Subsidiary Companies		Strategic Planning – Gharbeya	April 26, 2006	4	12	48
HCWW		Clergy Workshop	April 26, 2006	3	150	450
HCWW		DCA Workshop	April 27, 2006	4	45	180
Subsidiary Companies		Strategic Planning – Sharqeya	May 3, 2006	4	13	52
Subsidiary Companies		Strategic Planning – Sharqeya	May 8, 2006	4	13	52
Subsidiary Companies		Lab Training	May 20 -28, 2006	6	28	168
EWRA		Five Years Planning Financial Model	June 6-8, 2006	4	10	40
EWRA		Accounting for non-accountant	June 14-15, 2006	4	10	40
Subsidiary Companies		Wastewater Technology – Sharqeya	June 12-15, 2006	6	21	126
Subsidiary Companies		Potable Water Purification – Sharqeya	June 26 – 29, 2006	6	12	126
EWRA		Technical works for non-technical staff	June 27, 2006	4	10	40
Subsidiary		Introduction in Water	July 3, 2006	4	21	84

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
Companies		Technologies – Gharbia				
Subsidiary Companies		Chlore and Amonia usage in water purification – Gharbia	July 10, 2006	4	20	80
Subsidiary Companies		Wastewater networks maintenance – Sharkeya	July 17, 2006	4	23	92
Subsidiary Companies		Wastewater networks maintenance – Gharbia	July 24, 2006	4	24	96
Subsidiary Companies		Laboratory Analysis - Beni Suef	July 22, 2006	16	24	384
Subsidiary Companies		Laboratory Analysis - Kafr El Sheikh	July 15, 2006	16	23	368
Subsidiary Companies		Maintenance of filters – Beni ‘Suef	August 14, 2006	4	22	88
Subsidiary Companies		Maintenance of filters – Kafr El Sheikh	August 21, 2006	4	23	92
Subsidiary Companies		Wastewater Treatment	August 21, 2006	4	22	88
Subsidiary Companies		Wastewater Treatment	August 28, 2006	4	24	96

List of Training Conducted during WWSR II

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
Subsidiary Companies		Electricity Maintenance	September 11, 2006	4	22	88
Subsidiary Companies		Electricity Maintenance	September 18, 2006	4	22	88
Subsidiary Companies		Pumps Maintenance – Gharbeya	September 11, 2006	4	21	84
Subsidiary Companies		Pumps Maintenance Sharqeya	September 18, 2006	4	22	88
Subsidiary Companies		Labs OJT training – Water, Gharbeya	August – September	20	24	480
Subsidiary Companies		Labs OJT training – Wastewater, Gharbeya	August – September	5	16	80
Subsidiary Companies		Labs OJT training – Water, Sharqeya	August – September	10	48	480
Subsidiary Companies		Labs OJT training – Wastewater, Sharqeya	August – September	4	8	32
Subsidiary Companies		Labs OJT training – Water, Kafr El sheik	August – September	25	56	1400
Subsidiary Companies		Labs OJT training – Water, Damietta	August – September	14	56	784
Subsidiary		Cost Accounting –	December 19, 2006	7	41	287

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
Companies		Cairo Wastewater Company				
Subsidiary Companies		Management Training to Aswan-Minya-Fayyoun-Beni Suef-WERA	4 to 8 February 2007	25	20	500
Subsidiary Companies		Management Training to Gharbeya-Shrqeya-Kafr El Sheikh-Damietta	11- 15 February 2007	25	20	500
Subsidiary Companies		Management Training to Alex water – Alex WW-Beheira	18-22 February 2007	25	14	350
EWRA		English Language	28 January to 28 April 2007	36	19	684
EWRA		Windows	31 January to 8 February 2007	20	5	100
Mgmt Training			December 2007	72	30	2160
EWRA		Study Tour in London	November 2007	32	1	32
Subsidiary Companies		Test Benches Training – Cairo Water	November 2007	30	8	240

List of Training Conducted during WWSPR II

Appendix F: Training Courses						
Agency	Task	Training Topic	Delivered	Number of Hours	Number of Participants	Total Number of Participants Hours
Subsidiary Companies		Network Administration – Damietta	December 2007	10	3	30
Total						14137

Appendix G: WWSPR Study Tours

Title of Study Tour	MINISTRY OF HOUSING, UTILITIES, AND URBAN COMMUNITIES STUDY TOUR to WASHINGTON, DC and NEW YORK CITY
Period of Study Tour	APRIL 26-30, 2004
Number of Participants	Four
Names of participants	<ol style="list-style-type: none"> 1. Hon. Mohamed Ibrahim Soliman, Minister of Housing, Utilities and Urban Communities 2. Eng. Magd El Din Ibrahim, Deputy Minister, Ministry of Housing, Utilities and Urban Communities 3. Eng. Shafie Dakrouri, Chairman, National Organization of Potable Water and Sanitary Drainage 4. Mr. Hussein El Gabaly, Chairman, Urban Planning Authority, Ministry of Housing, Utilities and Urban Communities
Objectives of Study Tour	<p>The Study Tour focused on the following issues/areas:</p> <ul style="list-style-type: none"> • Profile of the US water sector • Utility regulation • Full cost recovery rate setting • Infrastructure planning and funding • Utility commercialization and privatization • Contract management modalities and opportunities

Title of Study Tour	MINISTRY OF HOUSING, UTILITIES, AND URBAN COMMUNITIES STUDY TOUR to WASHINGTON
Period of Study Tour	February 27 to March 4, 2005
Number of Participants	Three
Names of participants	<ol style="list-style-type: none"> 1. Hon. Mohamed Ibrahim Soliman, Minister of Housing, Utilities and Urban Communities 2. Dr. Abdel Kawi Khalifa, Chairman of the Holding Company of Water and Wastewater. 3. Eng. Mohamed El-Alfy, Deputy Chairman of the Holding Company of Water and Wastewater.
Objectives of Study Tour	Visit District of Colombia for Water and Wastewater and to attend three day World Bank workshop program.

Title of Study Tour	MINISTRY OF HOUSING, UTILITIES, AND URBAN COMMUNITIES STUDY TOUR to ORANGE CO., FORT LAUDERDALE, AND WASHINGTON, DC
Period of Study Tour	AUGUST 5-18, 2006
Number of Participants	One
Names of participants	Dr. Aly Al-Sherif
Objectives of Study Tour	<p>The Study Tour focused on the following issues/areas:</p> <ul style="list-style-type: none"> • Understand the Program needs and what drives the program • Project controls primer • Staffing needs and staff integration issues • Program reporting • Permitting and regulatory framework • Construction management systems and controls • Technology training and institutional strengthening • Public involvement • Specialized construction techniques

Title of Study Tour	1 st Annual Mega-city Water Forum at Atlanta, Georgia
Period of Study Tour	April 30m, 2006 (7 days)
Number of Participants	Three
Names of participants	<ol style="list-style-type: none"> 1. Dr. Abdel Kawi Khalifa, Chairman of the Holding Company of Water and Wastewater. 2. Eng. Mamdouh Raslan, Deputy Chairman of the Holding Company of Water and Wastewater. 3.
Objectives of Study Tour	To attend a Public/Private Partnerships Workshop about Water resources management

Title of Study Tour	US study tour to the WEFTECH convention and Milwaukee and Chicago Water & Wastewater Utilities
Period of Study Tour	18 October 2008 / 24 October 2008 (5 days)
Number of Participants	Two
Names of participants	<ol style="list-style-type: none"> 1. Dr. Abdel Kawi Khalifa / Chairman of Holding Company for Water and Wastewater. 2. Mr. Mamdouh Ahmed Ismail Raslan/ Deputy Chairman of Holding Company
Objectives of Study Tour	Review of world class water/ wastewater utility practices for implementation in Egypt.

Title of Study Tour	Holding Company Potential Managers Study Tour to US.
Period of Study Tour	Washington Dc: August 9 – August 13, 2008 Denver, Colorado: August 13 – August 21, 2008 12 days.
Number of Participants	Two
Names of participants	<ol style="list-style-type: none"> 1. Ms. Nahed Kamel Ali Saafan- General Manager of Information System, Dakhalia Water Company. 2. Mr. Hamdy Mohamed Ibrahim -Shata General Manager of Information Systems, Cairo Water Company. 3. Mr. Sayed Said Megahed Youssef- Manager of Economic Analysis Department, Minya Water and Wastewater Company. 4. Mr. Mostafa Ahmed Ibrahim- Elshimy General Manager of WW treatment plants, Cairo Wastewater Company. 5. Mr. Khaled Hussein Nasr Hussein- Head of Operations and Maintenance Sector, Daqahleya Water and Wastewater Company.
Objectives of Study Tour	<p>The objective of the study tour is to give the participants exposure to world class water and wastewater management techniques in order to prepare them for eventual upper level management responsibility.</p> <p>The participants will transmit and exchange their tour experience with their subordinates and peers. As the tour is designed to contain a variety of topics such as program management, finance, operations, leadership and technology application, they will be able to adopt the gained knowledge and skills during their new assignments.</p>

Title of Study Tour	PPP Summit and Study Tour in London for MINISTRY OF HOUSING, UTILITIES, AND URBAN COMMUNITIES
Period of Study Tour	18 November to 23 November, 2007
Number of Participants	one
Names of participants	Eng. Mohamed El- Alfy/ Assistant Minister, Ministry of Housing, Utilities and Urban Communities
Objectives of Study Tour	Attend PPP Summit and visit OFWAT

WWSPR Project Achievement (Holding Company)

Utility	Systems Installed and Operating										
	MARS - Water and WW Lab Results	MARS - Performance Indicators	MARS - Financial Monitoring	MARS- Technical Monitoring	Financial Plan 2007 - 2012 / 2008-2013	Computerized Cost Accounting and Fixed Asset Installation	Asset Management Program	Billing System Installation TA	Computerized HR and Payroll	Computerized Inventory Control	GIS Department Development
Cairo Water	Apr-07	Sept 06	Nov-07	Jan-08	Jun-08	Aug-08	60% Jan 09	Nov-07	-	Sep-08	Jan-06
Alex Water	Nov-07	Sep-08	Feb-08	Feb-08	Apr-09	-	-	-	-	-	-
Cairo WW	Feb-08*	Jan-08	Jan-08	Jan-08	Jul-08	Apr-08	20% Jan 09	-	-	-	Jun-06
Alex WW	Feb-08*	Jan-08	Feb-08	Feb-08	Apr-09	-	-	-	-	Aug-08	-
Beheira	Dec-07	Sep-06	Feb-08	Feb-08	Jan-08	-	-	-	-	-	-
Damietta	Aug-07	Sep-06	Mar-08	Mar-08	Apr-09	-	-	-	-	-	Jun-06
Kafr El Sheikh	May 07	Jul 07	Feb-08	Feb-08	Jan-08	Jul-08	-	-	-	-	-
Daqahleya	Mar-08	Mar-08	Mar-08	Mar-08	Apr-09	-	-	-	-	-	Nov-07
Gharbeya	Apr-08	Apr-08	Apr-08	Apr-08	Jan-08	Aug-06	20% Jan 09	-	Dec-07	-	Jan-06
Sharqeya	Mar-08	Mar-08	Mar-08	Mar-08	Apr-09	Aug-06	-	-	-	-	Jan-06
Fayoum	Feb-08	Feb-08	Feb-08	Feb-08	Apr-09	-	-	-	-	-	-
Beni Suef	Feb-08	Feb-08	Feb-08	Feb-08	Jun-08	-	-	-	-	-	-
Minya	Oct-07	Aug-07	Feb-08	Feb-08	Apr-09	Feb-09	75% Jan 2009	-	-	-	-
Aswan	Mar-08	Nov-07	Apr-08	Mar-08	Apr-09	Aug-08	-	-	Oct-08	-	-
Qena	Oct-08	Oct-08	Oct-08	Oct-08	-	-	-	-	Oct-08	-	-
Menofeya	Oct-08	Oct-08	Oct-08	Oct-08	-	Feb-09	-	-	-	-	-
Giza	Nov-08	Nov-08	Nov-08	Nov-08	-	-	-	-	-	-	-
Matrouh	Dec-08	Dec-08	Dec-08	Dec-08	-	-	-	-	-	-	-
Luxor	Dec-08	Dec-08	Dec-08	Dec-08	-	-	-	-	-	-	-
Assiut	-	-	-	-	-	-	-	-	-	-	-
Sohag	-	-	-	-	-	-	-	-	-	-	-
Sinai	-	-	-	-	-	-	-	-	-	-	-
Holding Company	May-08	Jan-05	Nov-08	Nov-08	-	Apr-06	-	-	Apr-06	-	-

