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IDARA (INSTITUTING WATER DEMAND MANAGEMENT IN JORDAN)

ANNUAL PROGRESS REPORT

(APRIL 2007 – SEPTEMBER 2008)

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IDARA Annual Progress Report

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ABBREVIATIONS AND ACRONYMS

ADC:	Aqaba Development Corporation
ASEZA:	Aqaba Special Economic Zone Authority
AWC:	Aqaba Water Company
BMP:	Best Management Practice
BSI:	British Standards Institute
CBO:	Community Based Organization
CEN:	European Committee for Standardization
CEO:	Chief Executive Officer
COM:	Council of Ministers
CSBE:	Center for the Study of the Built Environment
CTO:	Cognizant Technical Officer
DIN:	German Institute for Standardization
DOS:	Department of Statistics
DZ:	Distribution Zone
ETVET:	Employment and Technical and Vocational Education and Training
GAM:	Greater Amman Municipality
GBMS:	Groundwater Basin Monitoring System
GDA:	Global Development Alliance
GIS:	Geographic Information System
GOJ:	Government of Jordan
GTZ:	Deutsche Gesellschaft Fur Technische Zusammenarbeit
HUDD:	Housing and Urban Development Corporation
IAPMO:	The International Association of Plumbing and Mechanical Officials
IC:	Institutional and Commercial
ISO:	International Organization for Standardization
IWA:	International water Association
JEA:	Jordan Engineers Association
JIB:	Jordan Investment Board
JISM:	Jordan Institute for Standards and Metrology
JNBC:	Jordan National Building Council
JOHUD:	The Jordanian Hashemite Fund for Human Development
JUST:	Jordan University for Science and Technology
JVA:	Jordan Valley Authority
KACE:	King Abdulla II Center for Excellence
LTTA:	Long-Term Technical Assistance
MOA:	Ministry of Agriculture
MOL:	Ministry of Labor
MOMA:	Ministry of Municipal Affairs
MOPIC:	Ministry of Planning and International Cooperation
MOTA:	Ministry of Tourism and Antiquities
MOU:	Memorandum of Understanding
MPWH:	Ministry of Public Works and Housing
MWI:	Ministry of Water and Irrigation
NGO:	Non-governmental Organization
NGWA:	Northern Governorate Water Authority
NWDMP:	National Water Demand Management Policy
NWMP:	National Water Master Plan
PMU:	Programme Management Unit

PWCS:	Productive Women Cooperative Society (CBO Marka)
RSS:	Royal Scientific Society
SABEQ:	Sustainable Achievement of Business Expansion and Quality
SDB:	Small Disadvantaged Business
SOW:	Scope of Work
STTA:	Short-Term Technical Assistance
TA:	Technical Assistance
TBT:	Technical Barriers to Trade
TOR:	Terms of Reference
TVET:	Technical and Vocational Training and Education
UAE:	United Arab Emirates
USAID:	United States Agency for International Development
VTC:	Vocational Training Corporation
WAJ:	Water Authority of Jordan
WDM:	Water Demand Management
WDMU:	Water Demand Management Unit
WEPIA:	Water Efficiency and Public Information for Action
WIS:	Water Information System
WSD:	Water Saving Device
WTO:	World Trade Organization
WUDMIP:	Water Use & Demand Management Information Program

1. INTRODUCTION

IDARA, the Instituting Water Demand Management in Jordan Project, is implementing thirty two tasks and subtasks within the following three broad categories of activities:

1. Building institutional capacity for water demand management (WDM)
2. Creating the institutional and legal environment to promote water demand management
3. Demonstrating selected water demand management initiatives to the public

The project started on March 28, 2007 for a two-year base-period, followed by a two-year option period. This report presents activities carried out during the first year workplan that covers the first eighteen months (March 28, 2007 to September 30, 2008) of the project. During this period the project witnessed a successful participatory planning period that resulted in the development of the first year workplan, however, implementation has initially faced challenges due to delayed staffing and difficulties in developing activities. Once fully staffed, IDARA gained momentum by supporting stakeholders in the development of the water demand management functions and a consensus model for the institutionalization of these functions, and the draft of the urban WDM Policy. In early 2008, IDARA went through a significant metamorphosis to enhance project management and technical support. This resulted in a noticeable progress in the development and implementation of activities, thus catching up on most of the delays, in addition to the design and implementation of two tasks, related to the high rise and high density buildings water use and reuse, which were not part of the original workplan.

