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ACTIVITY REPORT

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Development of Indicators for the
Water and Wastewater Sector
in Egypt

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CONTENTS

ACRONYMS	iii
EXECUTIVE SUMMARY	v
1 INTRODUCTION	1
1.1 Purpose and Scope.....	1
1.2 Background.....	1
1.3 Methodology.....	2
2 INDICATORS AND DATA REQUIREMENTS	4
2.1 Criteria Used to Select the Indicators.....	4
2.2 Final List of Recommended Indicators.....	4
2.2.1 Sectorwide Indicators.....	4
2.2.2 Cost Recovery Indicators	4
2.2.3 Decentralization Management Indicators	4
2.2.4 Service Delivery Indicators.....	10
2.3 Development of the Indicators.....	10
2.3.1 Initial indicators.....	10
2.3.2 Suggested Modifications.....	11
2.3.3 Retained Indicators.....	11
3 DATA COLLECTION.....	13
3.1 Data Collection System.....	13
3.1.1 Indicator Data Sheets.....	13
3.1.2 Data Summary Sheet (Indicator Cover Sheet)	13
3.2 Data Collection Process	13
3.2.1 Initial Round Establishment of Baseline.....	13
3.2.2 System for Subsequent Cycles.....	14
4 DATA ANALYSIS.....	15
4.1 Initial Data Collection Results.....	15
4.2 Data Submittal and Indicator Levels.....	15
4.2.1 Original Expectations.....	15
4.2.2 Actual Results.....	15
4.3 Implications of Initial Data-Collection Exercise.....	19

5	CONCLUSIONS.....	21
5.1	Final List of Indicators.....	21
5.2	Next Steps.....	21

TABLES

2.1	Sectorwide Indicators.....	5
2.2	Indicators for Cost Recovery.....	6
2.3	Indicators for Decentralized Management.....	7
2.4	Indicators for Service Delivery.....	8
4.1	Indicators Calculated by USAID Consultants.....	16
4.2	Data Submitted by USAID Consultants.....	18

APPENDICES

- A. Workshop Agendas and Participants, May 14B15, 1996, and October 27, 1996
- B. Initial Indicators
- C. Data Sheets

ACRONYMS

AGOSD	Alexandria General Organization for Sanitary Drainage
CGOSD	Cairo General Organization for Sanitary Drainage
CR	cost recovery
DM	decentralized management
DS	data summary sheet
GOGCWS	General Organization for Greater Cairo Water Supply
ISC	Institutional Support Contract (or)
LE	Egyptian currency. LE 3.39 = US \$1
NOPWASD	National Organization for Potable Water and Sanitary Drainage
O&M	operations and maintenance
SD	service delivery
SW	sectorwide
UAD	Office of Urban Administration and Development, USAID Mission to Cairo
USAID	U.S. Agency for International Development
WS	water supply
WW	wastewater

EXECUTIVE SUMMARY

During the period May to November 1996, the Environmental Health Project (EHP) assisted USAID/Cairo in developing institutional development indicators for USAID-funded activities for the water and wastewater sector in Egypt. USAID has invested over \$1 billion in the water and wastewater sector in Egypt since 1977. To ensure the sustainability of these investments, USAID has developed a series of institutional support projects paralleling the infrastructure projects. USAID has also established as one of its strategic objectives "increased access to and sustainability of water and wastewater services." The results to be monitored under this objective include improved recovery of O&M costs, improved decentralized utility management, and improved capacity to deliver services. USAID requested EHP assistance in developing the indicators to track progress against these results.

EHP carried out the activity in two stages. The first stage in May 1996 consisted of the development of an initial set of indicators along with the data sheets to collect the information required. The six institutional support contractors (ISCs) all participated in the identification of these indicators at a two-day workshop held in May 1996. After the workshop, the data sheets for the indicators were then sent to all the ISCs to work with their respective agencies to complete and return them to USAID. During the second stage of the activity, the EHP team returned to Egypt in October 1996 to analyze the data and refine the indicators and data sheets. A second workshop was convened with staff from all the ISCs to get their feedback on the compilation of indicators and the data collection process.

The indicators fall into four categories. The first category consists of sectorwide indicators and includes coverage rates in water supply and wastewater and measures of financial

sustainability. The other three categories are cost recovery, decentralized management, and service delivery. The EHP team recommends that USAID include 29 indicators in these four categories. One of the key criteria for selecting the indicators was the relative ease of collecting the data.

The EHP team suggested several follow-up steps to USAID:

- # Take the necessary internal steps to formalize the cataloging of data submitted by the ISCs.
- # Complete gathering the baseline data for the first round, since not all ISCs submitted the required data for all the indicators
- # Establish the procedure to sustain the data submittal process
- # Maintain momentum by holding further one-on-one meetings with the utilities to obtain data, and if necessary, hire local consultants to complete the data collection
- # Check to see if other GOE agencies such as the Central Agency for Public Mobilization and Statistics or the Ministry of Planning have data or could easily supply some or all of the required data on a regular basis.

In the long run, the benefit of this exercise will be for the utilities to use these indicators in their management systems. This will require involvement of the chairmen and other key decision makers. As part of the institutional strengthening effort, USAID can promote sectorwide improvements if Egyptian central authorities and the various service agencies (utilities) incorporate these (or similar) indicators in their management procedures.

In the shorter term, USAID can use the indicators to track the operation of utilities to measure results of investments which have occurred over the past 20 years.

1 INTRODUCTION

1.1 Purpose and Scope

The Environmental Health Project (EHP) was asked by the USAID/Cairo's Office of Urban Administration and Development (UAD) to assist in developing indicators for monitoring the water and wastewater sector in Egypt. The indicators would be used by the Mission and the utilities to measure progress on institutional development activities in the sector. The scope of this activity included identification of a set of indicators that could be used to track progress in the water supply and wastewater sector, determination of the data collection requirements, and design of the protocols for collecting data. EHP's scope of work also included assistance to the Mission, following the initial data collection by the Institutional Support Contractors and their respective utilities, in reviewing the data-collection process and helping USAID to aggregate the data and analyze the findings.

The activity was implemented on two stages. The first stage (May 1996) involved identification of a set of indicators and development of a data collection mechanism. After the utilities gathered the data and submitted it to USAID, the EHP team returned to Cairo (October 1996) to evaluate the results of the data-collection efforts and to assist USAID staff in aggregating the data and analyzing the findings.

This report describes EHP's activities regarding the entire effort, including the material provided to USAID in the ADraft Activity Report, submitted in late May 1996.