* need to setup WW parameters by HC

Appendix H: Subsidiary Company Profile

			Size Data					
Utility	MasterPlan Awarded	Donor Assistance / scope	No. of Employees	Population Served	# of Surface WTP	# of WWTP	Total Water Production**	Total Wastewater Treatment
	Date						Daily capacity m3	
Cairo Water Company	06-نوفمبر		12,733	10,185,137	12	NA	5,771,000	NA
Alexandria Water Company	06-أغسطس	City of Amsterdam	5,850	4,544,659	8	NA	2,661,389	NA
Cairo Wastewater Company	06-أغسطس		9,500	10,185,137	NA	5'	NA	3,01,000
Alexandria Wastewater Company	06-أغسطس		5,380	4,544,659	NA	8	NA	958,465
Beheira Water and Wastewater Company	07-نوفمبر	Italian/WB/City of Amsterdam	4134*	4,820,000	8	23	957,685	246,500
Damietta Water and Wastewater Company	06-نوفمبر	City of Amsterdam	1634*	1,304,380	4	22	402,248	185,000
Kafr El Sheikh Water and Wastewater Company	07-نوفمبر	KFW/WB	3,117	3,500,000	7	2	575,229	22,226
Daqahleya Water and Wastewater Company	07-أغسطس		8,247	5,400,000	11	23	1,017,363	218,150
Gharbeya Water and Wastewater Company	07-أغسطس	WB	5,410	4,000,000	7	16	816,919	287,330
Sharqeya Water and Wastewater Company	07-أغسطس	JICA	4,385	5,330,000	7	12	774,195	110,079
Fayoum Water and Wastewater Company	06-أغسطس	Dutch	3,074	2,662,000	4	16	472,884	142,466
Beni Suef Water and Wastewater Company	06-يوليو		2,722	2,600,000	13	4	341,925	56,979
Minya Water and Wastewater Company	07-يوليو		3,998	4,125,562	13	11	494,763	65,557
Aswan Water and Wastewater Company	06-نوفمبر	DANIDA	3,560	1,180,742	11	8	326,399	88,931
Qena Water and Wastewater Company	07-نوفمبر	GTZ/KFW	3,787	3,087,714	8	3	406,517	75,000
Menofeya Water and Wastewater Company	with Cairo		5,216	3,399,439	6	13*	655,587	142,395
Giza Water and Wastewater Company	with Cairo		6,698	5,724,707	5	3	2,463,000	880,000
Matrouh Water and Wastewater Company	Feb. 2009		1,220	375,000	1	1	168,500	24,568
Luxor Water and Wastewater Company	07-نوفمبر		1,421	569,000	3	4	165,000	41,000
Assiut Water and Wastewater Company	Nov. 2009		N/A	3,444,967	3	3	438,356	68,493
Sohag Water and Wastewater Company	Nov. 2008		N/A	3,747,289	6	3	1,250,000	112,500
Sinai Water and Wastewater Company	Nov. 2008		N/A	4,937,69	N/A	N/A	196,000	NA
Red Sea Water & Wastewater Company								
		Sub-total (Page 1)	86,318	84,730,392	137	180	20,354,959	3,725,639
		Sub-total (Page 2)	-		-	-		
Holding Company for Water and Wastewater		GTZ/EU	86,318	84,730,392	137	180	20,354,959	3,725,639

Appendix I: Performance Indicators

This appendix provides the next two following charts showing the performance indicators for water and wastewater. The charts are followed by definitions and calculation

Wastewater Indicators
Cost Indicators
• Labor cost per cubic meter of wastewater treated. (LE/cubic meter)
• Energy cost per cubic meter of wastewater treated. (LE/cubic meter)
• Chemicals per cubic meter of wastewater treated. (LE/cubic meter)
• Rest of operation and maintenance cost per cubic meter of treated wastewater (LE/cubic meter)
• Total cost of operation and management per cubic meter of treated wastewater (LE/cubic meter)
Financial Indicators
• Percent of activity revenue represented by cost of operations and maintenance regained (%)
• Percent of total revenue represented by cost of operation and maintenance and depreciation total cost regained (%)
• Percent of total revenue represented by total expenses (%)
• Labor cost /total operation and maintenance cost (%)
• Energy cost /total operation and maintenance cost (%)
• Chemicals cost /total operation and maintenance cost (%)
• Rest of operation and maintenance cost/total operation and maintenance cost (%)
• Wage Pound production (value) (total operating revenue/labor cost)
• Total cost of operation and management per cubic meter of collected wastewater (LE/cubic meter)
• Coverage of the OPERATION AND MAINTENANCE cost of septic evacuation from septic evacuation revenues...
• Coverage of the OPERATION AND MAINTENANCE cost of domestic connections from connections revenues...
Commercial and Administrative Indicators
• Productivity per 1LE (amount) (amount of treated wastewater/labor cost) (LE)
• Number of employee per 1000 wastewater connections
• Number of complaints per 1000 connections – wastewater
• Septic evacuation service revenue/total operations revenue
• Domestic connections service revenue/total operations revenue
• Other operation revenues/total operation revenue
• Revenue collected from water company/total wastewater revenue (Cairo and Alexandria)
Technical Indicators
• Percent of wastewater treated (%)
• Percent of samples meeting specifications – wastewater (%)
• electricity consumption for 1000 cubic meter (kilowatt/1000 cubic meter)
• Percent of coverage from wastewater (%)
• Percent of outlets to connections (%)
• Percent utilization of treatment plants (%)
• Percent of cleaned networks (%)

methods.

Water Indicators
Cost Indicators

• Labor cost per cubic meter of water produced. (LE/cubic meter)
• Energy cost per cubic meter of water produced. (LE/cubic meter)
• Chemicals per cubic meter of water produced. (LE/cubic meter)
• Rest of operation and maintenance cost per cubic meter of water produced(LE/cubic meter)
• Total cost of operation and management per cubic meter of water produced(LE/cubic meter)
Financial Indicators
• Percent of total revenue represented by cost of operation and maintenance and depreciation total cost regained (%)
• Percent of total revenue represented by total expenses regained (%)
• Percent of activity revenue represented by cost of operations and maintenance regained (%)
• Labor cost /total operation and maintenance cost (%)
• Energy cost /total operation and maintenance cost (%)
• Chemicals cost /total operation and maintenance cost (%)
• Rest of operation and maintenance cost/total operation and maintenance cost (%)
• Wage Pound production (value) (total operating revenue/labor cost) (LE)
• Total cost of operation and management per cubic meter of sold water (LE/cubic meter)
Commercial and Administrative Indicators
• Percentage of collection from period's bills (%), domestic
• Percentage of collection from period's bills (%), governmental
• Percentage of collection from period's bills (%), others
• Percentage of collection (from arrears) (%), domestic
• Percentage of collection (from arrears) (%), governmental
• Percentage of collection (from arrears) (%), others
• Percent of issued bills to accounts (%).
• Productivity per 1LE (amount) (amount of produced water/labor cost)
• Number of employee per 1000 wastewater connections
• Number of complaints per 1000 connections – water (service)
• Number of complaints per 1000 connections – water (bills)
• Other operation revenues/total operation revenue
• Percent of connection fitted with meters (%)
• Percent of functioning meters (%)
Technical Indicators
• Percent of water measured (according to meters) (%)
• Percent of plants fitted with meters (%)
• Percent of water sold basis actual readings (%)
• Amount of alum used per one cubic meter of water produced(gm/cubic meter)
• Amount of chlorine used per one cubic meter of water produced(gm/cubic meter)
• Percent of leakage (%)
• Percent of samples meeting specifications – water (%)

Definitions of Performance Indicators - Wastewater

COST PERFORMANCE INDICATORS - WASTEWATER

Labor cost per cubic meter of treated wastewater

Labor cost per cubic meter of treated wastewater

Cost of salaries: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

Amount of treated wastewater. Total amount of wastewater treated during the period.

Period used to calculate labor costs must be that used of calculate quantity of wastewater treated.

Energy cost/quantity of wastewater treated

Energy cost/quantity of wastewater treated

Energy cost: all costs related to electricity, oils, greases, and coal.

Amount of treated wastewater. Total amount of wastewater treated during the period.

Chemicals cost per cubic meter of wastewater treated

Chemicals cost /volume of wastewater treated

Chemicals cost: all costs related to material and chemicals used for water or wastewater treatment.

Amount of treated wastewater: Total amount of wastewater treated during the period.

Rest of operation and maintenance cost/cubic meter of wastewater treated

Rest of operation and maintenance cost/quantity of wastewater treated

Rest of operation and maintenance cost; rest of cost related to operations and maintenance (maintenance, spare parts, transportation, publications)

Amount of treated wastewater: Total amount of wastewater treated during the period.

Total cost of treated wastewater per cubic meter

Total operation and maintenance cost/each cubic meter of collect wastewater

Total operation and maintenance cost as calculated in the previous indicator

Amount of water produced. Total amount of water produced during the period.

FINANCIAL PERFORMANCE INDICATORS - WASTEWATER

Percent of revenue represented by cost of operations and maintenance regained

Operation revenue/operation and maintenance cost

	Old account number	New account number
Operation revenue	41	41
Revenues from sales of products		
Revenue from goods purchased for resale		
Revenue from services for third parties		
Revenue from operations for third parties		
Other operations revenue		
Credit interest and rent revenue	442-443	435-4445

Does not include non-operation related, and previous years expenses, or any other emergency expenses (not constant)	42-43-44, except 442-443	42-43-44, except 435-4445
Operation and maintenance cost		
Salaries (operation, distributed, collection and management)	31	362-372-382
Material costs (chemicals, material, energy, spare parts, and any other perishables for operations, distribution, and administration)	32	361-371-381
Service costs (maintenance, printing, transportation, subscriptions, and fees)	33	3631-3731-3831
Cost of goods purchased with the aim of reselling	34	34
Does not include...(transfer current expenses, and specialized current expenses)	35-36	From 3632 till 3639 From 3732 till 3739 From 3832 till 3839
Does not include interest and depreciation	352-353	3632-3633-3732-3733

Period used to calculate operation revenue must be that used of calculate cost.

Percent of total revenue represented by cost of operations and maintenance and depreciation regained (%)

Total revenue: Total of account 4

Total operation and maintenance cost as calculated in the previous indicator + depreciation cost (old account No. 352, or new account Nos. 3632 and 3732).