Among the key achievements during this period is the development of the WDM policy, and its approval by the council of ministers, ahead of schedule, and the successful organization of the workshops for high rise and high density buildings water use and reuse.

It is also acknowledged that some of the tasks have witnessed delays. Justification of these delays is presented in this report.

This first year has established productive working relationships with the Ministry of Water and Irrigation (MWI), Water Demand Management Unit (WDMU), utilities, Water Authority of Jordan (WAJ), Jordan Valley Authority (JVA), external institutions such as Greater Amman Municipality (GAM), Ministry of Public Works and Housing (MPWH), Jordan Institute for Standards and Metrology (JISM), Ministry of Labor (MOL), Vocational Training Corporation (VTC), as well as the private sector.

This report provides details about project management, summary of implementation and accomplishment of each project task, summary of deliverables, and summary of issues and justifications of delayed activities.

2. PROJECT MANAGEMENT

In February 2008, IDARA underwent a significant restructuring to enhance project management and technical support. A description of the changes and their impact on the IDARA management makeup is illustrated hereafter.

Expatriate Long-term Technical Assistance

1.) Chief of Party: Mohamed Chebaane;

In Addition to his COP role, Mohamed Chebaane provides direct lead of technical activities in Water Demand Management (WDM) policy and institutionalization, WDM enforcement mechanisms and financial tools, and technical supervision of water demand and forecasting, drought response principles, training, and the high rise tasks.

2.) Senior Technical Advisor: Tony Gregg;

Tony is fully responsible of technical lead and supervision of several activities including end use analyses, labeling, plumbing code, plumbing material certification, WDM utilities functions, WDM best management practices (BMPs), master plumbers vocational training, pilot program to demonstrate BMPs to the public, xeriscaping, and the high rise tasks.

3.) Bil Tucker (Ex. DCOP): He was removed from the project.

Team Leaders

Three new team leader positions were created: 1) WDM monitoring and forecasting; 2) Institutionalization, Training, and Outreach; 3) Best Management Practices. Activity-3 team leader position was renamed as team leader of water-wise landscaping.

WDM monitoring and forecasting: Suzan Taha leads the end use analysis, and all tasks related to water use and WDM information analysis and management in coordination with MWI and utilities. She also leads the drought principles task and supports finalization of WDM policy.

Institutionalization, Training, and Outreach: Hala Dahlan covers change management, supports the WDM policy, and help Water Demand Management Unit (WDMU) on strategic planning. She also leads several tasks including external linkages between WDMU and other public and private organizations, support of utilities focused WDM functions, WDM training, National WDM awards program.

WDM Best Management Practices: Bashar Al-Ali supports the development of water and sanitation code, the master plumber vocational training program and VTC rehabilitation, and provides technical lead of the Grants program.

Technical Support

Water Engineer: Lana Naber leads the pilot BMPs demonstrations, and provides technical support in the plumbing material certification program, and water demand forecasting and management.

Planning and policy specialist: Lara Shahin is involved in supporting institutional and policy tasks, in addition to the WDM financial mechanism and regulatory incentives. She also supports the project planning activities.

Design Analyst: Nour Esoh supports end use analysis, plumbing code, labeling, and water use and WDM information.

3. SUMMARY AND ASSESSMENT OF YEAR ONE ACTIVITIES AND ACCOMPLISHMENTS

Activity 1: Institutional Capacity for Water Demand Management

Task 1.1: Build consensus on WDM functions and institutions as part of water sector reform and restructuring

IDARA supported the institutionalization and policy task force that was formed in October 2007 in the development and institutionalization of WDM functions and the preparation of WDM Policy with its urban and agricultural water use components. The task force represents a broad range of expertise from MWI, WDMU, WAJ, JVA, Miyahuna, Northern Governorate Water Authority (NGWA), Aqaba Water Company (AWC), Programme Management Unit (PMU), Aqaba Special Economic Zone Authority (ASEZA), Jordan University for Science and Technology (JUST), Greater Amman Municipality (GAM), Jordan Engineers Association (JEA), Ministry of Planning and International Cooperation (MOPIC), The Jordanian Hashemite Fund for Human Development (JOHUD-NGO), USAID and GTZ. This section focuses on the WDM functions and institutions. The development of WDM Policy is discussed in details in Task 1.2.2.