1.2 Background

Since 1977, USAID has invested over \$1 billion in Egypt's water and wastewater sector. This investment has traditionally focused on large infrastructure projects, such as Alexandria Wastewater System, Cairo Water Supply, Cairo Sewerage, Canal Cities Water and Sewerage, Provincial Cities, and, most recently, Secondary Cities.

To ensure the sustainability of these investments, USAID created institutional development projects which parallel each of the infrastructure projects. Currently, the Institutional Support Contracts (ISCs), with USAID support, include the following contractors, listed here with their respective projects or city utilities:

- # Black and Veatch International CGeneral Organization for Greater Cairo Water Supply (GOGCWS)
- # CH2M-Hill International CCairo General Organization for Sanitary Drainage (CGOSD)
- # Metcalf and Eddy International CAlexandria General Organization for Sanitary Drainage (AGOSD)
- # Metcalf and Eddy International CCanal Cities (Suez, Ismailia, and Port Said water and wastewater organizations)
- # Chemonics International CSecondary Cities (Mansoura, Luxor, Kom Ombo, Nasr City, Sharm El Sheik, and Nuweiba water supply and wastewater organizations)

- # Montgomery-Watson International C Provincial Cities (Minya, Fayoum, and Beni Suef water supply organizations)

In all, this list represents 27 service entities in Egyptian cities receiving funding support from USAID.

Given the size and importance of USAID's water and wastewater portfolio, the Mission has established as one of its strategic objectives, **A**Increased access to and sustainability of water and wastewater service. **@**The results to be monitored under this objective are the following:

- # Improved recovery of O&M costs
- # Improved decentralized utility management
- # Improved capacity to deliver services

USAID's strategic objective recognizes the key role of the institutional development projects in the process. The goal for each of these projects is to create an efficient, effective, and autonomous utility providing wide access to services. In the long term, the projects will be deemed sustainable if the utilities are self-sufficient.

Many of the contractors implementing the projects in USAID's portfolio have developed performance or operational indicators for their specific utilities. These indicators are to be used by utility managers to monitor the specific functions, activities, and conditions of their utilities. The actual use of these indicators by the utility managers in their day-to-day work varies, depending upon the timeframe of the institutional development project.

USAID recognized that some of the indicators already developed for individual utilities could provide a basis for formulating sectorwide indicators. USAID also recognized that the contractors' experience with the utilities, in some cases spanning many years, would be valuable in convincing the institutions to provide similar data

on a routine basis, for use by the utilities *and* USAID in tracking the sectors' progress.

USAID regarded the role of the ISCs in this activity as fundamental, and expected the ISCs to be active participants in identifying the indicators and in developing the system to collect the data. USAID also expected the ISCs to work with the utilities in collecting the data and in using the indicators as tools for self-analysis.

1.3 Methodology

EHP's approach for identifying and establishing the indicators was based on developing a process that involved the five institutional support contractors and their respective utilities. This process centered around the following:

- # Informing the ISCs, the utilities, and the National Organization for Potable Water and Sanitary Drainage (NOPWASD)¹ about the nature of USAID's monitoring need and the value of developing indicators.
- # Implementing a workshop involving the contractors, utilities, USAID, and NOPWASD to provide input as to the type of indicators to develop and the methods to be used to obtain the data.
- # Reaching agreement on a schedule and level of effort required of all parties regarding the aggregation and submission of data and information to USAID, and the follow-up activities including a second workshop to finalize the performance indicators.

Upon arrival in Egypt, the EHP team visited with each of the contractor teams, staff of NOPWASD, and USAID and discussed the nature of the assignment and the need for sector- and utility-

¹ NOPWASD is the primary government agency in Egypt for financing, design, and construction of facilities for cities and villages.

specific indicators. Meetings were also held with representatives of CGOSD, GOGCWS, and AGOSD.

Subsequently, representatives from all these organizations attended a two-day workshop, held in Cairo May 14-15, 1996. The agenda for this first workshop and the participant list are presented in Appendix A.

The workshop was an opportunity to open a dialogue among various project groups in the sector, covering common areas of work relating to institutional development of water supply and wastewater agencies. The participants provided valuable information to the EHP team and USAID on the priority they attached to certain indicators and the level of effort required to collect the data needed for the indicators they considered to be important. The discussions centered around the three areas of USAID objectives, namely cost recovery, decentralized management and service delivery.

Following the workshop, a session was held with USAID to discuss sectorwide, overarching indicators aimed at measuring progress toward the overall strategic objective, *Increased access to and sustainability of water and wastewater services.* Data forms were then sent out to the ISCs, who were expected to work with their respective agencies to complete the baseline data and send the forms back to USAID.

The data sheets were returned to USAID and analyzed by the EHP team. Further discussion occurred at a second (one day) workshop in October 1996 with USAID, the EHP team, and representatives of various water supply and wastewater agencies. The set of indicators and data sheets submitted were subjected to detailed analyses at the workshop. Based on the feedback and input from the workshop participants, a final set of indicators was established, and a strategy for obtaining the necessary data was formulated for future use.

2 DEVELOPMENT OF INDICATORS

2.1 Criteria Used to Select the Indicators

The indicators were developed based upon the detailed input received from the two workshops. The general criteria were as follows:

- # The indicators should allow USAID to monitor progress in the sector and clearly illustrate this progress in a straight-forward, easy-to-recognize manner.
- # The indicators should be useful to the individual utilities, providing a concise understanding of the status of the service they provide.
- # The indicators should incorporate the type of data useful to NOPWASD or whatever agency is responsible for tracking and monitoring the status of the national water supply and wastewater sector.
- # The indicators should not be complex; they should be based on readily available data to facilitate both their formulation and institutionalization of the process within USAID, and in time, for all utilities comprising the sector.
- # The units of measurement should be percentages or ratios allowing comparison of many factors.

2.2 Final List of Recommended Indicators

The listing of the indicators, as recommended by the EHP team and revised to incorporate comments from the two workshops, is presented here as Tables 2.1 through 2.4. Specific

indicators are discussed in the next several paragraphs.

2.2.1 Sectorwide Indicators

Table 2.1 presents the overall sectorwide indicators. These indicators include coverage rates for water and wastewater, amount of water sold and wastewater collected, and some key indicators of financial sustainability.

2.2.2 Cost Recovery Indicators

Table 2.2 presents the cost recovery indicators. Cost recovery indicators are relatively easy to determine and are widely used by utilities as a measure of their financial viability. Indicator CR 1, the percentage of billings collected, measures the efficiency of the utility's billing and collection systems. It is arrived at by comparing total billings and revenues collected. Indicator CR 2 provides a basic measure of product production cost (See indicators SD 1 and SD 2 in Table 2.4). Indicator CR 3 indicates the deficit and, combined with CR 2, measures the efficiency of the revenues derived compared to the costs required. Indicators CR 5 and CR 6 measure the efficiency of the tariff and total revenue levels compared to the costs required.