Percent of total revenue represented by total cost regained (%)

Total revenue/total cost

Total revenue: Total of account 4

Total expenses. Total of account 3

Percent of cost of operation and maintenance represented by labor cost

Labor cost /total operation and maintenance cost

Cost of salaries: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

Total operation and maintenance cost as calculated in the previous indicator

Percent of cost of operation and maintenance represented by energy cost

Energy cost /total operation and maintenance cost

Energy cost: all costs related to electricity, oils, greases, and coal.

Total operation and maintenance cost as calculated in the previous indicator

Percent of cost of operation and maintenance represented by chemicals cost

Chemicals cost /total operation and maintenance cost

Total cost of operation and maintenance: all costs related to material and chemical used in treating wastewater.

Total operation and maintenance cost as calculated in the previous indicator

Percent of total operation and maintenance cost represented by the rest of operation and maintenance costs

Rest of operation and maintenance cost/total operation and maintenance cost

Rest of operation and maintenance cost; rest of cost related to operations and maintenance (maintenance, spare parts, transportation, publications)

Total operation and maintenance cost as calculated in the previous indicator

Total cost of collected wastewater per cubic meter

Total operation and maintenance cost/each cubic meter of collect wastewater

Total operation and maintenance cost as calculated in the previous indicator

Amount of collected wastewater. Total amount of wastewater collected during the period.

Productivity per 1LE of salaries (value)

Total operating revenues/ total labor cost

Total revenue as calculated in the previous indicator

Labor cost: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

Coverage of the operation and maintenance cost of septic evacuation from septic evacuation revenues (%)

Septic evacuation revenue/ septic evacuation total operation and maintenance cost

Total operation and maintenance cost for septic evacuation services (material, energy, transportation)

Septic evacuation revenue

Coverage of the operation and maintenance cost of connection from connections revenues (%)

Domestic connections operations revenue/total operations and maintenance for domestic connections services.

Total operation and maintenance cost for domestic connections services (material, energy, transportation)

Domestic connections operations revenue

COMMERCIAL AND ADMINISTRATIVE PERFORMANCE INDICATORS - WASTEWATER

Productivity per 1LE (amount)

Amount of treated wastewater/ labor cost.

Amount of treated wastewater. Total amount of wastewater treated during the period.

Labor Cost: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

Number of wastewater employee per 1000 wastewater connections

Total number of worker in wastewater / total number of wastewater connections/1000)

Total number of worker in wastewater. Total number of wastewater employees, and administrative workers concerned with wastewater.

Total number of wastewater connections: Total number of water connections or accounts benefiting from wastewater services.

Number of complaints per 1000 connections – water waste

Total number of complainants per year/ (total number of wastewater connections/1000)
Total number of complaints: Total number of complaints of network blockages, overflow, or odor.

Total number of wastewater connections: Total number of connections or accounts benefiting from wastewater services.

Percent of activity's total revenue represented by septic evacuation service

Septic evacuation service revenue/total operations revenue

Septic evacuation revenue

Total revenue as calculated in the previous indicator

Percent of connection service revenues from total operation revenue

Percent of connection service revenues from total revenue

Domestic connections operation revenue

Total revenue as calculated in the previous indicator

Percent of activity's total revenue represented by other operations

Other operation revenues/total operation revenue

Other operation revenues. Other revenue (e.g., sold services revenue, operating for third party revenue)

Total revenue as calculated in the previous indicator.

Percentage of revenues received from water company from total revenues (Cairo and Alexandria only)

Revenue collected from water company/total wastewater revenue

Total revenue as calculated in the previous indicator

Revenue collected from water company: what has been transferred from the water company during the period

TECHNICAL PERFORMANCE INDICATORS - WASTEWATER

Percent of wastewater treated (%)

Total quantity of treated wastewater/ Total quantity of collected wastewater

Total quantity of treated wastewater: Total quantity of treated wastewater in cubic meter

Total quantity of collected wastewater: Total quantity of collected wastewater in cubic meter

Percent of samples accepted – wastewater (%)

Total number of samples passed/total number of samples tested.

Total samples passed – wastewater. Total wastewater samples conforming to the applicable laws and rules of the Egyptian ministry of health, and the Egyptian Environmental Affairs, according to company laboratories.

Total samples tested – wastewater. Total number of wastewater samples tested, and collected by company

Electricity consumption for 1000 cubic meter (kilowatt/1000 cubic meter)

Amount of collected wastewater. Total amount of wastewater collected during the period.

Total quantity of treated wastewater: Total quantity of treated wastewater in cubic meter/1000

Percent of coverage from treated wastewater (%)

Total quantity of collected wastewater / total quantity of water produced

Total quantity of collected wastewater: Total quantity of collected wastewater in cubic meter

Total quantity of water produced: indicates total quantity of water produced in cubic meter

Percent of established connections (%)

Number of connections established during the period / number of planned connections.

Number of connections established during the period. The number of domestic connections established during the period.

Number of connections planned. The number of connections planned during the period.

Percent of treatment plants activity (%)

Actual volume of wastewater treated / plants designed capacity

Actual volume of wastewater treated. Total treated amount in cubic meters.

Plants designed capacity. Plants designed capacity in cubic meters.

Percent of cleared networks (%)

Length of cleared networks/total network length

Length of cleared networks: indicates total length cleared during the period, in kilometers.

Total network length. Total network length in kilometers.

GENERAL DATA RELATED TO WASTEWATER SERVICES

Percent of service coverage – wastewater: (%)

Number of persons receiving wastewater service/total number of population

Number of persons receiving wastewater service is the number of customers receiving the service= number of accounts benefiting from wastewater serves x (5 in urban areas, 9 in rural areas)

Total population: is the total number of governorate population

Quantity of wastewater treated

Total treated quantity in cubic meters

Number of employees

Total number of workers in the wastewater, including technicians, administrative, and septic tanks employees.

Per capita share of treated wastewater (L/population/day)

Total quantity of treated wastewater per day/total population

Total quantity of collected wastewater: Total quantity of daily treated wastewater in cubic meter

Total population: is the total number of governorate population

Definitions of Performance Indicators - Water

COST PERFORMANCE INDICATORS - WATER

Labor cost per cubic meter of water produced

Labor cost /quantity of water produced

Cost of salaries: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and social insurance)

Amount of water sold. Total amount of water produced during the period.

Energy cost/cubic meter of water produced.

Energy cost /quantity of water produced

Energy cost: all costs related to electricity, oils, greases, and coal.

Amount of water produced. Total amount of water produced during the period.

Chemicals cost per cubic meter of water produced

Chemicals cost /quantity of water produced

Chemicals cost: all costs related to material and chemicals used for water treatment.

Amount of water sold. Total amount of water produced during the period.

Rest of operation and maintenance cost/cubic meter of water produced

Rest of operation and maintenance cost/quantity of water produced

Rest of operation and maintenance cost; rest of cost related to operations and maintenance (maintenance, spare parts, transportation, publications)

Amount of water sold. Total amount of water produced during the period.

Total cost of water produced per cubic meter

Total cost of operation and maintenance / quantity of water produced

Total operation and maintenance cost as calculated in the previous indicator

Amount of water sold. Total amount of water produced during the period.

FINANCIAL PERFORMANCE INDICATORS - WATER

Percent of revenue represented by cost of operations and maintenance regained

Operation revenue/operation and maintenance cost

	Old Account Number	New Account Number
Operation revenue	41	41
Revenues from sales of products		
Revenue from goods purchased for resale		
revenue from services for third parties		
revenue from operations for third parties		
Other operations revenue		
Credit interest and rent revenue	442-443	435-4445
Does not include non-operation related, and previous years expenses, or any other emergency expenses (not constant)	42-43-44, except 442-443	42-43-44, except 435-4445
Operation and maintenance cost		
salaries (operation, distributed, collection and management)	31	362-372-382

Material costs (chemicals, material, energy, spare parts, and any other perishables for operations, distribution, and administration)	32	361-371-381
Service costs (maintenance, printing, transportation, subscriptions, and fees)	33	3631-3731-3831
Cost of goods purchased with the aim of reselling	34	34
Does not include...(transfer current expenses, and specialized current expenses)	35-36	From 3632 till 3639 From 3732 till 3739 From 3832 till 3839
Does not include interest and depreciation	352-353	3632-3633-3732-3733

Period used to calculate operation revenue must be that used of calculate cost.

Percent of total revenue represented by cost of operations and maintenance and depreciation regained (%)

Total revenue/operation and maintenance cost and depreciation

Total revenue: total of account 4

Total operation and maintenance cost as calculated in the previous indicator + depreciation cost (old account No. 352, or new account Nos. 3632 and 3732)

Percent of total revenue represented by total cost regained (%)

Total revenue/total cost

Total revenue: total of account 4

Total expenses. Total of account 3

Percent of cost of operation and maintenance represented by labor cost

Labor cost /total operation and maintenance cost

Cost of salaries: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and social insurance)

Total operation and maintenance cost as calculated in the previous indicator

Percent of cost of operation and maintenance represented by energy cost

Energy cost /total operation and maintenance cost

Energy cost: all costs related to electricity, oils, greases, and coal.

Total operation and maintenance cost as calculated in the previous indicator

Percent of cost of operation and maintenance represented by chemicals cost

Chemicals cost /total operation and maintenance cost

Chemicals cost: all costs related to material and chemicals used for water treatment.

Total operation and maintenance cost as calculated in the previous indicator

Percent of total operation and maintenance cost represented by the rest of operation and maintenance costs

Rest of operation and maintenance cost/total operation and maintenance cost

Rest of operation and maintenance cost/rest of expenses related to operation and maintenance cost (maintenance, spare parts, transportation, publications)

Total operation and maintenance cost as calculated in the previous indicator

Cost per cubic meter of water sold

Total cost of operation and maintenance / amount of water produced
Total operation and maintenance cost as calculated in the previous indicator
Amount of water sold. Total amount of water sold during the period.

Productivity per 1LE of salaries (value)

Total operating revenues/ total labor cost
Total operating revenue as calculated in the previous indicator
Labor Cost: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

COMMERCIAL AND ADMINISTRATIVE PERFORMANCE INDICATORS - WATER

Percent of collection from the value of the period's issued bills (domestic/governmental/others)

Cash collected from current period revenues/ total period revenues or bills issued during the period
Operating revenue: all recorded revenue during the period resulting from performing water and waste water related services
Cash collected from current bills: total cash collected during the period related to bills issued during the period
Note: this percentage can be divided according to customers' classification.

Percent of the total value of arrears represented by collection (domestic/governmental/others)

Cash collected from arrears /receivables balance at the beginning of the period (arrears)
Accounts receivables balance (old account No.161, new account No. 171)
All customers' accounts due for water and wastewater services at the beginning of the period.
Cash collected from arrears: total cash collected during the period related to bills issued in previous periods
Note: this percentage can be divided according to customers' classification.

Percent of issued bills to accounts

Percent of bills issued during the period/total number of accounts
Number of bills issued to customers during the relevant period.
Total number of customers at the beginning of the period

Productivity per 1LE of salaries (quantity)

Amount of water produced / labor cost.
Amount of water sold. Total amount of water produced during the period.
Labor Cost: cost related to technical and managerial labor (salaries, bonuses, allowances, overtime, and insurance)

Number of water employee per 1000 water connections

Total number of worker in water / (total number of water connections / 1000)
Total number of worker in water. Total number of direct water employees, and administrative workers at the general administration concerned with water.