The Task Force conducted working sessions on the development and institutionalization of WDM functions. Highly participatory and productive work sessions were held on October 25 and 30, and November 4, 2007. These sessions resulted in the development of a draft WDM functions and institutions, in addition to the identification of three possible restructuring scenarios for the institutionalization of these functions. The restructuring scenarios were presented and fully discussed and revised at a stakeholder workshop held on November 7, 2007. This effort resulted in the finalization of WDM functions and a consensus model for the institutionalization of these functions. The model was obtained on placing the WDMU in a strong coordinating role, with specific lead responsibilities, while distributing most resource intensive operational functions and responsibilities for WDM to other lead institutions. This task was completed in November 2007.

Task 1.2: Institute planning, allocation, and monitoring functions at the WDMU

Subtask 1.2.1: Assess the organizational structure of the WDMU within the institution as a whole and propose operating procedures for linkages between the unit and other divisions within the Ministry and its two authorities

IDARA worked in close cooperation with the WDMU on the assessment of its organizational structure within MWI, identification of linkages with other divisions, gap-analysis of the WDMU strengths and weaknesses, and development of guidelines for the transformation of the unit. An assessment report for the unit organizational structure was completed in October 2007, and a draft report combining the gap analysis and transformation guidelines was completed in February 2008¹.

Building on the above assessment and the WDM functions and institutional scenario described in Task 1.1, IDARA assisted the WDMU in the development of its strategic business plan, a key project deliverable, in collaboration with a task force formed for this purpose.

Final report on the strategic plan was delivered and approved in February 2008.

The operationalization of the WDMU strategic plan has been postponed due to the delay in WDMU staffing. This activity will gain momentum starting the second year as a result of the recruitment of two engineers. A comprehensive capacity building program for individual WDMU staff will be prepared and implemented during the second year work plan.

¹ Final report was submitted in October 2008

A two-day change management workshop was organized on August 27 and 28, 2008 for MWI, WAJ, PMU, Miyahuna, AWC, and NGWA. The workshop introduced various change management models, the driving and restraining forces for change, and strategies to implement successful change management programs. IDARA will continue to deliver a series of change management workshops to institute WDM in WDMU, utilities and other institutions.

Subtask 1.2.2: Develop the WDM policy in close cooperation with the WDMU

IDARA supported the Institutionalization and Policy Task Force on the development of WDM policy. This activity was initiated with a review of the previously drafted document, "A National Water Demand Management Policy in Jordan" drafted by the Water Efficiency and Public Information for Action (WEPIA) project. The task force conducted three meeting sessions to initially draft the urban component of the WDM policy which was presented and finalized at a stakeholder workshop held on November 8, 2007 (See Task 1.1).

Another Task Force representing a broad range of expertise in irrigated agriculture from the Jordan Valley Authority (JVA), Ministry of Agriculture (MOA), universities and the private sector was formed to develop the irrigated agricultural component of the WDM policy. This Task Force worked during the period April-June 2008 to draft policy statements to promote water use efficiency and advance WDM in the agricultural sector. The drafted policy was presented and finalized at a stakeholder workshop held on July 2, 2008.

The two components, irrigated agriculture and urban sector, were then combined in a National Water Demand Management Policy (NWDMP) for Jordan and translated into Arabic. The NWDMP was submitted to the Ministry of Water and Irrigation on July 23rd for final review and submittal for approval to the Council of Ministers (COM) with the aid of the USAID Conditions Precedent for 2008. The COM approved the NWDMP on August 19, 2008. Thus, achieving a key milestone of the project, ahead of schedule.

Subtask 1.2.3: Identify the external linkages between WDMU and other organizations, propose mechanisms to build these linkages, and develop an action plan to be jointly implemented

Identification of WDM-related external institutions was done in November 2007 by the Institutionalization and Policy Task Force as part of the institutional responsibilities of WDM functions defined for the consensus institutionalization model.

During the implementation of IDARA's first year activities, linkages have been established between WDMU and the following external institutions: GAM, JISM, MPWH, VTC, MOL, MOA, Ministry of Municipal Affairs (MOMA), King Abdulla II Center for Excellence (KACE), and Royal Scientific Society (RSS). IDARA will continue developing linkages with other institutions such as the Ministry of Tourism and Antiquities (MOTA), Ministry of Industry and Trade (MOIT), ASEZA, Aqaba Development Corporation (ADC), Jordan Investment Board (JIB), Department of Statistics (DOS), Jordan National Building Council (JNBC), Chambers of Commerce and Industry, NGOs and the private sector.