2.2.3 Decentralized Management Indicators

Table 2.3 presents the indicators of decentralized management. These were the most difficult to formulate, as the features of the management systems they attempt to measure are usually

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described in qualitative terms rather than as numerical values. The five indicators in Table 2.3 are surrogates measuring the following management features of autonomous utilities: independent personnel policies (DM 1), cost center accounting systems (DM 2), the degree of latitude granted to senior management in obtaining O&M supplies, tools, equipment, and stores (DM 3, and DM 4) and for planning purposes (DM 5).

For any particular utility, these indicators provide USAID with a measure of the utility's autonomy. Taken together for all of the utilities, the indicators provide USAID with a measure of the level of autonomy of the total sector.

2.2.4 Service Delivery Indicators

Table 2.4 presents the service delivery indicators. Dozens of examples are available for service delivery indicators; those selected for use in Egypt closely resemble performance-based indicators typically used by line managers in utilities worldwide. Similar indicators are already used or are being developed by GOGCWS, CGOSD, and AGOSD. The service delivery indicators selected for USAID's purposes cover the general categories of O&M efficiency (i.e., cost optimization), capacity and dependability of the services provided, and system growth potential.

The first four of these indicators relate to water supply systems, and the last three to the wastewater systems. Indicators SD 5 through 8 relate to both the water supply and wastewater systems.

The cost per m³ of water produced or wastewater collected (SD 1 and SD 9) are typical indicators used by utilities to measure the general efficiency of the O&M systems. SD 2, the percent of water billed compared to the volume produced, measures the level of unaccounted-for or nonrevenue-producing water. SD 3 thus measures the progress being made in reducing the amount of unaccounted-for water. SD 4 provides a general measure of the dependability of the water supply system.

Indicator SD 5 measures the capability of the water and wastewater systems to handle growth and expansion of services, and also provides a rough measure of demand for the services. SD 6 illustrates the staff level under the utility's direct

control, and SD 7 and SD 8 provide measures of the general quality of the O&M systems.

Indicators SD10 and SD 11 measure the amount of wastewater receiving treatment compared to wastewater system's collection capacity, and the quality of the treatment being provided compared to the system's design capability.

2.3 Development of the Indicators

2.3.1 Initial Indicators

The outputs of the first workshop (May 14-15, 1996) were analyzed by the EHP team, and a final group of initial indicators selected for the three major categories of results: cost recovery, improved decentralized management, and improved service delivery. A fourth set of indicators—sectorwide, overarching indicators—were also developed for use in tracking USAID's overall sector strategy.

The 29 initial indicators, developed from the May 1996 workshop, are presented in Appendix B, together with their data requirements.

The data requirements for all the initial indicators are self explanatory, and the required data or information should be readily available or obtainable without spending inordinate amounts of time in field visits to the utilities or general research. During the May workshop, EHP did a data-sheet exercise, asking the consultants and utility staff participants to estimate the time required to obtain or determine the required data. Using the results of this exercise, the EHP team excluded from the final list indicators which would require large amounts of time in data-gathering.

2.3.2 Suggested Modifications

During the second workshop (October 27, 1996), the initial 29 indicators were further reviewed and discussed in terms of the experience of the contractors and agencies in their understanding of what data had to be collected, the mechanisms involved, and the work required for collecting the data. The outcome of the workshop included:

- # Consensus on revisions to the initial list of indicators, including several changes in

definition to make the data-gathering task easier, and

- # Suggestions for adding two new indicators and replacing indicators DM 1 through DM 5 with four new indicators.

During the October workshop, the indicators were classified as **easy** and **difficult**, in terms of the data-gathering effort required and an understanding of the requirements by the agencies. Initially, the participants classified 16 of the 29 indicators as **difficult** to collect or worthy of further comment. These included SW 1 through SW 4, SW 6, CR 2, DM 1 through DM 5, SD 4, SD 5, SD 8, SD 10, and SD 11.

In most cases, these indicators were designated **difficult** due to the definition of terms used to describe the indicator or the data components required to compute the indicator. A long discussion ensued on how to reword or reframe the indicators so that the data requirements would be clear to those collecting the data. Specific wording or terms used in the descriptions of several indicators were identified, with definitions to be provided on the indicator listings and data sheets.

The workshop's afternoon session was devoted to two topics: 1) obtaining consensus on which indicators should be retained or dropped from the list and/or alternative indicators to be added, and 2) a discussion of how the indicators could be monitored and updated for USAID's use in the future.

Indicators that could be dropped from the list included SW 5 and CR 6. Alternative indicators to consider adding included: **Quality of potable water produced** and **Decrease per year in infiltration/inflow (I/I) to wastewater collection systems**.

There was also a brief discussion concerning replacing the decentralized management indicators, DM 1 through DM 5, and using four other indicators—**organizational autonomy, leadership, consumer orientation, and management systems**—to track this category. Each of these four indicators would, in turn, be defined by three to ten subfactors. The subfactors could be weighted or used as a checklist (i.e., each subfactor given equal weight) to determine the

value of each of the four indicators. At USAID's suggestion, a written description of the proposed alternative indicators was retained by the EHP team for consideration.

2.3.3 Retained Indicators

Regarding the indicators suggested for deletion, in the EHP team's opinion, indicators SW 5 and CR 6 could be dropped since the same information can be inferred from other indicators. This would reduce the approved list of indicators to 27. The decision rests with USAID. Regarding suggested additions, the EHP team recommends that the list of 29 indicators presented in Tables 2.1 through 2.4 not be augmented. Adding indicators to measure the decrease in Infiltration/Inflow (I/I) and improvement in the quality of potable water produced does not fit USAID's requirements for the development of indicators to track its particular strategic objective (see Section 1.2 and 1.3).

Tracking I/I requires a great deal of time, effort, and cost to develop baseline values. Those resources would be better spent by the utilities and their consultants in developing sound management and financial practices. Further, measuring improved quality of potable water is not necessary if the water produced is within accepted national standards. If the standards are not being met, effort must be directed not to determining baseline indicator values but to raising the water quality to acceptable levels, to obviate public health concerns.

In the opinion of the EHP team, the indicators suggested as substitutes for DM 1 through DM 4 do not meet USAID's needs for sector monitoring. The suggested indicators, even with their subfactors weighted, are little more than checklists. These are better applied to individual programs or projects, as they provide a framework to ensure that various tasks in a particular program or scope of services for a project have been covered. Checklist indicators of the type suggested at the workshop do have some value in assessing the organizational and management characteristics of a utility as compared to others in a region or general area. For USAID's requirements, such

checklists can serve as a rough guide on a project basis, but offer little but anecdotal information when applied to the sector as a whole.