Total number of water connections: Total number of water connections or accounts.

Number of complaints per 1000 connections – water

Total number of complainants per year/ (total number of water connections/1000)

Total number of complaints: Total number of complaints of service stoppage or substandard.

Total number of connections: Total number of connections or accounts.

To be divided into indicators for service related-, and bill related-complaints.

Other activities revenues/total operations revenue

Other activities revenues. Other revenue (e.g., sold services revenue, operating for third party revenue).

Total operating revenues: as defined previously.

Percent of connection fitted with meters (%)

Total number of metered connections /total number of water connections

Total number of metered connections: Total number of connections fitted with meters

Total number of water connections: Total number of water connections fitted or unfitted with meters (accounts).

Percent of functioning meters (%)

Total number of functioning meters/total number of metered connections

Total number of functioning metered: Total number of functioning metered

Total number of connections fitted with meters: Total number of water connections fitted with meters

Definitions of basic technical indicators related to water services

Percent of water measured (%)

Quantity of metered produced water/total quantity of produced water

Quantity of metered produced water: total quantity in cubic meters of water produced measured at plants fitted with working meters.

Total volume of water produced: indicates total quantity of water produced in cubic meter

Percent of plants fitted with meters (%)

Number of plants fitted with functioning meters/total number of plants.

Number of plants fitted with functioning meters: total number of plants fitted with functioning meters

Total number of plants: indicates total number of water producing plants

Percent of water sold basis actual readings (%)

Quantity of sold water by readings/ volume of water soled

Quantity of sold water: total quantity of sold water in cubic meter, based on actual readings.

Quantity of sold water; total volume of water soled in cubic meters

Amount of alum used per one cubic meter of water produced (%)

Amount of alum used. The amount of alum used to purify one cubic meter of water, in grams.

Produced cubic meter: one cubic meter or produced water

Amount of chlorine used per one cubic meter of water produced (%)

Amount of chlorine used. The amount of chlorine used to purify one cubic meter of water, in grams.

Produced cubic meter: one cubic meter or produced water

Percent of unbilled water (%)

Total produced – total sold/total produced

Total produced: total quantity of water produced in cubic meter

Total sold: total quantity of sold water in cubic meter

Percent of samples accepted – water (%)

Total number of samples passed/total number of samples tested.

Total samples passed – water. Total water samples conforming to the applicable laws and rules of the Egyptian ministry of health, and the Egyptian Environmental Affairs, according to company laboratories.

Total samples tested – water. Total number of wastewater samples tested, and collected by company

TECHNICAL PERFORMANCE INDICATORS - WATER

Percent of service coverage – water: (%)

Number of persons receiving water service/total number of population

Number of persons receiving water service is the number of customers receiving the service= number of accounts benefiting from wastewater serves x (5 in urban areas, 9 in rural areas)

Total population: is the total number of governorate population

Amount of water produced.

Total quantity of water produced during the year

Amount of water sold

Total quantity of water sold during the year.

Per capita share of water sold (L/population/day)

Total quantity of sold water per day/ total population

Total quantity of sold water: Total quantity of daily sold water in cubic meter

Total population: is the total number of governorate population

Per capita share of water produced (L/population/day)

Total quantity of water produced per day/ total population

Total quantity of produced water: Total quantity of daily produced water in cubic meter

Total population: is the total number of governorate population

Number of employees

Total number of workers in the water, including technicians, and administrative

Appendix J: Procurement

	Item Description	Quantity	Extended Amount \$
EWRA IT Equipment \$143,871	Servers, UPS's, Tape Drive and Rack	2	\$19,175
	Desktop and Laptop PCs	30	53,300
	Printers	7	20,450
	Data Show	2	4,725
	Scanners	3	11,200
	Digital cameras	2	1,150
	Motorized screen	1	450
	Copiers	4	25,175
	Software Packages	1	
	Antivirus	1	622
	SQL Server Enterprise	1	6,350
	Microsoft Visio	1	174
	Backup Software	1	1,100
	HCWW and Subsidiaries IT Equipment \$ 585,514	Item Description	QTY
Servers		9	
UPS's		9	\$79,200
Tape Drive and Rack		4 3	
Desktop and Laptop PCs		51	198,416
Printers and Plotters		24	89,770
Data Show		2	7,628
GIS Software		10	74,200
LCD TVs		3	7,700
Scanners		5	26,500
Firewall, Wireless Network		1 1	12,700
Finance and Admin Software			78,000
Copiers		2	7,000
Backup Software Software Development Tools		4	4,400
Other Equipment \$ 117,930	Item Description	QTY	Extended Amount \$
	Meter Test Benches	2	\$ 117,930

	Item Description	Quantity	Extended Amount \$
MHUUD (PMU) IT Equipment \$ 229,712	Servers	3	\$25,100
	UPS's	3	
	Tape Drive and Rack	1	
		1	
	Desktop and Laptop PCs	83	114,000
	71 X Desktop		
	3 X Tablet PC		
	3 X Dell Laptop 6 X HP Laptop		
	Printers	27	67,428
	4 X HP 5200		
15 X HP 3005			
4 X HP 9050			
1 X HP 7413			
1 X HP 460			
1 X HP Plotter			
1 X HP 1320			
Supplies			
Data Show	1	2,292	
Network Switches	6	1,560	
Software Packages	1		
Antivirus			622
SQL Server Enterprise			1,100
.Net Dotfuscator Security			342
Acronis True Image			798
Bandwidth Splitter			2,155
Visual Studio			419
Backup Software			171
Software Development Tools			13,725
Procurement for Targeting Poverty Project			54 X Dell desktop PCs
	24 X HP A4 printers		
	24 X Digital Cameras		
	Software development tools: Infragistics Netadvantage for .Net, AVG Anti-virus software,		

Appendix K: Points of Contact

Component and Task (see below)	Name	Position	Email	Telephone
A.1	Dr. Mohamed Hassan	Head of Technical Department		010 584 6660
	Eng. Mohamed El Alfy	EWRA Director		010 233 2323
A.2	Mr. Mohamed Abdel Wahab	Head of Tariff and Cost of Service Department		010 123 4522
A.3	Mr. Mohamed Abdel Wahab			
E.3	Dr Mohamed Hasan Mostafa	Head of Technical Office		010 584 6660
F	Mr. Hany Abdel Hakim	MIS General Manager	Hany.hakim@ewra.gov.eg	012 220 3470
WWSPR Project Staff who Worked on these Tasks				
A.1	Mr. Samir Sayed Ahmed	Utility Management Specialist		010 609 5027
A.2	Mr. Nejib Chaouch	Finance Specialist		012 313 7286
A.3				
E.3	Mr. Mamdouh Hassan	Utility Management Specialist		012 342 6412
F	Mr. Pankaj Patel	Senior MIS Specialist		012-241-9859
Task Description				
A.1	EWRA Staffing, performance monitoring, benchmarking and utilities certification			
A.2	Tariff Rate Application system using electronic tariff analysis model			
A.3	New w/ww tariff structure			
E.3	Training			
F	Management Information Systems			

Appendix K: Points of Contact

Points of Contact - MHUUD				
Component and Task (see below)	Name	Position	Email	Telephone
E.3	Mr. Mohamed Bakr			010 869 4949
G				
H	Mr. Mohamed El Alfy	EWRA Director		010 233 2323
I	Mr. Aly El Sherif	PMEU Manager		010 007 8278
J	Mr. Mohamed El Alfy	EWRA Director		010 233 2323
K				
WWSPR Project Staff who Worked on these Tasks				
E.3	Mr. Mamdouh Hassan	Utility Management Specialist		012 342 6412
G	Mr. Samir Sayed Ahmed	Utility Management Specialist		010 609 5027
H	David Osgood	Project Director		012 317 5845
I	Mr. Pankaj Patel	Senior MIS Specialist / PM Task Leader		012 241 9859
J	Mr. David Osgood	Project Director		012 317 5845
K				
Task Description				
E.3	Training			
G	Water Sector Law			
H	Donor Coordination			
I	Program Monitoring System			
J	PPP feasibility study for potable water in new Cairo			
K	PPP feasibility study Abu Rawash effluent reuse			

Appendix K: Points of Contact

Points of Contact - HCWW				
Component & Task (see below)	Name	Position	Email	Telephone
C.1	Mr. Ahmed Mekkawy	Accountant	Ahmed.mekkawy@hcww.com.eg	012 221 1557
C.2	No one			
C.3	Mr. Mohamed Moawad	Head of Performance Sector	Mmoawad@hcww.com.eg	010 521 4847
D.1	Mr. Sherif Kamal	Accountant		011 115 4009
	Ms. Alaa Adel	Engineer		012 691 1370
D.2	Mr. Mohamed Moawad	Head of Performance Sector	Mmoawad@hcww.com.eg	010 521 4847
D.3	Mr. Hisham Afifi	Head of Technical Dep.		012 219 5980
D.4	Mr. Mohamed Moawad	Head of Performance Sector	Mmoawad@hcww.com.eg	010 521 4847
D.5	No one			
D.6	Ms. Neveen Abdel Rahman	G.M of Public Awareness		010 165 9900
E.1	Dr. Ahmed Moawad	Head of Technical Dep.		012 215 9841
E.2	Ms. Gihan Fathy	EAU Manager	Gehan.fathy@hcww.com.eg	012 807 0528
E.3	Mr. Mohamed Moawad	Head of Performance Sector	Mmoawad@hcww.com.eg	010 521 4847
F	Mr. Ahmed Alaa	MIS Director		012 744 8741
WWSPR Project Staff who Worked on these Tasks				
C.1	Amany Abdel Wahab	Transaction Specialist		010 178 5102
C.2				
C.3	Samir Sayed Ahmed	Utility Management Specialist		010 609 5027
D.1	Mustafa Saeed	Financial Department		012 114 9402
D.2	Samir Sayed Ahmed	Utility Management Specialist		010 609 5027
D.3	Mustafa Saeed	Financial Department		012 114 9402
D.4	Mamduh Hassan	Utility Management Specialist		012 342 6412
D.5	Mustafa Saeed	Financial Department		012 114 9402
D.6	David Osgood	Project Director		012 317 5843
E.1	Mamdouh Hassan	Utility Management Specialist		012 342 6412
E.2				
E.3				
F	Pankaj Patel	Senior MIS Specialist		012 241 9859

Task Description			
B	Private Sector Participation	D.4	Rationalize Staffing
C.1	Financial Planning	D.5	Revenue Generation
C.2	Creditworthiness	D.6	Public Awareness
C.3	Organization Development	E.1	Plant Assessments and Performance Improvement Plans
D.1	Financial and Technical Monitoring	E.2	Performance Monitoring System
D.2	Centers of Excellence	E.3	Training Programs
D.3	Cost Accounting Systems	F	Management Information Systems