Subtask 1.2.4: Ensure that demand and allocations data developed by units within the Ministry are linked to the National Water Master Plan and appropriate economic analysis is performed

A preliminary assessment of the type of demand and allocation data, that exist at WAJ, NGWA, Miyahuna, AWC, PMU, WDMU and NWMP, was carried out for Jordan and was included in the first deliverable of Task 1.3 "Assessment of Current Use and Demand Data". An overview of the data collection and exchange methods, including systems warehousing of this data was established.

A model of cooperation between the water utilities and MWI was proposed, discussed and reviewed in a stakeholders meeting that was held in August 2008 (See also subtask 1.3). According to this model, the National Water Master Plan (NWMP) directorate at MWI would review the water utility

demand forecasts and assume as its key role to determine both the sufficiency of the forecasts and the national water supplies to help set utility water allocations.

Linkages between the units in the Ministry that provide data on demand and allocation and the National Water Master Plan are considered as part of the development of the GIS-based WDM database (task 1.2.5)

IDARA has also initiated data collection from Miyahuna and DOS to evaluate economic and social value of WDM.

Subtask 1.2.5: Design and build appropriate databases under WDMU as integral components of the Water Information System (WIS) deployed at the MWI

The main components of the GIS based Water Use and Demand Management Database was identified in the first deliverable of Task 1.3 "Assessment of Current Use and Demand Data". In addition, a preliminary design schematic was proposed with the assistance of the Aquacraft STTA for the GIS-based database, based on the available and proposed data sets and the desired output from the database.

A scope work, that includes streamlining WDM data collection and management, was developed for an Information and Communication Technology (ICT) specialist, and is being implemented. This activity started behind schedule for the reasons detailed in section 4 of this report.

Task 1.3: Strengthen the MWI Planning Directorate by establishing a national water use information program

A comprehensive assessment of current and available data was carried out to determine deficiencies related to data collection and analysis. The assessment also included a review of the consumption categories currently used in the water sector, a description of the existing water use data at the WDMU, utilities, WAJ, PMU, and the National Water Master Plan, and an analysis of the procedures for estimating the amount of water purchased via tankers. It also evaluated existing WDM data collected by WDMU and WEPIA project, in addition to current approaches used in forecasting water demand in MWI, and the water utilities including WAJ water administrations.

Data gaps have been identified and recommendations for data needs were made for improving water consumption accuracy, monitoring and tracking impacts of demand management scenarios on savings and forecasting water demand in Jordan.

Recommendations on forecasting methodology for Jordan were made and a model defining responsibilities between the utilities and MWI in data collection, analysis, forecasting, and database management related to WDM was proposed.

An action plan for the implementation of the National Water Use and Demand Management Information Program (WUDMIP) was developed to implement the above recommendations.

A stakeholder meeting was held on Aug 6, 2008, involving 27 participants from WDMU, NWMP, WAJ, NGWA, PMU, Miyahuna, and AWC. These participants represent the IT departments, subscription departments, wells subscription division, in addition to WAJ Groundwater Basin Monitoring System (GBMS) which is responsible for private wells. Stakeholders discussed and approved the responsibility model and agreed on the formation of an Information Management Task Force. They also endorsed the adoption of a consistent classification of urban water uses throughout Jordan and expanding the numbering system for the billing system in order to enable it to accommodate the needs for WDM.

Accordingly, IDARA submitted to the utilities a proposal for a new expanded system of classes, categories and sub-categories for urban water uses for consideration in the programming of the portable devices by Miyahuna, as part of the survey Miyahuna is implementing for South Amman to update its customers' data. This survey can also be of benefit to other utilities.

Implementation of the WUDMIP will be in close cooperation with the utilities through the IM Task force. IDARA will provide the technical assistance to help assess the existing infrastructure at the utilities and the requirements to warehouse the Water Use and Demand Management data. It will develop an action plan to incorporate the new data and supervise its implementation and later develop the necessary procedures for data exchange.

Subtask 1.4: Perform end-use analyses

Profiling non-residential large water consumers in Jordan

IDARA conducted an analysis of non-residential water consumption by use type in Jordan within Miyahuna service area for year 2006. Seven institutional and commercial (IC) categories were identified as target for end use analysis in the long term. These are offices, health services, schools, universities, places of worship, hotels, and restaurants; listed in the order of consumption. From these main categories, seven subcategories were designated for end use analysis. These subcategories are governmental offices, hospitals, government schools and universities, mosques, 4/5 and 3/2 star hotels in addition to hotel apartments.