For all these reasons, the EHP team recommends retaining the list as put forward in Section 2.2 above.

3 DATA COLLECTION

3.1 Data Collection System

A data sheet was developed by the EHP team to gather information for each indicator discussed in Section 2.2. These sheets are presented in Appendix C of this report.

3.1.1 Indicator Data Sheets

The indicator data sheets were designed for the ISCs and the utilities to record baseline data for each indicator, returning the completed data sheets to USAID for further analysis. For each indicator, the data sheet identifies the following:

- # utility name
- # indicator number and description
- # data or components used to compute the indicator
- # indicator formula
- # value of the indicator

In addition, the data sheets listed the sources of the data within the organization from whom the required information can be obtained. The sources of data were identified through various exercises conducted in the first workshop.

The data sheet also requests the person filling in the data to provide the department, group, and titles or positions of individuals in the organization from whom data can be obtained in subsequent cycles of data collection.

Finally, the data sheets invite comments on the difficulties encountered or approximations or estimates made when collecting the data.

3.1.2 Data Summary Sheet

For each utility from which data is being collected, a data summary sheet is also to be turned in to USAID to identify the following:

- # location
- # name of the service provider
- # service provided: water supply, wastewater, or both
- # type of organization: governoratewide Economic Authority, company, city department, or operation and maintenance contract
- # total service area
- # total population in service area
- # total number of connections
- # total population served by direct connection
- # total water produced per year
- # total water sold per year
- # total wastewater collected
- # total wastewater treated
- # total revenue collected per year
- # total operations and maintenance costs per year
- # total cost of operations, including capital costs, per year

3.2 Data Collection Process

3.2.1 Initial Round and Establishment of Baseline

In late July 1996, USAID sent the data sheets to the various ISCs for comment and review. Thereafter the forms were sent back to the contractors working in conjunction with their

Egyptian counterpart organizations, to provide the required data. The ISCs were asked to return the completed data sheets to USAID about eight weeks after they received them.

3.2.2 System for Subsequent Cycles

The EHP team returned to Cairo in October to work with the Mission and the ISCs in the analysis of the data. The October 27 workshop was conducted as part of the analysis process. Discussions in that workshop revealed the following consensus:

- # Most of the water supply and wastewater authorities should be capable of providing most of the data and/or indicators.

- # To assure that utility authorities institutionalize the use of the indicators, USAID needs to convince the authority chairmen and senior management of their importance as management tools.
- # The indicators should be collected on a six-month cycle.

While most participants did not feel that collecting the data was a difficult task, the majority felt that to institutionalize the process, USAID should meet with the various chairmen and decision makers to ensure that future rounds could be done by simply sending out the forms, preferably translated into Arabic, to the various agencies directly and asking them to return them to USAID.

4 DATA ANALYSIS

4.1 Initial Data Collection Results

Table 4.1 presents the values for the final set of indicators, calculated using the raw data returned to USAID. The data utilized to calculate these indicator values—that is, the data returned to USAID as requested in July 1996—is presented in Table 4.2.

4.2 Data Submittal and Indicator Levels

4.2.1 Original Expectations

Initially, it was expected that the contractor teams working with GOGCWS, CGOSD, AGOSD and the Canal Cities Project should have little trouble in obtaining the required data. These utilities—management information and other systems development efforts have been going on for several years.

The contractor working with the Provincial Cities Project may be somewhat constrained as until recently, this program has not had a strong institutional development component, except for the groups in the cities involved with O&M for the water treatment plants and other infrastructure provided by USAID.

The contractor for Secondary Cities Project may have to estimate much of the data. The ISC for that infrastructure project has been in place for a relatively short time, and the management information and financial systems are just being developed. While the estimates may not be very accurate, the intent is that as the systems are developed and as these information forms

continue to be used for monitoring progress, the mechanisms for compiling the data will also improve with time.

In cases where ISCs are not on site to collect baseline information for the selected indicators, the EHP team and USAID participants at the workshop felt that the utility's staff could collect the data on their own. This was an important criteria for selection of the indicators, since institutionalizing this data-gathering practice in the utilities was a secondary objective of the entire effort.

4.2.2 Actual Results

As illustrated, in Table 4.2, data was received from only nine separate services of a possible total of 27 (the USAID program in Fayoum was suspended for much of the data-gathering period), and several of the submitted data sets are only partially completed, despite the fact that the data requirements to support the indicators are not overburdensome. As can be seen from Table 4.2, only 34 data points are required for developing the 29 indicators.

As expected, the most thorough data were submitted by GOGCWS, (Cairo Water Supply), CGOSD, AGOSD (Cairo and Alexandria Wastewater respectively). Those authorities—management information and other systems development efforts have been ongoing under USAID's technical assistance for many years.

Several factors appear to have contributed to the limited data submitted for the other cities included in USAID's portfolio. Some explanations follow.

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- # The contractor working with the Provincial Cities Project indicated he was severely constrained in his efforts to obtain data for the indicators. The Provincial Cities program was primarily limited to infrastructure, and it effectively ended shortly after the May 1996 workshop. Staff cutbacks have resulted in only two ISC engineers remaining on the project.
- # The management information and financial systems are just now being developed for the cities of the Secondary Cities Project. This factor and the refusal of the Governor of Aswan Governorate to allow any of the staff of the three cities involved to participate in the indicators effort appeared to have severely hampered the overall data-collection efforts. The data submitted for Luxor and Mansoura were prepared by staff members of each city and were limited to financial data for their water supply services.
- # After the May workshop, the consultant for the three cities in the Canal Cities Project (water supply and wastewater agencies in each city) was expected to have little trouble in obtaining the required data. However, that project ended in mid-1996. The EHP team can only surmise that the consultant's efforts to get the agencies to provide data for the indicators were badly constrained due to the pressure of completing final tasks before the project shut down.
- # Discussion at the October workshop indicated that some of the terms used to define the data and indicators were confusing. Further, workshop discussions indicated that there was a reluctance on the part of the contractors to interpret what they considered confusing terms or to provide estimated values (the most prominent of these problem areas were **Population** and **Population served**).
- # A general observation on the data-collection process concerns the Data Summary (DS) Sheet submitted with the 31 Indicator Data sheets (see Section 3.1.2). The DS sheet lists

16 data items, required to compute several indicators. The intent of providing the DS sheet was to make the presentation for much of the data somewhat easier. Not using the DS sheet may have caused complications for the contractors in their data presentation and indicator calculation efforts. The intent and importance of this summary sheet should be emphasized in future data-gathering efforts.