Appendix K: Points of Contact

Points of Contact – Subsidiary Companies				
Company	Name	Position	Email	Telephone
Subsidiary Company Chairmen				
Alexandria Wastewater	Mr. Mohamed Bahgat	Chairmen		012 136 1134
Alexandria Water	Ms. Nadia Abdou	Chairmen	nadiaabdou@acwua.org	012 222 0295
Aswan	Mr. Gamal Aheed	Chairmen	No Email	010 128 3229
Beheira	Mr. Mahmoud Mansour	Chairmen	www.bwadc.com.eg	010 032 3222
Beni Suef	Mr. Mohamed Abou el Kheir	Chairmen		012 250 8721
Cairo Wastewater	Mr. Khaled Khedr	Chairmen	gcsdc@gcsdc.com	012 102 4054
Cairo Water	Mr. Mohamed Abdel Rahman	Chairmen		012 242 0132 010 180 3687
Damietta	Mr. Ahmed Kadry Ahmed	Chairmen	a.kadry2008@yahoo.com	012 315 8941
Daqahleya	Mr. Ahmed Amin Abdeen	Chairmen	Aabdin47@yahoo.com	010 344 8510
Fayoum	Mr. Mahmoud Nafei	Chairmen	fadwsc@fadwasc.com	010 335 7922
Gharbeya	Mr. Mohamed Othman Boshta	Chairmen		010 222 3800
Kafr EL Sheikh	Mr. Mahmoud Fouad	Chairmen	info@kwsa.com.eg	012 315 6125
Minya	Mr. Mahmoud Abou Zeid	Chairmen		010 502 2375
Sharqeya	Mr. Salah Bayoumi	Chairmen		012 349 1306 010 407 6123
Assiut	Mr. Ibrahim Amasha	Chairmen	ascww@gmail.com	010 344 8581
Giza	Mr. Adel Ahmed Ramadan	Chairmen	No Email	012 377 5399
Luxor City	Mr. Mohamed Shabeeb	Chairmen	Mohamed.shabeeb@lcww.com.org	010 539 3041
Marsa Matrouh	Mr. Yosri Henry Azer	Chairmen	Yousri_h@yahoo.com	010 143 1260
Menofeya	Mr. Ayman Abdel Kader	Chairmen	Ayman_abdelkader15@yahoo.com	010 143 1314
North and South Sinai	Mr. Ibrahim Khaled	Chairmen	No Email	010 157 5784
Qena	Mr. Mohamed Badry	Chairmen	mobadry@gamil.com	012 363 7926
Sohag	Mr. Ali Habashy	Chairmen	Ahmosali2004@yahoo.com	010 312 1112

Appendix K: Points of Contact

Points of Contact – Subsidiary Companies				
Company	Name	Position	Email	Telephone
Financial Lead				
Alexandria Wastewater	Mr. Mostafa Abdel Aal	Head Of Financial Department		010 194 6327
Alexandria Water	Mr. Adel Abdel Mohsen	Head Of Financial Department		012 318 5499
Aswan	Mr. .Mahmoud Isamil			010 521 6798
Beheira	Mr. Fathy Azab	Head Of Financial Department	No Email	018 231 2324
Beni Suef	Mr. Abdulla Fathy			
Cairo Wastewater	Mr. Khaled Gomaa	Head Of Financial Department		010 161 4155
Cairo Water	Mr. Mohamed Abbas	Head Of Financial Department		010 489 9356
Damietta	Mr. Mohamed El Henawy		No Email	010 662 9207
Daqahleya	Mr. Mohamed El Hosany Ramadan	Head Of Financial Department /HR	Alhoseny49@yahoo.com	010 617 8178
Fayoum	N/A			
Gharbeya	Mr. Ali Amasha	Head Of Financial Department /HR		012 860 9272
Kafr EL Sheikh	Mr. Mohamed Abuel Kheir	Financial Director/HR		010 521 6883
	Mr. Ali Abdel Wahab	Financial Director/HR		010 191 1475
Minya	Mr. Mohamed Badawy	Financial Director/HR		012 502 8736
Sharqeya	Mr. Ahmed Hassnien			012 645 3212
Assiut	N/A			
Giza	Ms. Nelly Soliman			
Luxor City	Mr. Ramadan Sharkawy			018 330 3225
Marsa Matrouh	Mr. Abdel Razik Maree			
Menofeya	Mr. Gamal Tork	Financial Director		010 660 7374
North and South Sinai	N/A			
Qena	N/A			
Sohag	N/A			

Appendix K: Points of Contact

Points of Contact – Subsidiary Companies				
Company	Name	Position	Email	Telephone
Technical Lead				
Alexandria Wastewater	Ms. Mai Anis	Technical Office		016 437 7716
Alexandria Water	Ms. Nadia Morsi	Technical Office		016 142 0981
Aswan	Mr. Adel Attia	MIS		
Beheira	Mr. Ahmed Zakaria	MARS Technical		
Beni Suef	Ms. Wafaa Philip	MARS Technical		012 501 0547
Cairo Wastewater	Mr. Hamed Ashmawy	MARS Technical		010 100 5065
Cairo Water	Ms. Ola Hassan	MARS Technical		012 051 2375
Damietta	Mr. Mohamed El Gabry	MARS Technical	No Email	010 270 5905
Daqahleya	Ms. Soheir Said	MARS Technical	No Email	010 613 1732
Fayoum	Mr. Aly Abdel Wahed	MARS Technical	aly@fdwasc.com	010 183 9924
Gharbeya	Mr. Abdallah El Lesy	Head of Technical Dep.		010 222 3890
Kafr EL Sheikh	Mr. Helmy El sayed			010 332 2561
Minya	Ms. Fatma Osman	MARS Technical		012 676 8272
Sharqeya	Ms. Aml Mohamed Mokhtar	MARS Technical		
Assiut				
Giza	Ms. Samia El Desouky	MARS Technical		
Luxor City	Ms. Neamt Arafa	MARS Technical		
Marsa Matrouh	Mr. Ahmed Salman	MARS Technical		
Menofeya	Mr. Hussein Montsar	MARS Technical		010 481 5706
North and South Sinai	N/A			
Qena	Ms. Fibi	MARS Technical		
Sohag	N/A			

Points of Contact – Subsidiary Companies

Company	Name	Position	Email	Telephone
Economic Analysis Units				
Alexandria Wastewater	Ms. Samia El zalouie	Head of EAU		010 780 6821
Alexandria Water	Ms. Hanan Taha	Head of EAU		012 731 6693
Aswan	Mr. Wael Bushra	Head of EAU		016 235 7222
Beheira	Ms. Olfat Gomaa	Head of EAU	Olfat_gomaa@yahoo.com	012 401 8685
Beni Suef	Mr. Waleed Saad El Dien	Head of EAU		018 165 6467
Cairo Wastewater	Ms. Mervat Farid	Head of EAU		012 594 4385
Cairo Water	Ms. Sahar Abdel Fatah	Head of EAU		010 481 2567
Damietta	Mr. Mohamed Gaballah	Head of EAU	No Email	012 464 1752
Daqahleya	Ms. Nahed Saafan	Head of EAU	nsaafan@yahoo.com	010 578 5778
Fayoum	Mr. Abdel Aziz Gomaa	Head of EAU	No Email	010 794 8084
Gharbeya	Mr. Abdel Rahman Abdel Aal	Head of EAU		040 9115182
Kafr EL Sheikh	Ms. Neveen El Khteeb	Head of EAU		010 695 8212
Minya	Mr. Sayed Megahed	Head of EAU		012 125 5231
Sharqeya	Mr. Alaa Abou Taleb	Head of EAU		018 237 8564
Assiut				
Giza	Mr. Khaled Salah	Head of EAU		
Luxor City	Mr. Ahmed Qenawy	Head of EAU		
Marsa Matrouh	Mr. Ahmed Mohamed Ibrahim	Head of EAU		010 831 4474
Menofeya	Mr. Mohamed Mostafa	Head of EAU		
North and South Sinai				
Qena	Ms. Wadad Tawfik	Head of EAU		012 293 0147
Sohag				

Appendix L: Presidential Decrees

قرار رئيس جمهورية مصر العربية

رقم ١٣٥ لسنة ٢٠٠٤

بإنشاء شركة قابضة لمياه الشرب والصرف الصحى
والشركات التابعة لها

رئيس الجمهورية

بعد الاطلاع على الدستور ؛

وعلى القانون رقم ٥٣ لسنة ١٩٧٣ بشأن الموازنة العامة للدولة ؛

وعلى قانون نظام الإدارة المحلية الصادر بالقانون رقم ٤٣ لسنة ١٩٧٩

ولاتحته التنفيذية ؛

وعلى القانون رقم ٥٩ لسنة ١٩٧٩ فى شأن إنشاء المجتمعات العمرانية الجديدة ؛

وعلى قانون الشركات المساهمة وشركات التوصية بالأسهم والشركات ذات

المسئولية المحدودة الصادر بالقانون رقم ١٥٩ لسنة ١٩٨١ ولاتحته التنفيذية ؛

وعلى قانون شركات قطاع الأعمال العام الصادر بالقانون رقم ٢٠٣ لسنة ١٩٩١

ولاتحته التنفيذية ؛

وعلى قانون حماية البيئة الصادر بالقانون رقم ٤ لسنة ١٩٩٤ ؛

وعلى قرار رئيس الجمهورية رقم ١٣٣ لسنة ١٩٦٨ بإنشاء الهيئة العامة

للصرف الصحى للقاهرة الكبرى المعدل بقرار رئيس الجمهورية رقم ٩٥ لسنة ١٩٩٤ ؛

وعلى قرار رئيس الجمهورية رقم ١٦٣٨ لسنة ١٩٦٨ بإنشاء الهيئة العامة لمرفق مياه

القاهرة الكبرى ؛

وعلى قرار رئيس الجمهورية رقم ١٦٣٩ لسنة ١٩٦٨ بإنشاء الهيئة العامة

لمرفق مياه الإسكندرية ؛

وعلى قرار رئيس الجمهورية رقم ٢٦٢ لسنة ١٩٧٩ بإنشاء الهيئة العامة
للصرف الصحى بالإسكندرية والمعدل بقرار رئيس الجمهورية رقم ٩٦ لسنة ١٩٩٤ ؛
وعلى قرار رئيس الجمهورية رقم ١٩٧ لسنة ١٩٨١ بإنشاء الهيئة القومية لمياه الشرب
والصرف الصحى والمعدل بقرار رئيس الجمهورية رقم ٣٠ لسنة ١٩٨٦ ؛
وعلى قرار رئيس الجمهورية رقم ٢٨١ لسنة ١٩٩٥ بإنشاء هيئة عامة اقتصادية
لمياه الشرب والصرف الصحى ببعض المحافظات ؛
وعلى قرار رئيس الجمهورية رقم ١٦٤ لسنة ١٩٩٦ بإنشاء وزارة الإسكان والمرافق
والمجتمعات العمرانية ؛

وعلى النظام الأساسى لشركة مياه البحيرة ؛

وعلى النظام الأساسى لشركة كفر الشيخ لمياه الشرب والصرف الصحى ؛

وعلى النظام الأساسى لشركة مياه دمياط ؛

وبعد موافقة مجلس الوزراء ؛

وبناء على ما ارتآه مجلس الدولة ؛

قـرـر :

(المادة الاولى)

تؤسس شركة قابضة تسمى « الشركة القابضة لمياه الشرب والصرف الصحى »
تكون لها الشخصية الاعتبارية ومركزها الرئيسى محافظة القاهرة ، وتكون مدتها ...
تخضع لأحكام قانون شركات قطاع الأعمال العام المشار إليه ولائحته التنفيذية ،
تتبعها الشركات المنصوص عليها فى المادة الثالثة من هذا القرار .

(المادة الثانية)

يكون غرض الشركة القابضة لمياه الشرب والصرف الصحى تنقية وتحلية ونقل وتوزيع
وبيع مياه الشرب ، وتجميع ومعالجة والتخلص الآمن من مياه الصرف الصحى .