A comprehensive standardization of the urban end use classes in the water utilities was done. These classes will be included in the Portable Devices programs to be used in the South Amman survey, and later by the meter readers for the remaining areas served by Miyahuna. This is also considered as part of the WUDMIP under task 1.3.

Commercial End Use Analysis

An audit and end-use analysis program was designed to cover five 5/4 star hotels, five 3/2 hotels, five hotel apartments, ten hospitals, five government offices, two commercial offices, five mosques, five schools, and three universities. Implementation of this program will start in October 2008. Additional commercial audit end-use analysis for other commercial areas will be planned and carried out by IDARA in collaboration with WDMU and the utilities, if data from end-use analysis is not deemed to be sufficient to establish robust estimates of water consumptions in these categories.

Residential End Use Analysis

Work on this task started with an analysis of flow conditions at residential units in collaboration with Miyahuna. Several visits were made to various units to check the water supply network and the flow pressure at these units. After about two months of investigations the analysis revealed that metering end use analysis in Jordan requires installation of meters after rooftop tanks with a pressure as low as 0.1 bar.

Aquacraft, IDARA subcontractor, carried laboratory tests in the United States to determine the feasibility of water flow measurement under the above conditions. These tests demonstrated that Badger meter, Model 25, and Meter Master Data logger are adequate for Jordan flow and plumbing conditions, and recommended field testing the meter and data logger.

Field test were carried out by IDARA in collaboration with Miyahuna and WDMU in two apartments in Amman. This field test has successfully demonstrated the feasibility of conducting residential end use analysis in Jordan using Badger meter, Model 25, and Meter Master Data logger.

Residential end use metering and analysis for fifteen residential units (5 apartment, 5 villas, and 5 houses) combined with training of staff from the utilities, and WDMU will be conducted in November 2008. Based on the results of the pilot program, a complete end-use analysis for a representative sample will be carried out starting in year two.

Demand Forecasting

The modeling approach was selected, as per assessment report of task 1.3, and approved by stakeholders. IDARA started collecting data to prepare for the development of forecasting model in pilot distribution zones (DZ's) within Miyahuna service area. In addition to water use, this data include:

- a) The number and types of commercial buildings available at Greater Amman Municipality (GAM) which were obtained in GIS format.
- b) The number of buildings in each block; which are classified according to the occupancy type (house, villas, apartment, commercial buildings, and empty lands).
- c) GAM Master Plan information related to land-use planning for residential and commercial buildings landscape.

Billing and GIS data were checked and analyzed. Work on testing the model using this data will start in December 2008.

Task 1.5: Assist in the establishment of a decentralized system for WDM functions

Subtask 1.5.1: Introduce regulatory incentive mechanisms to encourage utilities to adopt demand management measures

During the second quarter of the project, the review of Key Performance Indicators (KPIs) was initiated. KPIs being used by water companies and the PMU were discussed and the issue of developing and implementing specific WDM KPIs was met with positive comments in meetings with the PMU and water companies.

During the design of WDM KPIs activity, it was realized that the WDM Policy and its legal assessment are pre-requisite to the development of the KPIs. Thus, IDARA postponed the development of KPIs till the completion of the WDM policies and the legal assessment of these policies. The deliverable date was shifted from August 2008 to March 2009.

In the fifth quarter, a consultant was identified to assist WDMU, PMU and the utilities develop KPIs for WDM. His work started in September 2008 with a research on international experience on WDM KPIs, followed by a first trip to Jordan where he discussed with WDMU, PMU, and Miyahuna potential development of KPIs tied to the WDM policy. A second trip is scheduled in March 2009 to finalize the list of the KPIs.

Subtask 1.5.2: Assist the utilities in establishing WDM functions

During the second quarter of the project, meetings were held with Miyahuna to identify priority consumers and suitable incentives to implement and institutionalize WDM.

In the third quarter, meetings were held with Miyahuna to identify priority consumers and suitable incentives to implement and institutionalize WDM. IDARA staff had extensive meetings with Miyahuna related to collecting data in order to prioritize commercial customers for end-use analyses. This same set of customers will be the priority customers in the commercial sector for demonstrations and interventions later in the project. IDARA also participated in discussions and a workshop with Miyahuna on implementing a distribution zone program to offer plumbing services to customers on leakage on the customer side of the meter. Discussions were held with the Director of both Aqaba Water Company and Miyahuna on the future task of working with them to develop and implement a water conservation plan. IDARA staff also met with the USAID-funded Segura Project on input into the water conservation plan that Segura is developing for Miyahuna.