There are wide variations in the indicators calculated from the data submitted, as shown in Table 4.1, which make it difficult to draw specific conclusions. In general, the overall sector indicators show very high coverage for water supply service, but with relatively high deficit levels.

The financial indicators bear out the high deficit values, but illustrate moderate production costs, somewhat high unaccounted-for water, and only fair rates of collections for billed water supply. These indicator values are significant as they illustrate that the deficits might be significantly reduced or eliminated through a combination of small tariff increases, reductions in unaccounted-for water, and increased efficiency in water bill collection.

The decentralized management and service delivery indicators for Alexandria and Cairo show some movement towards decentralization and improved operations. (For the most part, data were not available from the other cities to calculate these indicators.)

4.3 Implications of Initial Data-Collection Exercise

The data, the opinions expressed in the second workshop's discussions, the interviews conducted, and data collected by the EHP team in preparation for the first workshop lead to the following conclusions:

- # Participants endorsed USAID's efforts in developing and using indicators to track progress in the sector. They felt that the sector would be well served if the indicators were institutionalized in the management systems of the authorities/utilities receiving USAID assistance.
- # Notwithstanding the somewhat disappointing submission of data, the EHP team believes that the final list of 29 indicators is logical and concise. It will provide USAID with the management tools necessary to track the progress of projects in its portfolio (and in Egypt's water supply and wastewater sector as a whole).
- # The data collection requirements are not complicated; most of the authorities/ utilities involved now have the capability to provide the required data.
 - C Indicators to track improvements in recovery of total O&M costs, decentralized utility management, and delivery of services are already institutionalized in GOGCWS and AGOSD and are close to being developed for CGOSD.
- C The systems being developed for the authorities/utilities included in the Secondary Cities Project will allow institutionalization of these indicators as part of the organizations=management practices.
- C The Canal Cities utilities should have similar capability. The formal assessment of this project should include efforts to determine if institutionalization of the indicators is possible.
- C The authorities in the Provincial Cities Project can produce the required data. These authorities may, however, require further assistance to provide the data on a routine basis. (See EHP Activity Report No. 10 - *Findings and Institutional Options for Future Management of Water Supply and Wastewater in the Governorates of Fayoum, Beni Suef, and Mensa*. That report was submitted to USAID in August 1995.)

5 CONCLUSIONS

5.1 Final List of Indicators

As discussed in Chapter 4, the EHP team believes that the list of 29 indicators presented in Tables 2.1 through 2.4 provides USAID the capability of tracking individual projects in its portfolio; at the same time, the list provides a flexible database applicable to measuring progress of USAID's strategic objectives. The database allows USAID to select the indicators deemed most applicable, and allows the particular group of indicators chosen from the 29 to change over time.

The sector would benefit from USAID efforts to have the authorities/utilities institutionalize the indicators in their management systems. An important point to consider in this regard, however, is the need to involve the various GOE agency chairmen and decision makers in the process so that it becomes institutionalized within Egyptian governmental offices.

5.2 Next Steps

- # USAID should take steps internally to formalize the cataloging of data submitted

by the ISCs under this task, establish updating procedures and possibly a computerized database.

- # USAID should also take steps internally to set responsibilities with staff to collect data to complete the baseline first submission.
- # USAID should establish procedures to sustain and maintain the data submittal process. (This may require meetings with the heads of agencies and other decision makers to agree to institutionalize the process.)
- # To maintain the momentum and sustain internal efforts for data collection, USAID should hold further one-on-one meetings with agencies to obtain data, perhaps even hiring local CPAs or Egyptian engineers to carry out the task.
- # USAID should check to see if GOE agencies, especially CAPMAS (Central Agency for Public Mobilization and Statistics), the Ministry of Planning, or others, have data or could easily supply some or all of the required data on a regular basis.

APPENDIX A

WORKSHOP AGENDAS AND PARTICIPANTS

USAID WATER & WASTEWATER INDICATORS

WORKSHOP

RAMSES HILTON, CAIRO MAY 14 - 15, 1996

AGENDA

DAY ONE - Tuesday, May 14

8:30	OPENING <ul style="list-style-type: none">- Welcome- Goals & Agenda- Participant Introductions	PArgo JCarney
9:00	USAID's Charge to the Group	PArgo
9:30	Clarification of participant expectations	JCarney
10:00	Presentation of EHP proposed Indicators <ul style="list-style-type: none">- by Category Clusters	TSelim, DLaredo
10:30	Coffee Break	
10:45	Cluster Groups on Indicators <ul style="list-style-type: none">- Cost Recovery- Decentralization- Capacity/Service Delivery	
12:30	Lunch Break	
13:30	Plenary - Reports from Cluster Groups	
15:00	Coffee break	
15:15	Plenary - Prioritize Indicators within Clusters	
16:45	Wrap-up Session	
17:00	Conclude Day One	

USAID WATER & WASTEWATER INDICATORS

WORKSHOP

RAMSES HILTON, CAIRO, MAY 14-15, 1996

DATE: MAY 14, 1996 (Day 1)

1. Ernest R. Rojas, USAID, Secondary Cities, Project Officer
2. Moenes E. Youannis, USAID, Project Officer, Cairo Water Const/Cairo Sewerage Inst.
3. Mohamed El Alfy, USAID, Project Officer, Alex WW - Institute, Cairo Water Institute
4. Mamdouh Raslan, USAID, Project Officer, Secondary Cities Project Institute, Canal Cities Project Institute
5. Peter Argo, USAID, Branch Chief, Institutional Support Officer
6. Tom Marr, USAID, Project Officer, Provincial Cities
7. Mostafa Dahi, USAID, Project Engineer
8. Tarek Bekhit, USAID, Project Engineer
9. Adel Halim, USAID, Project Engineer PCD
10. Alvin Newman, USAID, Director UAD
11. Edvard Markeset, USAID, Project Manager
12. Dewey Bryant, Chemonics Int'l, Chief of Party
13. Jack Weber, Montgomery Harza, Financial Consultant
14. Barry Hess, Montgomery Harza, Project Manager
15. Nahed Zahran, NOPWASD, Project Engineer
16. Doug Griffes, CH2M-HILL, Project Manager, Cairo GOSD - ISC
17. Mohamed Y. Amin, CH2M-HILL, Institutional Advisor, Cairo GOSD - ISC
18. Mohamed A. Khattab, GOSD, Information Center & Performance Evaluation Manager
19. Sayed Abou El Ela, GOSD, ISC Project Manager