(المادة الثالثة)

تحول إلى شركات تابعة للشركة القابضة المنصوص عليها فى المادة الأولى الهيئات العامة الاقتصادية لمياه الشرب والصرف الصحى فى بعض المحافظات ، وشركات القطاع العام الآتية :

- . الهيئة العامة لمرق مياه القاهرة الكبرى .
- . الهيئة العامة لمرق مياه الإسكندرية .
- . الهيئة العامة للصرف الصحى للقاهرة الكبرى .
- . الهيئة العامة للصرف الصحى بالإسكندرية .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة أسوان .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة المنيا .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة بنى سويف .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة الفيوم .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة الدقهلية .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة الغربية .
- . الهيئة العامة الاقتصادية لمياه الشرب والصرف الصحى فى محافظة الشرقية .
- . شركة مياه البحيرة .
- . شركة كفر الشيخ لمياه الشرب والصرف الصحى .
- . شركة مياه دمياط .

(المادة الرابعة)

يكون وزير الإسكان والمرافق والمجتمعات العمرانية هو الوزير المختص فى تطبيق أحكام قانون شركات قطاع الأعمال العام المشار إليه ولائحته التنفيذية فيما يخص الشركة القابضة لمياه الشرب والصرف الصحى والشركات التابعة لها .

(المادة الخامسة)

تؤول إلى الشركات التابعة المنصوص عليها في المادة الثالثة من هذا القرار جميع الحقوق والالتزامات التي كانت للهيئات العامة الاقتصادية وشركات القطاع العام المشار إليها قبل تحويلها ، وتستمر الشركات التابعة في تطبيق اللوائح السارية عليها بما لا يتعارض مع أحكام قانون شركات قطاع الأعمال العام ولا تحت التنفيذ إلى حين وضع اللوائح الخاصة بها .

وتستمر مجالس إدارة الهيئات العامة الاقتصادية والشركات المنصوص عليها في المادة الثالثة من هذا القرار في مباشرة اختصاصاتها بصفة مؤقتة إلى حين تشكيل مجالس إدارات هذه الشركات وجمعياتها العامة . على أن يصدر وزير الإسكان والمرافق والمجمعات العمرانية النظام الأساسي لكل من الشركة القابضة والشركات التابعة لها وفقاً لنموذج النظام الأساسي للشركات الخاضعة لأحكام قانون قطاع الأعمال العام المشار إليه وبعد موافقة الجمعيات العامة لتلك الشركات .

(المادة السادسة)

يحدد رأسمال الشركة القابضة بمجموع رؤوس أموال الشركات التابعة لها في اليوم السابق لتاريخ العمل بهذا القرار ، وذلك بعد التحقق من صحة هذا التقدير بمعرفة لجنة تشكل بقرار من الوزير المختص طبقاً لحكم المادة (١٩) من قانون شركات قطاع الأعمال العام المشار إليه .

(المادة السابعة)

تشكل الجمعية العامة ومجلس إدارة الشركة القابضة لمياه الشرب والصرف الصحي طبقاً لأحكام قانون شركات القطاع العام المشار إليه ، على أن تضم كل منها في عضويتها ممثلاً لوزارة المالية .

(المادة الثامنة)

ينقل العاملون بالهيئات العامة الاقتصادية والشركات المنصوص عليها في المادة الثالثة من هذا القرار بذات أوضاعهم الوظيفية إلى الشركات التابعة المنشأة طبقاً لأحكام هذا القرار ويستمر العمل باللوائح المنظمة لشئونهم إلى أن تصدر لوائح أنظمة العاملين بالشركات المنقولين إليها طبقاً لأحكام قانون شركات قطاع الأعمال العام المشار إليه .

ويحتفظ العامل المنقول - بصفة شخصية - بما يحصل عليه من أجور وبدلات ومزايا ولو كانت تزيد على ما يستحقه طبقاً لهذه اللوائح .

(المادة التاسعة)

ينشر هذا القرار في الجريدة الرسمية ، ويعمل به من اليوم التالي لتاريخ نشره .

صدر برئاسة الجمهورية في ٧ ربيع الأول سنة ١٤٢٥ هـ

(الموافق ٢٧ أبريل سنة ٢٠٠٤ م) .

حسنى مبارك

Presidential Decree No. 135 of the year 2004
On Establishing a Holding Company for Water and Wastewater
And Subsidiary Companies

President of the Republic

Having reviewed the Constitution, and

- Law No. 53 of the year 1973 on the State General Budget,
 - Law No. 43 of the year 1979 on issuing the Local Administration Law and executive regulations thereof,
 - Law No. 59 of the year 1979 on establishing the new urban communities,
 - Law No. 159 of the year 1981 on the joint ventures, limited liability partnership companies and executive regulations thereof,
 - Law No. 203 of the year 1991 on issuing the Law on Public Business Sector Companies,
 - Law No. 4 of the year 1994 on environment protection,
 - Presidential Decree No. 133 of the year 1968 on establishing the Greater Cairo General Organization for Sanitary Drainage (CGOSD), amended by Presidential Decree No. 95 of the year 1994
 - Presidential decree No. 1638 of the year 1968 on establishing the General Organization For Greater Cairo Water Supply, and its amendments
 - Presidential Decree No. 1639 of the year 1968 on establishing the Alexandria Water General Authority, and its amendments
 - Presidential Decree No. 262 of the year 1979 on establishing the Alexandria General Organization for Sanitary Drainage (AGOSD), amended by Presidential Decree No. 96 of the year 1994
 - Presidential Decree No. 197 of the year 1981 on establishing the National Organization for Potable Water and Sanitary Drainage (NOPWASD), amended by Presidential Decree No. 30 of the year 1986
 - Presidential Decree No. 281 of the year 1995 on establishing a general economic authority for potable water and wastewater in some governorates,
 - Presidential Decree No. 164 of the year 1996 on organizing the Ministry of Housing, Utilities, and Urban Communities,
 - The statute of the Beheira Water Company,
 - The statute of the Kafr El-Sheikh Company for Potable Water and Wastewater,
 - The statute of the Damietta Water Company, and
- After Approval by the Cabinet of Ministers, and
Based on the legal opinion by the State Council,

DECREE

Article One

A holding company shall be established by the name of the National Holding Company for Potable and Wastewater Projects, and shall have its body corporate and shall be located in the Governorate of Cairo. This company shall last for the duration of ---, and be subject to the provisions of the aforementioned Law of Public General Works Company and the executive regulations thereof, and companies designated in Article 3 shall be affiliated thereto.

Article Two

The objective of the Holding Company for Water and Wastewater shall be to purify, desalinate, convey, distribute and sell potable water, and collect, treat and safely dispose of wastewater.

Article Three

The following public economic agencies for water and wastewater, and public sector companies in some governorates shall be converted into subsidiaries of the Holding Companies provided for in Article 1.

The General Organization for Greater Cairo Water Supply
The Alexandria Water General Authority
The Alexandria General Organization for Sanitary Drainage
Greater Cairo General Organization for Sanitary Drainage
General Economic Authority for Water and Wastewater, Aswan Governorate.
General Economic Authority for Water and Wastewater, Minya Governorate.
General Economic Authority for Water and Wastewater, Baniswaif Governorate.
General Economic Authority for Water and Wastewater, Fayoum Governorate.
General Economic Authority for Water and Wastewater, Dakahleya Governorate.
General Economic Authority for Water and Wastewater, Gharbeya Governorate.
General Economic Authority for Water and Wastewater, Sharkeya Governorate.
Behaira Water Company
Kafr El Sheikh Water and Wastewater Company
Damietta Water Company

Article Four

The Minister of Housing, Utilities, and Urban Communities shall be the competent minister responsible for the application of the provisions of the aforementioned Law of Public Business Sector Companies and its executive regulations as regards the Holding Company and its subsidiary companies.

Article Five

All the rights and liabilities of the public economic agencies and companies before implementing the change shall be transferred to the aforementioned subsidiary companies. These companies shall continue applying regulations thereof without prejudice to the provisions the Law of Public Business Sector Companies and its executive regulations pending the development of the regulations of these companies.

The Boards of Directors of the aforementioned public economic authorities and companies shall continue performing their competencies on a temporary basis pending the formation of the BODs and general assemblies of the new companies. The Minister of Housing, Utilities and Urban Communities shall issue the statute for the Holding Company and each of its subsidiary in accordance with aforementioned form of statute for companies subject to the Law of Public Business Sector Companies, and following the approval of the general assemblies of those companies.

Article Six

The capital of the Holding Company shall be determined by the total sum of the capitals of these subsidiary companies on the day prior to that on which this Decree comes into effect, and after estimates had been validated by a committee appointed by the competent minister in accordance with Article 19 of the aforementioned Law of Public Business Sector Companies.

Article Seven

The general assembly and BoDs of the water and wastewater Holding Company shall be formed in accordance with the aforementioned Law of Public Business Sector Companies, and shall include a representative of the Minister of Finance.

Article Eight

The staff of the public economic authorities and companies indicated in Article 3 of this Decree shall be transferred in their capacities to the subsidiary companies formed in accordance with the articles of this Decree. Statutes regulating their affairs shall continue to apply until the statutes for companies to which they were transferred are issued in accordance with the aforementioned Law of Public Business Sector Companies.

Transferred staff shall maintain – in a personal status – wages, benefits, and privileges awarded to him, even if in excess of what is awarded to them by the aforementioned regulations.

Article Nine

This decree shall be issued in the official journal and shall be enforced as of the next day after its publication.

Housny Moubarak

**Issued at the Presidency on 7 Rabee Awal, 1425 Hijri
Corresponding to 27 April, 2004.**

Copy to Mr.

Secretary General of the Cabinet

(Dr. Safwat Al Nahas)

قرار رئيس جمهورية مصر العربية

رقم ١٣٦ لسنة ٢٠٠٤

بإنشاء جهاز قطاع مياه الشرب والصرف الصحي

وحمايد المستهلك

رئيس الجمهورية

بعد الاطلاع على الدستور ،
وعلى القانون رقم ٦١ لسنة ١٩٥٨ في شأن منح الامتيازات المتعلقة
باستثمار موارد الثروة الطبيعية والمرافق العامة وتعديل شروط الامتياز ،
وعلى القانون رقم ٩٣ لسنة ١٩٦٢ في شأن صرف المخلفات السائلة ،
وعلى قانون البنين العامة الصادر بالقانون رقم ٦١ لسنة ١٩٦٣ ،
وعلى القانون رقم ٥٣ لسنة ١٩٧٣ بشأن الموازنة العامة للدولة ،
وعلى قانون نظام الإدارة المحلية الصادر بالقانون رقم ٤٢ لسنة ١٩٧٩ ،
وعلى القانون رقم ٥٩ لسنة ١٩٧٩ في شأن إنشاء المجتمعات العمرانية
الجديدة ،
وعلى القانون رقم ٤٨ لسنة ١٩٨٢ في شأن حماية نهر النيل والمجاري
المائية من التلوث ،
وعلى قانون البيئة الصادر بالقانون رقم ٤ لسنة ١٩٩٤ ،
وعلى قرار رئيس الجمهورية رقم ١٦٧ لسنة ١٩٨١ بإنشاء الهيئة القومية
لمياه الشرب والصرف الصحي ،
وعلى قرار رئيس الجمهورية رقم ١٣٥ لسنة ٢٠٠٤ بإنشاء شركة
ناشطة لمياه الشرب والصرف الصحي والشركات التابعة لها ،
وبعد موافقة مجلس الوزراء ،
وبناء على ما أقره مجلس الدولة .