IDARA has contacted Austin, Texas and they have agreed to participate in a cooperative alliance with Jordanian utilities.

During the fourth quarter, IDARA collaborated with Miyahuna on several activities including the specifications of water meters for the residential water metering end-use, planning for the high-rise task, brainstorming on establishment of a common WDM entity for utilities, best management practices through the BMP Task Force, and improvement of water use and water billing information.

The Head of WDMU and IDARA met with Aqaba Water Company (AWC) on April 17, 2008 to present progress of the project activities and discuss means of collaboration to implement the water demand management functions proposed under IDARA project. Action trackers were jointly developed with AWC staff to plan, monitor and implement WDM functions. Similar meeting was also held with Miyahuna on June 19, 2008.

IDARA organized an outreach activity at the AWC to demonstrate water saving devices to the public at the customer service center in AWC. IDARA has also been assisting Miyahuna in selecting and testing water saving devices that they plan to purchase and provide to customers.

Subtask 1.5.3: Assist the private sector in each utility area to establish WDM functions and services

Miyahuna is planning a solicitation for contractors to reduce water use on both sides of the meters in District Zones in July 2008. We discussed with Segura our participation in a workshop to train the successful bidders on providing audits and retrofits to customers. We also provided input into the RFP for the District Zones solicitation.

During the fourth quarter, a grant application for GAM that would train contractor in designing and installing water wise landscapes was discussed with the SABEQ program. IDARA will follow up with SABEQ and provide technical support to GAM to pursue this grant option.

IDARA has designed a commercial and residential audits and end-use analysis programs (Task 1.4) that include on-the-job training for private sector companies to build their capacities in providing WDM services.

Subtask 1.6.1: Develop BMP guides on conservation of nonagricultural water

The IDARA contract included six BMPs that should be developed for this Task. A BMP Task Force was established to prioritize the BMPs to be drafted and to provide input into the draft BMPs.

IDARA has developed guidelines for six of the BMPs as required under the contract. Additional guidelines will be prepared for three other BMPs. The guidelines are intended to provide the elements of a BMP program and to be used by utilities when a utility is implementing a BMP for its customers in that BMP category. The guidelines are comprehensive in scope and will ensure that the utility implements a complete program for the selected BMP.

No.	BMP	Description
1.	Water Utility Non Revenue Water Reduction Program	Water auditing for water network and a program for leak detection and repair.
2.	Public Information and Outreach	Promoting water efficiency through website development, brochures, bill inserts electronic and printed newsletters.
3.	Park Landscaping	Waterwise design for park landscapes
4.	Conservation Program for Residential Consumers	Focus on managing demand at the household level
5.	Conservation Program for Commercial Buildings	Focus on efficient water use in commercial buildings
6.	Conservation Program for Hotels	Focus on efficient water use in hotels

7.	Conservation Program for Mosques and Churches	Focus on efficient water use for mosques and churches
8.	Conservation Program for Hospitals	Focus on efficient water use in hospitals
9.	School Education	Promoting water efficiency through school education.

From the nine BMPs for which guidelines are prepared, the following six Guides will be developed:

1. Hospital BMP Guide
2. Hotel BMP Guide
3. Office BMP Guide
4. Public Information BMP Guide
5. Park Landscaping BMP Guide
6. Conservation Program for Residential Consumers

The Guides are intended to be used by the customers for the respective BMPs and are a cookbook or how-to-guide for the individual customer to implement the BMP. For example, the Hospital BMP Guide is intended to be given to the facility manager of a hospital or a consultant hired to implement the BMP for the hospital.

BMP Guidelines for Water Loss, Residential Consumers, Park Landscaping, Commercial and Government Offices, Public Information and Outreach have been drafted by IDARA, reviewed by the BMP Task Force and revised according to the comments received. A Hospital BMP Guideline has been drafted.

At the suggestion of the CTO, the guidelines will not be finalized for offices, residences, hotels and hospitals until after the end use analysis is completed so that any water efficient practices that are identified during the end use analysis can be included in the guidelines. The proposed BMP guides will be developed after the guidelines are completed.

The core group of the Water-wise Task Force was recruited. The members attended the BMP Task Force meetings. Members of the Water-Wise Landscaping Task Force participated in drafting a water-wise landscaping BMP.