20. Ahmed M. Shokr, GOSD, B.W.W.T.P Manager
21. Farouk El Sheikh, BVI MTSS, OD Specialist
22. Hafez Aboul Fotouh, GOGCWS MTSS, Performance Indicator Manager
23. John Dalton, BVI MTSS, Team Leader
24. Graig Andrews, SCP-IDS, Team Leader
25. Jeannie Wigniton, M&E, Deputy Project Director, Canal Cities Project
26. George Kinias, M&E, Project Director
27. Nabil Shehata, AGOSD, General Director
28. Mohamed Harfoush, AGOSD, Vice Chairman
29. Nancy Barnes, M&E, Project Director, Canal Cities
30. Tom Mailhot, M&E, Team Leader Financial/computer
31. Pankaj Patel, OMI, Team Leader, GOSD Computer
32. Richard Nothr, CH2M-HILL, Manager Autonomous Development
33. Matt Awtill, AMBRIC, O&M Specialist
34. Howard Sokoloff, MTSS/BVI, Deputy Team Leader Management

DATE: MAY 15, 1996 (Day 2)

1. Mohamed El Alfy, USAID, Project Officer, Alex WW - Institute, Cairo Water Institute
2. Ernest R. Rojas, USAID, Secondary Cities, Project Officer
3. Tom Marr, USAID, Project Officer, Provincial Cities
4. Adel Halim, USAID, Project Engineer PCD
5. Mamdouh Raslan, USAID, Project Officer, Secondary Cities Project Institute, Canal Cities Project Institute
6. Mostafa Dahi, USAID, Project Engineer
7. Tarek Bekhit, USAID, Project Engineer

8. Peter Argo, USAID, Branch Chief, Institutional Support Officer
9. John Dalton, BVI MTSS, Team Leader
10. Farouk El Sheikh, BVI MTSS, OD Specialist
11. Hafez Aboul Fotouh, GOGCWS MTSS, Performance Indicator Manager
12. George Kinias, M&E, Project Director
13. Nabil Shehata, AGOSD, General Director
14. Mohamed Harfoush, AGOSD, Vice Chairman
15. Tom Mailhot, M&E, Team Leader Financia/Computer
16. Richard Nothr, CH2M-HILL, Manager Autonomous Development
17. Pankaj Patel, OMI, Team Leader, GOSD Computer
18. Ahmed M. Shokr, GOSD, B.W.W.T.P Manager
19. Mohamed Y. Amin, CH2M-HILL, Institutional Advisor, Cairo GOSD - ISC
20. Mohamed A. Khattab, GOSD, Information Center & Performance Evaluation Manager
21. Sayed Abou El Ela, GOSD, ISC Project Manager
22. Dewey Bryant, Chemonics Int'l, Chief of Party
23. Jack Weber, Montgomery Harza, Financial Consultant
24. Barry Hess, Montgomery Harza, Project Manager
25. Graig Andrews, SCP-IDS, Team Leader

USAID WATER & WASTEWATER INDICATORS

WORKSHOP

RAMSES HILTON, CAIRO OCTOBER 27, 1996

AGENDA

- 9:00 OPENING**
- Welcome
 - Goals & Agenda for the day
- 9:30 USAID's Charge to the Group**
- 9:45 Overview of Activities to Date**
- 10:00 Review of Experiences with developing the Indicators**
- Identification of the Indicators that merit detailed discussion
- 10:30 Coffee Break**
- 10:45 Review of Experiences (Continued)**
- Was data requirements understandable or not?
 - If so, why?
 - Why was it difficult to obtain data?
- 12:30 Lunch Break**
- 13:30 Modification and Alternative Indicators**
- Which Indicators should be eliminated, and why?
(Discuss and Achieve Consensus)

 - What Alternative Indicators should be Adopted?
(Discuss and Achieve Consensus)
- 15:30 Coffee break**
- 15:45 Indicators Monitoring and Update System Discussion**
- Should this data be updated Yearly?
 - Can the Information for the Indicators be gathered now by the various Authorities' staff themselves?
 - Will they be able after the Technical Assistance is completed?
- 16:30 Closure**

USAID WATER & WASTEWATER INDICATORS 2nd WORKSHOP

RAMSES HILTON, CAIRO 27 OCTOBER, 1996

List of Attendees

1. Ernest R. Rojas, USAID, Secondary Cities, Project Officer
2. Moenes E. Youannis, USAID, Project Officer, Cairo Water Const/Cairo Sewerage Institutional.
3. Mohamed El Alfy, USAID, Project Officer, Alex WW - Institute, Cairo Water/ Alexandria Sewerage Institutional Projects
4. Mamdouh Raslan, USAID, Project Officer, Secondary Cities Project Institutional, Canal Cities Project Institutional
5. Peter Argo, USAID, UAD Office Director
6. Tom Marr, USAID, Project Officer, Provincial Cities Project
7. Adel Halim, USAID, Project Engineer PCD
8. Barry Hess, Montgomery Harza, Project Manager
9. -----, CH2M-HILL, Project Manager, Cairo GOSD - ISC
10. Mohamed Y. Amin, CH2M-HILL, Institutional Advisor, Cairo GOSD - ISC
11. Mohamed A. Khattab, GOSD, Information Center & Performance Evaluation Manager
12. Sayed Abou El Ela, GOSD, ISC Project Manager
13. Ahmed M. Shokr, GOSD, B.W.W.T.P Manager
14. Hafez Aboul Fotouh, GOGCWS, MTSS, Performance Indicator Manager
15. John Dalton, BVI MTSS, Team Leader, Cairo Water - ISC
16. Graig Andrews, SCP - IDS, Team Leader, Secondary Cities - ISC
17. George Kinias, M&E, Project Director, Alexandria GOSD - ISC
18. Mohamed Harfoush, AGOSD, Vice Chairman
19. Farouk -----, AGOSD, General Director
20. Naguib -----, CH2M - HILL, Cairo COSD - ISC
21. Richard Noth, CH2M - HILL, Manager Autonomous Development, Cairo GOSD - ISC
22. James Franckiewicz, USAID, Project Officer
23. Abu El Maati Omar, USAID, Project Engineer