قرار المادة الأولى

ينشأ جهاز يسمى " جهاز تنظيم مياه الشرب والصرف الصحي وحماية المستهلك " تكون له الشخصية الاعتبارية ، ويضع وزير الإسكان والمرافق والمجمعات العمرانية . ويكون مقراً الرئيسي مدينة القاهرة ، ويجوز بقرار من مجلس إدارة الجهاز إنشاء فروع أو مكاتب تابعة له داخل الجمهورية .

المادة الثانية

يهدف الجهاز إلى تنظيم ومتابعة ومراقبة كل ما يتعلق بأنشطة مياه الشرب والصرف الصحي على مستوى الجمهورية ، سواء التي تباشرها مشروعات حكومية أو المشروعات التي تمنحها الدولة امتياز العمل في هذا المجال طبقاً لتفويض أو وحدات مياه الشرب والصرف الصحي التي تشتمل المشروعات الخاصة ، على نحو يمكن ويشجع هذه المشروعات من تحقيق أعلى مستوى من الأداء بما يضمن استمرارية الخدمة بالجودة والكفاءة المطلوبة ، ويقدم الخدمة للمستهلك بصورة مرضية وبأسعار مناسبة .

المادة الثالثة

يؤثر الجواز جميع الاختصاصات اللازمة لتحقيق أهدافه ، وله على الأخص ما يأتي :

- ١- أتأكد من أن أنشطة تنقية وتطرية ونقل وتوزيع وبيع مياه الشرب وأنشطة تجميع ومعالجة والتخلص الآمن من مياه الصرف الصحي والصناعي التي تباشرها الجهات الحكومية والمشروعات التي تمنحها الدولة امتياز العمل في هذا المجال طبقاً للقانون ، ووحدات مياه الشرب والصرف الصحي التي تشيئها المشروعات الخاصة ، تتم جميعها في إطار الالتزام بالقوانين واللوائح السارية في جمهورية مصر العربية ، وخاصة تلك المتعلقة بالجودة وحماية البيئة .
- ٢- مراجعة خطط استهلاك وتنقية وتطرية ونقل وتوزيع مياه الشرب وخطط تجميع ومعالجة والتخلص الآمن من مياه الصرف الصحي والصناعي ، بصفة دورية بما في ذلك الاستثمارات اللازمة لها للتأكد من توافرها بما يحقق سياسة الدولة في هذا المجال .
- ٣- تقديم المساعدات الفنية للمشروعات الحكومية وغيرها من المشروعات التي تمنحها الدولة امتياز العمل في مجال مياه الشرب والصرف الصحي طبقاً للقانون ، ووحدات مياه الشرب والصرف الصحي التي تشيئها المشروعات الخاصة ، في إعداد الدراسات التي يتم بناء عليها تحديد مستويات الأداء الفنية والتجارية والاقتصادية والمالية المستهدفة .
- ٤- المتابعة الدورية والتحقق من أن تكافة تنقية وتطرية ونقل وتوزيع وبيع مياه الشرب ، وتكافة تجميع ومعالجة والتخلص الآمن من مياه الصرف الصحي والصناعي ، سواء الذي تباشره المشروعات الحكومية أو المشروعات التي تمنحها الدولة امتياز العمل في هذا المجال ، طبقاً للقانون . تضمن معطيات المشروعات والمستفيدين ، والتأكد من التزام هذه المشروعات بتحقيق معايير الأداء الفنية والتجارية والمالية والاقتصادية ومن تطبيقها لحدود الامتياز .

- ٥ - دراسة طلبات تحديد وتعديل التعريف بما يكفل التوازن المالي والاقتصادي للمشروعات المشار إليها وبمراعاة شرائح وأنماط الاستهلاك وذلك لاعتمادها من مجلس الوزراء .
- ٦ - مراجعة واعتماد نماذج العقود والاتفاقات التي تنظم العلاقة بين المشروعات المشار إليها والمستهلكين .
- ٧ - متابعة توافر الكفاءات الإدارية والفنية والمالية والاقتصادية للمشروعات المشار إليها .
- ٨ - ضمان جودة مستوى الخدمات الفنية والإدارية التي تقدمها المشروعات المشار إليها وتقديم المساعدة الفنية ليا .
- ٩ - نشر المعلومات والتقارير والتوصيات التي تساعد المشروعات المشار إليها والمستهلكين على معرفة حقوقهم والتزاماتهم وتعريفهم طبيعة الدور الذي يؤديه الجهاز وذلك في إطار من الشفافية الكاملة .
- ١٠ - بحث شكاوى المشتركين بما يكفل التوازن في حماية مصالح المشروعات المشار إليها والمستهلكين ، والعمل على الحد من المنازعات التي قد تنشأ في هذا الشأن .

المادة الرابعة

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- تشكل موارد الجهاز مما يأتي :
- ما يخصص له من اعتمادات مالية في الموازنة العامة للدراسة .
 - حصيلة ما تسدده مشروعات مياه الشرب والصرف الصحي الحكومية والمشروعات التي تمنحها الدولة امتياز العمل في هذا المجال طبقاً للقانون، ووحدات مياه الشرب والصرف الصحي بالمشروعات الخاصة نظير الخدمات التي يؤديها الجهاز لكن مذهباً .
 - الهبات والتبرعات والإعانات والمنح التي لا تعارض مع أغراضه .
 - عائد استثمار أمواله .
 - أية موارد أخرى ، طبقاً للتأويل .

المادة الخامسة

تكون للجهاز موازنة خاصة تعد في إطار الموازنة العامة للدولة ، وتودع موارد الجهاز في حساب خاص بأحد البنوك التجارية المسجلة لدى البنك المركزي .

المادة السادسة

يشكل مجلس إدارة الجهاز برئاسة وزير الإسكان والمرافق والمجمعات العمرانية ، وعضوية كل من :

- المدير التنفيذي للجهاز .
- رئيس الهيئة القومية لمياه الشرب والصرف الصحي .
- عضوين يمثلان قطاع مياه الشرب والصرف الصحي ، وعضوين من ذوى الخبرة ، وعضو يمثل المستهلكين يرشح كل منهم وزير الإسكان والمرافق والمجمعات العمرانية .
- ممثل لكل من وزارات المالية والصحة والبيئة ، يرشحه الوزير المختص .

ويصدر بتعيين أعضاء مجلس إدارة الجهاز وتحديد مكافآتهم قرار من رئيس مجلس الوزراء بناء على اقتراح وزير الإسكان والمرافق والمجمعات العمرانية .

المادة السابعة

يختص مجلس إدارة الجهاز بما يأتي :

- 1- وضع الهيكل التنظيمي للجهاز بما يكفل تحقيق أغراضه ومباشرة جميع اختصاصاته .

- ٢ - التحقق من استيفاء المشروعات الحكومية التي تعمل في مجال مياه الشرب والصرف الصحي والمشروعات التي تمنحها الدولة امتياز العمل في هذا المجال طبقاً للقانون ، ووحدات مياه الشرب والصرف الصحي للمشروعات الخاصة ، للاشتراطات الفنية ومعايير الأداء اللازمة وذلك قبل بدء مزاولة النشاط .
- ٣ - اعتماد معايير الأداء الفني والتجاري والاقتصادي للإرتقاء بمستوى الأداء وتأمين سلامة المشروعات المشار إليها وحماية مصالح المستهلكين ، وتقييم مدى الاستجابة لشكاوهم .
- ٤ - فحص الشكاوى التي تقدم من المشروعات المشار إليها أو من المستهلكين ، واتخاذ الإجراءات اللازمة لتلافي أسبابها .
- ٥ - إقرار اللوائح الداخلية المتعلقة بالشنون المالية والفنية والإدارية للجهاز دون التقييد بالقواعد والنظم الحكومية .
- ٦ - إقرار اللوائح الخاصة بالعاملين في الجهاز على أن تتضمن جميع الأحكام التي تنظم شئونهم وعلى الأخص تعيينهم وترقيتهم ومجازاتهم وتحديد مرتباتهم ومكافآتهم وحوافزهم ومزاياهم النقدية والعينية .
- ٧ - تحديد مقابل الخدمات التي يزدبها الجهاز للمشروعات والوحدات المشار إليها .
- ٨ - قبول الببات والتبرعات والإعانات والمنح التي ترد للجهاز بما لا يتعارض مع أهدافه .
- ٩ - الموافقة على الموازنة السنوية وكذلك اعتماد الميزانية والحسابات الاختامية للجهاز .
- ١٠ - أبة موضوعات أخرى يرى رئيس مجلس إدارة الجهاز عرضها على المجلس .

المادة الثامنة

يجتمع مجلس إدارة الجيزاء بدعوة من رئيسه مرة على الأقل كل شهر ،
وكلما اقتضت الضرورة ذلك ، ويكون اجتماعه صحيحا بحضور خمسة
أعضاء على الأقل بخلاف الرئيس .

وتصدر قراراته بأغلبية آراء الحاضرين وعند التساوى يرجح الجانب
الذي منه الرئيس .

والمجلس أن يدعو لحضور جلساته من يرى الاستعانة بهم دون أن يكون له
صوت معدود في المدارات .

المادة التاسعة

يكون لمجلس إدارة الجيزاء أمانة تقنية يصدر بتشكيلها وتحديد
اختصاصاتها وتنظيم عملها قرار من وزير الإسكان والمرافق والمجمعات
العمرانية .

المادة العاشرة

يمثل رئيس مجلس الإدارة الجيزاء أمام القضاء وفي صلاته بالغير .

المادة الحادية عشر

يكون للجيزاء رئيس تنفيذي يصدر بتعيينه وتحديد معاملته المالية قرار من
رئيس مجلس الوزراء بناء على اقتراح وزير الإسكان والمرافق والمجمعات
العمرانية ، ويكون الرئيس التنفيذي مسئولا عن إدارة الجهاز وتصريف شؤنه
والإشراف العام على سير العمل به بما يكفل تحقيق أهدافه .

المادة الثانية عشر

تلتزم جميع المشروعات العاملة في مجال مياه الشرب والصرف الصحي بموافاة الجهاز بما يطلبه من تقارير أو بيانات أو إحصاءات أو معلومات تتصل بنشاطها .

المادة الثالثة عشر

يعرض وزير الإسكان والمرافق والمجمعات العمرانية على مجلس الوزراء توصيات ومقترحات الجهاز التي تتطلب صدور قرارات من سلطة أعلى لاتخاذ ما يراه بشأنها .

المادة الرابعة عشر

ينشر هذا القرار في الجريدة الرسمية ، ويعمل به من اليوم التالي لتاريخ نشره .