The Hospital BMP Guide will be developed first, since almost all types of water use are present in hospitals. The work that is done for the Hospital BMP Guide can also be used for some of the other BMP Guides that will be produced.

A Conservation Program for Residential Consumers Brochure has been drafted in coordination with SABEQ and covers both water efficiency and energy efficiency concepts on how consumers can manage their demand at the household level. This brochure will carry the logos of MWI and the utilities and will be distributed nationally.

Subtask 1.6.2 and 2.2.2: High Rise BMP

During the fourth quarter, USAID amended IDARA's contract to add two high rise activities and requested a proposal for this activity. IDARA met with high rise stakeholders to gain a broader understanding of the issues involved and prepared the proposal that was submitted in April 2008. USAID approved the final amended SOW and budget in June 2008.

The deliverables for the high rise tasks are:

- High Rise Best Management Practices Guide
- Recommendations for a High Rise/High Density Code for Water
- Criteria for GAM to use to regulate water in High Rise/High Density developments

This task involved extensive coordination with many stakeholders involving preliminary meetings to determine the issues that need to be addressed and to assess the level of interest in this task.

The initial workshop was held on July 29, 2009 and approximately 70 stakeholders attended including the Secretary General of MWI, the City Manager of GAM, and the Director General of Miyahuna. There were presentations by two international speakers. Mario Seneviratne with Green Technologies (Dubai) on “High Rise Best Practices for Water in Dubai, and Roger Frechette from Skidmore, Owings & Merrill (Chicago) on “International High Rise Best Practices for Water and Wastewater.” Presentations were also made by the IDARA high-rise consultant team on their research on international best practices for water efficiency and wastewater reuse in high rise areas. Participation during this workshop was excellent.

Task 1.7: Provide training and capacity building to promote WDM

This task includes formal training, on-the-job training and demonstrations to the public. Key activities conducted during the first year include:

- Training of WDM Agricultural Policy component task force through a structured format using “learning by doing” training methodology which developed the skills of formulation of policies, presenting them, and receiving consensus on them.
- Training and demonstrations for Miyahuna and the Aqaba Water Company customer service staff and technicians by a woman plumber using the water-saving demo machine. The training included: mechanism of saving water in the Water Saving Devices (WSDs), installation and maintenance, frequently asked questions, and cost of these devices.
- A two-day training workshop on change management for staff from MWI, WDMU, WAJ, Miyahuna, Aqaba Water Company and NGWA. The purpose of the training was to expose participants with the driving and restraining forces in the external and internal environments, and the inevitability of change as well as introducing them to different change management models.
- Design of a commercial and residential audits and end-use analysis programs (Task 1.4) that include on-the-job training for private sector companies to build their capacities in providing WDM services.
- A seminar for mayors on water-wise landscape principles and four training sessions for municipalities’ staff (See Task 3.1.2).
- Funding of the training activities conducted by Mercy Corps for CBOs on loan management, proposal writing and technical training (See Task 3.3).

Task 1.8: Introduce and promote drought response principles in the water community

Given that this activity involves limited level of effort; its deliverable was postponed to February 2009 to combine its SOW with other tasks in order to leverage funds.

IDARA has identified a consultant to work on this task and prepared a preliminary SOW for this task. The SOW will be finalized and ready in November 2008.

IDARA has also invited Ms. Halla Razaq, Director of Colorado River Programs in San Diego, California, to give a presentation in early November 2008 about Southern California experience on drought response and water transfer from the agriculture sector to the urban sector.

Task 1.9: Design, administer, and institutionalize a yearly event to recognize individuals, institutions, and industries that help advance water efficiency

In September 2007, IDARA project contacted the King Abdullah II Center for Excellence to explore the opportunity of integrating water efficiency within the King Abdullah II Award for Excellence. The

response received from the Executive Director of the center was not promising due to the fact that the timing of the IDARA contact coincided with the amendment of the selection criterion by the board; and that such a process would take two-three years. As a result, IDARA in agreement with the WDMU and USAID decided to adopt a different approach to implement this task. IDARA in cooperation with the WDMU formed an award task force, assigned roles, and drafted an award application. In addition, IDARA, through a contribution of an advertizing agency, developed a draft slogan and logo for the award. However, and as per the request of the project CTO, a second contact was made with the King Abdullah II Center for Excellence to try to ingrate water efficiency in the center's award. The CTO directions were legitimate due to the fact that without a formal institutional hosting, the award would not be sustainable. As a result, IDARA contacted the King Abdullah II Center for Excellence to explore this option again.