24. Mervat Kamel, USAID Project Engineer
25. Ahmed Gaber, Chemonics Egypt, Secondary Cities Project

**The Tables for Chapter Two,
Chapter Four and Appendix B
Are Not Available
Electronically.**

**For Copies by either Fax or
Post, Please Contact EHP at
+ 1-703-247-8730**

or

INFO@EHPROJECT.ORG

APPENDIX C

DATA SHEETS

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

DATA SUMMARY SHEET

- **Location:**

- **Service Provider**

- **Service Provided:** WS_____ WW_____ Both_____

Treatment_____ Distrib._____ Both_____

Collect_____

- **Organization Type:** Gov. Wide_____ Gov. Wide_____ City Dept._____

Econ. Auth. Company

Operation & Maintenance_____

	WS	WW
- Total Service Area (Sq. Kms) =	_____	_____
- Total Population in Service Area (No.) =	_____	_____
- Total Number of Connections (No.) =	_____	_____
- Total Population served by Direct Connection (No.) =	_____	_____
- Total Water Produced (M³/year) =	_____	_____
- Total Water Sold (M³/year) =	_____	_____
- Total Wastewater Collected (M³/year) =	_____	_____
- Total Wastewater Treated (M³/year) =	_____	_____
- Total Revenue Collected (LE/year) =	_____	_____
- Total O&M Costs (LE/year) =	_____	_____
- Total Cost of Operations including Capital costs* (LE/year) =	_____	_____

Note: * USAID/Cairo's current objective is for the water and wastewater utilities in their project portfolio to set tariffs to cover all operations and maintenance costs. In the future, as the utilities mature, total cost of operations, including allowances for depreciation and capital cost service should be used. Thus in the future, the indicators can be calculated using the value for total cost of operations instead of total O&M cost.

The determination of the Total Cost of Operations requires utilities to have an assets accounting system in place so that depreciation or capital allowances can be properly determined.

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 1

UTILITY NAME:

1. **INDICATOR No:** SW1 **Description:** Percent served by Direct connection of total Population in Service Area

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total population served = A A = _____

Total population in service area = B B = _____

3. **INDICATOR FORMULA:** $(A/B) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Utility Planning Department/or statistics section in Housing Department
B = CAPMAS census data

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 2

UTILITY NAME:

1. **INDICATOR No:** SW2 **Description :** Growth rate in percentage of population served

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Percentage served this year = A A = _____

Percentage served last year = B B = _____

3. **INDICATOR FORMULA:** $(A - B / A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A + B = Utility Planning Department/or statistics section in Housing Department in Governorate

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 3

UTILITY NAME:

1. **INDICATOR No:** SW3 **Description:** Amount of water sold per person connected

2. COMPONENTS OR DATA USED TO COMPUTE INDICATOR

Total amount of water sold /day = A

Total Persons connected = B

3. **INDICATOR FORMULA:** A/ B

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. Data Sources:

A = Total from Data Sheets

B = Total from Data Sheets

6. HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. COMMENTS

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 4

UTILITY NAME:

1. **INDICATOR No:** SW4 **Description:** Percentage of total population served by economic authorities

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total population served by econ. Authority = A A = _____

Total population served in sector = B B = _____

3. **INDICATOR FORMULA:** $(A/B) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A + B from Data Sheet

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

TO BE DELETED AS PER DECISION OF OCTOBER WORKSHOP

SHEET NUMBER: 5

UTILITY NAME:

1. **INDICATOR No:** SW5 **Description:** Deficit as Percentage of total (O&M) Operating costs

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total operating cost = Bab 1 + Bab 2 excluding Interest + Fees = A A = _____

Total Revenue = Tariff Revenue + Non-Tariff Revenue = B B = _____

3. **INDICATOR FORMULA:** $(B - A / A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Cost Section - Finance Department
B = Revenue Section - Finance Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 6

UTILITY NAME:

1. **INDICATOR No:** SW6 **Description:** Percent of O&M covered by retained Revenues

2. COMPONENTS OR DATA USED TO COMPUTE INDICATOR

Retained Revenue = Tariff & non Tariff Revenue
Not returned to ministry of Finance and /or
Deposited in special bank account in Utility name = A A = _____

Total Operation Cost = Bab 1 + Bab 2 cost
(Excluding interest & Fees) = B B = _____

3. **INDICATOR FORMULA:** $(B - A / A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. Data Sources:

A = Revenue Section - Finance Department
B = Cost Section - Finance Department

6. HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. COMMENTS

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 7

UTILITY NAME:

1. **INDICATOR No:** SW7 **Description:** Percent of Tariff Revenue collected by Economic Authority

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Tariff Revenue collected by Econ. Authority = A A = _____

Tariff Revenue collected by USAID Sector = B B = _____

3. **INDICATOR FORMULA:** $(A/B) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A + B Indicator Data Sheet

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 8

UTILITY NAME:

1. **INDICATOR No:** SW8 **Description:** Percent of Total cost covered by retained revenues

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Retained Revenue = Total Revenue = A A = _____

Total Cost = Bab 1 + Bab 2 + Depreciation = B B = _____

3. **INDICATOR FORMULA:** (B/A) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Finance Department = Revenue Sections

B = Finance Department = Cost Sections

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate).

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 9

UTILITY NAME:

1. **INDICATOR No:** SW9 Description: Deficit as percentage of total cost

2. COMPONENTS OR DATA USED TO COMPUTE INDICATOR

Total cost = Bab 1, Bab 2 + Depreciation = A A = _____

Total Revenue = Tariff Rev. + Other Revenues = B B = _____

3. **INDICATOR FORMULA:** $(B - A/A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. Data Sources:

A = Cost Section - Finance Department

B = Revenue Section - Finance Department

6. HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. COMMENTS

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 10

UTILITY NAME:

1. **INDICATOR No:** CR1 **Description:** Percent LE Billed Actually Collected

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

LE Collected = A A = _____

LE Billed = B B = _____
(For wastewater total billed is water supply tariff billed multiplied by the wastewater Surcharge)

3. **INDICATOR FORMULA:** (A/B) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Collection Section
B = Billing Section
Or billing/collection oversight unit
or finance departments at local levels

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 11

UTILITY NAME:

1. **INDICATOR No:** CR2 **Description:** Total Operating Cost per M3 Sold

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

LE Bab 1 + Bab 2 excluding Interest and Fees = A A = _____

M3 Volume Billed = B B = _____

3. **INDICATOR FORMULA:** (A/B)

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Finance Department

B = Billing Section

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 12

UTILITY NAME:

1. **INDICATOR No:** CR3 **Description:** Deficit (Subsidy) as percent of operation & maintenance

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total Revenue = A A = _____

Total O&M = B B = _____

3. **INDICATOR FORMULA:** $(A - B/B) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Revenue Cost

B = Cost Section

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 14

UTILITY NAME:

1. **INDICATOR No:** CR5 **Description:** Tariff Revenue as Percent of Total O&M Cost

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Tariff Revenue = A A = _____

Total O&M Cost = B B = _____

3. **INDICATOR FORMULA:** (A/B) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Revenue Section