(حسنى مبارك)

صدر برئاسة الجمهورية فى ٧ ربيع الاول سنة ١٤٢٥ هـ

الموافق ٢٧ أبريل سنة ٢٠٠٤ م

صورة مرسلة إلى السيد /

أمين عام مجلس الوزراء

(دكتور / صفوت النحاس)

**`Presidential Decree No. 136 of the year 2004
On Establishment of an Agency for Potable Water/Wastewater and Consumer
Protection**

President of the Arab Republic of Egypt,

Having reviewed the Constitution, *and*

-Law No. 61 of the year 1958 on concessions related to the investment of natural wealth resources, public utilities, and the amendment of term of concessions,

-Law No. 93 of the year 1962 on Drainage of Liquid Wastes,

-Law No. 61 of the year 1963 regarding the Law of Public Authorities,

-Law No. 53 of the year 1973 on the State General Budget,

-Law No. 43 of the year 1979 on issuing the Local Administration Law,

-Law No. 59 of the year 1979 on Establishing New Urban Communities,

-Law No. 48 of the year 1982 on the Protection of the Nile River and Waterways against pollution,

-Law No. 4 of the year 1994 on environment protection,

-Presidential Decree No. 197 of the year 1981 on establishing the National Organization for Potable Water and Sanitary Drainage (NOPWASD),

-Presidential Decree No. 135 of they year 2004 on establishing a Holding Company for Water and Wastewater and its Subsidiary Companies, *and*

After Approval by the Cabinet of Ministers, *and*

Based on the legal opinion by the State Council,

DECREEED

Article One

An agency named "The Regulatory Agency for Potable Water, Wastewater and Consumer Protection" shall be established. This Agency shall be a legal entity and shall report to the Minister of Housing, Utilities, and Urban Communities. The headquarters of this Agency shall be located in the city of Cairo. By virtue of a decree issued by the Board of Directors of this Agency, branches or representative offices may be established for this Agency nationwide.

Article Two

The aim of this Agency is to regulate, monitor, and follow up all activities related to the Potable Water And Wastewater Sector, be they undertaken by governmental projects or State awarded concessions in accordance with the law, or water and wastewater units established by private projects in a manner that would enable and encourage the concerned projects to achieve the highest performance levels that ensure the continual availability of service in the required quality and efficiency, and provide satisfactory service to consumers, and with the most suitable prices.

Article Three

For the purpose of achieving its aims, the Agency shall assume all the required authorities, and shall specifically undertake the following:

- 1- Ensure that all the activities of purifying, desalinating, conveying, distributing and selling potable water, and collecting, treating, and safely disposing of domestic and industrial wastewater, undertaken by governmental projects or State awarded concessions in accordance with the law, and water and wastewater units established

by private projects, are all implemented within the context of compliance with the applicable laws and regulations of the Arab Republic of Egypt, especially quality control and environment protection regulations.

- 2- Review plans for potable water consumption, purification, desalination, conveyance, and distribution, and plans for collecting, treating, and safely disposing of domestic and industrial wastewater on regular basis, including relevantly required investments to ensure its availability in consistency with the State policies in this perspective.
- 3- Provide technical assistance to governmental projects or concessions in the field of water and wastewater, in accordance with the law, or water and wastewater units established by private projects, in preparing studies on which the targeted technical, economic, and financial standards are determined.
- 3-4- Regularly follow up and verify that the costs of purifying, desalinating, conveying, distributing and selling potable water, and collecting, treating, and safely disposing of domestic or industrial wastewater, undertaken by governmental projects or State awarded concessions in accordance with the law, and water and wastewater units established by private projects secure the interests of both projects and consumers, and ensure that all projects fulfill the criteria of technical, commercial, financial and economic performance, and apply tariff schedules.
- 4-5- Study tariff applications to ensure financial and economic balance for the aforementioned projects, and considering consumption classes and patterns, to be approved by the Cabinet.
- 5-6- Review and approve the wording of model contracts and agreements that organize relationships between the aforementioned projects and consumers.
- 6-7- Follow up the availability of technical, financial, and economic efficiency for the aforementioned projects.
- 7-8- Ensure the quality of technical and administrative services provided by the aforementioned projects and providing them with technical assistance.
- 8-9- Publish and disseminate information, reports, and recommendations that assist the aforementioned projects and consumers to know about their rights and obligations and inform them of the Agency's role within a context of full transparency.
- 9-10- Investigate the complaints of customers to ensure the balanced protection of the interests of the aforementioned projects and the customers, and limit any conflicts that may arise between the concerned parties.

Article Four

The Agency's revenues shall consist of the following:

- Financial appropriations allocated for the Agency in the State General Budget
- The sums paid by the water and wastewater governmental projects or State awarded concessions in accordance with the law, and water and wastewater units established by private projects in return for services provide by the Agency.
- Grants, donations, and contributions that are not in contradiction with the purposes and objectives of the Agency.
- Interests/profits gained from the Agency's invested funds
- Any other revenues, in accordance with the law.

Article Five

The Agency shall have a special budget that shall be developed within the framework of the State general budget, and deposited in one of the commercial banks registered with the Central Bank.

Article Six

The Board of Directors (BoD) of the Agency shall be formed under the chairmanship of the Minister of Housing, Utilities, and Urban Communities and the membership of:

- The Executive Director of the Agency
- Chairman of the National Organization for Potable Water and Sanitary Drainage
- Two members to represent the potable water and wastewater sectors, two members of special expertise, and one member to represent consumers. All to be nominated by the Minister of Housing, Utilities and Urban Communities.
- A representative each for the Ministries of Finance, Health, and Environment, to be nominated by the relevant minister.

BoD members shall be appointed and their compensation determined by virtue of a decree by the Prime Minister, as recommended by the Minister of Housing, Utilities, and Urban Communities.

Article Seven

The Regulatory Agency's BOD shall be authorized with the following:

1. Develop the Agency's organizational structure to ensure achieving its purposes and execute its authorities.
2. Ensure that governmental projects working in the field of water and wastewater, concessions given by the State to work in the field in accordance with the law, and water and wastewater units established by private projects, comply with technical terms and performance standards required, prior to commencing work.
3. Approve the technical, commercial and economic performance standards to raise the standard of performance and ensure safety of aforementioned projects, and protect consumer interests, and assess the response to their complaints.
4. Investigate complaints presented by projects or consumers and adopt the required measures to avoid the causes.
5. Approve the Agency bylaws relevant to the financial, technical, and administrative affairs without being restricted to governmental rules and systems.
6. Approve the regulations for Agency staff members, provided that such regulations include all the provisions organizing staff affairs, especially as regards their appointment, promotion, penalties, and determining their salaries, bonuses, incentives, and their cash and in kind privileges.
7. Determine fees in return for services that the Agency provides to the aforementioned projects and units.
8. Accept the grants, contributions, and donations extended to the Agency without prejudice to its purposes.
9. Approve the Agency's annual budget and closing accounts (final statement).
10. Any other issue(s) the chairman deems necessary to refer to the Board members.

Article Eight

The Agency's BOD shall convene its meetings on an invitation extended by the Chairman once a month at least, and whenever deemed necessary. The meeting quorum shall be valid with the attendance of five members at least, in addition to the Chairman.

The meetings decisions/resolutions shall be issued by the majority of the votes of the attendees, and in case of equal voting, the Chairman's side shall have the casting vote.

The BOD may invite to its meetings whomever it decides to resort to their experiences, without having a counted vote.

Article Nine

The Agency's BOD shall have a technical secretariat whose formation, competencies, and organization shall be decided by virtue of a decree issued by the Minister of Housing, Utilities, and Urban Communities.

Article Ten

The Agency's Chairman of the Board shall represent the Agency before courts and in relations with other parties.

Article Eleven

The Agency shall have an Executive Director whose appointment and financial compensation shall be determined by virtue of a decree by the Prime Minister, as recommended by the Minister of Housing, Utilities, and Urban Communities. The Executive Director shall be responsible for managing the Agency, tending to its affairs, and the general monitoring of its activities in such a way that ensures the achievement of its goals.

Article Twelve

All projects operating in the field of water and wastewater services shall be committed to submit to the Agency all the requested reports, data, statistics, or information relevant to its activities.

Article Thirteen

The Minister of Housing, Utilities, and Urban Communities shall refer to the Cabinet of Ministers all the Agency's recommendations and proposals that require issuing decrees from a superior Agency to adopt the required measure.

Article Fourteen

This Decree shall be published in the Official Journal, and shall be enforced as of the next day of its publication.

Housny Moubarak

**Issued at the Presidency on 7 Rabee Awal, 1425 Hijri
Corresponding to 27 April, 2004.**

Copy to Mr.

Secretary General of the Cabinet

(Dr. Safwat Al Nahas)

Appendix M

Sustainability Recommendations from March 2009 Workshop

Asset Management	<ul style="list-style-type: none"> ✓ Assign Holding Company program administrator to follow up pilot companies and implement program in other companies. ✓ Gain upper management support, by issuing reports after completion of asset data collection for each company administrative location. ✓ Conduct workshop in each company to introduce the asset management department functions to all company departments. ✓ Use asset management reports as the basis for R&R decisions. ✓ Involve the asset management department in annual budget planning
Computerized Accounting	<ul style="list-style-type: none"> ✓ Training of replacement staff ✓ Maintenance contracts for Software and Hardware ✓ Exchange of experience between the subsidiaries ✓ Review and discussion of monthly financial statements by Senior Managers ✓ Monitoring and support by HCWW
Five Year Financial Planning	<ul style="list-style-type: none"> ✓ Create an exchange of experience between companies by creating a team from experienced subsidiaries (Gharbeya, Beheira and Beni Suef) to assist in training other companies ✓ Present the plan of one of the subsidiaries and its results to other chairmen in one of the monthly meetings of chairmen ✓ Mandate the participation of the EAU in the budget committee ✓ Plan regular internal work shops in each subsidiary with sector heads and departments to update the financial plan and confirm the projections
Information Technology	<ul style="list-style-type: none"> ✓ Establish an IT organization in each subsidiary company ✓ High level management support for Information Technology (Resources, training) ✓ IT should be a part of any strategic planning. ✓ Unify systems in the subsidiaries and exchange experiences
MARS Financial	<ul style="list-style-type: none"> ✓ Provide Additional reports & user procedures ✓ Hold Periodic workshops – Hands-on training ✓ Update compliance by 20th of the month ✓ Establish HCWW counterparts (Financial – IT)
MARS Technical	<ul style="list-style-type: none"> ✓ Gain management buy-in ✓ Provide required Infrastructure ✓ Perform ongoing maintenance and upgrades to the system ✓ Hold periodic workshops between Holding Company & Subsidiaries ✓ Ongoing training of users and establishment of back-up staff
Organization Development	<ul style="list-style-type: none"> ✓ Define staff surplus and/or deficit for all units and regularly update the personnel data base and staffing plan. ✓ Keep staffing plan up-to-date so that it can provide the bases for recruitment and other personnel decisions. ✓ Provide training for human resource department heads on the

Appendix M

Sustainability Recommendations from March 2009 Workshop

	<p>development of staffing plans as an owner of the staffing plan.</p> <ul style="list-style-type: none">✓ Include assessment of human resource planning and update of staffing plans in the performance evaluation of the subsidiaries✓ Form a Holding Company task team including experienced subsidiary staff to assist subsidiaries without staffing plans to develop such plans.
Performance Indicators	<ul style="list-style-type: none">✓ Provide extensive training for new subsidiaries✓ Hold regular work shops between subsidiaries to exchange experience✓ Link the performance indicator module to other MARS modules✓ Conduct annual review of indicators✓ Develop benchmarking system
Plant Assessments and Improvement Plans	<ul style="list-style-type: none">✓ Develop treatment plant improvement plans for all companies.✓ Form internal technical teams to monitor implementation of improvement plans.✓ Develop indicators to measure implementation of plans.✓ Include performance improvement plans in quarterly evaluation of company results.✓ Regularly update performance improvement plans.
Program Management	<ul style="list-style-type: none">✓ Gain endorsement and acceptance of the Program Management system by the HCWW/Subsidiaries top management✓ Use PRiSM as the primary system for evaluating project performance✓ Provide grass roots training of HCWW/Subsidiaries staff in PRiSM✓ Establish cost-loaded baseline schedules for all projects✓ Add more system reports to monitor projects performance