B = Cost Section

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

TO BE DELETED AS PER DECISION OF OCTOBER WORKSHOP

SHEET NUMBER: 15

UTILITY NAME:

1. **INDICATOR No:** CR6 **Description:** Non-Tariff Revenue as Percent of Total O&M Cost

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Non-Tariff Revenue = A A = _____

Total O&M Cost = B B = _____

3. **INDICATOR FORMULA:** (A/B) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Revenue Section

B = Cost Section

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 16

UTILITY NAME:

1. **INDICATOR No:** DM1 **Description:** Percent of Total Workforce covered by Personnel Systems

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Number of Personnel covered by internally developed & implemented personnel policy = A

A = -----

Total number of employees in Agency = B

B = -----

3. **INDICATOR FORMULA:** (A/B) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Personnel Department

B = Personnel Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 18

UTILITY NAME:

1. **INDICATOR No:** DM3 **Description:** Percent of Bab 2 Budget under discentianry control of facilities Managers

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total Bab 2 Budget = A A = _____

Total Amounts spent under Facilities managers authority = B B = _____
(Facilities; are all infrastructure and iinstallations not classified as supporting administrative functions)

3. **INDICATOR FORMULA:** $(B/A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Finance Department

B = Estimate based on review of sample of cost records in cost section

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 19

UTILITY NAME:

1. **INDICATOR No:** DM4 **Description:** Percent of value of stores replenishment procured under control of facilities manager rather than Board Chairman

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Expenditures on stores replenishment = A A = _____

Replenishment Authorized by facility managers = B B = _____

3. **INDICATOR FORMULA:** $(B/A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____
-

5. **Data Sources:**

A = Finance Department + Store Department

B = Estimate based on review of sample of procurement records

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 20

UTILITY NAME:

1. **INDICATOR No:** DM5 **Description:** Percent of value Bab 3 budget
GOE financed allocated directly to
utility

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

GOE Component of Bab 3 budget = A A = _____

Total Bab 3 funds allocated to utility = B B = _____

3. **INDICATOR FORMULA:** $(A/B) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Planning Department / Investment Bank
B = Finance Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 21

UTILITY NAME:

1. **INDICATOR No:** SD1 **Description:** Cost Per M3 of Water Produced

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total O&M Cost = A

Total Volume Produced = B

3. **INDICATOR FORMULA:** A/B

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Revenue Section - Finance Department

B = Operation Department Records

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 22

UTILITY NAME:

1. **INDICATOR No:** SD2 **Description:** Water Supply Billed as percent of Water Supply Produced

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Volume of Water Produced = A _____

Volume Billed = B _____

3. **INDICATOR FORMULA:** (B/A) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Operations Department

B = Revenue Section, Finance Department + Operation Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 23

UTILITY NAME:

1. **INDICATOR No:** SD3 **Description:** Percent Decrease in Unaccounted for Water

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Volume Produced in Year 1 = A
Volume Sold in Year 1 = B
Volume Produced in Year 2 = C
Volume Sold in Year 2 = D

3. **INDICATOR FORMULA:** $[(A - B) - (C - D) / A - B] (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A & C = Operations Department
B & D = Revenue Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 24

UTILITY NAME:

1. **INDICATOR No:** SD4 **Description:** Percent of Time Water Supply
Source facilities provide continuous
uninterrupted service

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Number of Days with interruptions = A

Number of Days in Year = 365

3. **INDICATOR FORMULA:** $(365 - A / 365) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Operations Department + Emergency Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 25

UTILITY NAME:

1. **INDICATOR No:** SD5 **Description:** Percent increase in number of connections to system compared to previous year

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Number of Total Connections in Year 1 = A _____

Number of Total Connections in Year 2 = B _____

3. **INDICATOR FORMULA:** $(A - B / A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A & B = Revenue Sections.

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 26

UTILITY NAME:

1. **INDICATOR No:** SD6 **Description:** Percent O&M Staff to Total Staff

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Number of O&M Staff = A A = _____
(Staff relating to facilities defined as infrastructure
And installations not classified as supporting
administrative functions)

Number of Total Staff = B B = _____

3. **INDICATOR FORMULA:** (A/B) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A & B = Personnel Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 27

UTILITY NAME:

1. **INDICATOR No:** SD7 **Description:** Percent O&M Costs expended on Staff Training

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total O&M Costs = A A = _____

Component Allocated to Training = B B = _____

3. **INDICATOR FORMULA:** (B/A) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A & B = Financial Department, Cost Section
B = Training Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 28

UTILITY NAME:

1. **INDICATOR No:** SD8 **Description:** Percent of Facilities covered by Maintenance Management System (MMS)

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total Number of Major Facilities = A A = _____
(Treatment Plants + Pumping Stations)

Number of Facilities using MMS = B B = _____
(MMS; Systems using preventive maintenance techniques and work orders to track activities)

3. **INDICATOR FORMULA:** (B/A) (100)%

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Operation Department
B = Operation Department + ISC's

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 29

UTILITY NAME:

1. **INDICATOR No:** SD9 **Description:** Cost per M3 of Wastewater Collected

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total O&M costs = A A = _____

Total Volume of WW Collected = B B = _____

3. **INDICATOR FORMULA:** A/B

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Cost Section, Finance Department
B = Operation Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 30

UTILITY NAME:

1. **INDICATOR No:** SD10 **Description:** Percent of WW Collected Receiving Treatment

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total Volume of WW collected = A A = _____

Volume of WW By passed = B B = _____

Volume of WW discharged to Drains = C C = _____
(i.e. not discharged to ww treatment plants)

3. **INDICATOR FORMULA:** $(A - (B+C)/A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Operation Department
B = Operation Department
C = Operation Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)

USAID WATER SUPPLY AND WASTEWATER PROGRAM INDICATORS

INDICATOR DATA SHEET

SHEET NUMBER: 31

UTILITY NAME:

1. **INDICATOR No:** SD11 **Description:** Percent of Effluent from WWTP whose quality complies with Design Standards

2. **COMPONENTS OR DATA USED TO COMPUTE INDICATOR**

Total Volume treated = A A = _____

Total Volume Discharged meeting standards = B B = _____

3. **INDICATOR FORMULA:** $(B/A) (100)\%$

4. **COMPUTED INDICATOR FROM (2) AND (3) ABOVE:** _____

5. **Data Sources:**

A = Operation Department

B = Facility Laboratories + Operation Department

6. **HOW SHOULD THE DATA BE OBTAINED IN THE FUTURE?**

Please list the department or group, titles or positions of individuals in the utility/organization from whom the data can be obtained in subsequent cycles of data collection.

7. **COMMENTS**

Please comment on difficulties encountered, or approximations or estimates made. (Use back of sheet if space provided not adequate)