An action plan was jointly developed by the King Abdullah II Center for Excellence staff, WDMU Director and IDARA team to integrate water efficiency in the King Abdullah II Award for the Public and Private sectors. The integration of water efficiency sub-criteria will be announced on the upcoming award ceremony planned on March 2009. The King Abdullah Award for Excellence will provide an exceptional platform for creating a culture of water efficiency in Jordan. By integrating water efficiency sub-criteria in the King Abdullah II Award for Excellence for the private and public sectors, IDARA is thus supporting both the Ministry of Water and Irrigation and the King Abdullah II Center for Excellence, in designing, administering and instituting a yearly event to recognize institutions that help advance water efficiency.

Task 2.1: Assist in creating a stakeholder-driven WDM policy program

IDARA gave a presentation to the Royal Water Committee on the tools for implementing water demand management in Jordan with the objective of embedding WDM in the National Water Strategy.

IDARA staff also met with the Royal Committee consultant and provided information for the development of Jordan's Water Strategy 2008-2022.

Design of activities to facilitate implementation of the approved WDM Policy with stakeholders is underway.

Subtask 2.2.1: Develop a National Standardized Plumbing Code

IDARA reviewed the existing plumbing codes in Jordan and recommended to use the Uniform Plumbing Code (UPC) of the International Association of Plumbing and Mechanical Officials (IAPMO) in Jordan, which is considered an international code and is regularly updated every three years.

A review of current Jordanian plumbing codes was initiated during the first quarter of the project. Through the JNBC, a plumbing code Technical Committee, or working group, was formed. The first meeting of the Technical Committee took place in July 2007.

IDARA worked with the Jordan National Building Council (JNBC) technical committee to review the existing Jordanian plumbing codes and reach a consensus to adopt the UPC in Jordan. At first, the technical committee was reluctant to adopt a totally new plumbing code for Jordan and expressed a preference for modifying the existing two codes. IDARA staff attended all the 22 meetings held by the committee, between July 2007 and January 2008, and pointed out the advantages of adopting the UPC in Jordan, with local amendments. To facilitate the adoption of a new code, IAPMO offered to waive the code copyright for Jordan.

As a result, JNBC agreed to develop a new standardized plumbing code based on the UPC. To accomplish this task, IDARA, RSS and MPWH-JNBC signed an agreement in July 2008 to develop the code, for which IDARA will provide technical support and co-share the cost of developing the code with JNBC. The drafting of the code will be done by RSS.

IDARA contribution will be through a grant to RSS. The grant agreement is to be finalized and signed in October 2008.

The draft code is expected to be completed by October 2009.

Subtask 2.2.2: High Rise Code Recommendations

See Section 1.6.2

Task 2.3: Implement a Plumbing Materials Certification Program

A kickoff meeting for this task was conducted at the Jordan Institute for Standards and Meteorology on August 2, 2007, to get clarification on the approach and mechanism of developing and updating Jordanian Standards, especially those related to plumbing fixtures and appliances.

A meeting was conducted with JISM Equipment & Electrical Apparatus Committee on October 29, 2007. IDARA team presented the project and its main activities, and the task of implementing a plumbing and material certification program that will include working with JISM to develop technical specifications & standards for washing machines and dishwashers.

IDARA researched and purchased official copies of international and local technical standards related to plumbing products, home appliances and sanitary installations. International standards included ISO standards, British Standards Institute (BSI), European Committee for Standardization (CEN), and German Institute for Standardization (DIN), in addition to the US testing procedures for water efficient products. IDARA staff also reviewed water and energy efficiency programs (e.g. energy star, water sense program, etc) and prepared a table of water efficient standards. IDARA also reviewed existing Jordanian inspection laws and procedures on imported and exported products as well as WTO and TBT agreements. Additional meetings were held with related stakeholders at JISM, customs department and WAJ. A summary of the existing enforcement mechanisms for banning of non compliant products from Jordanian markets was completed.

IDARA and WDMU became members of the technical committee for plumbing products, and attended all its meetings. IDARA has drafted proposed faucet (flow regulator) and toilet technical standards for review by the JISM Technical Committee. It is anticipated that each draft standard takes at least two months for review by stakeholders and approval by JISM's board. Starting in Year 2, IDARA will be developing and presenting to JISM, technical specifications for showerheads, clothes washers, dishwashers, and water-using commercial products. IDARA will also be working with JISM to develop any new plumbing product specifications needed in Jordan for the new plumbing code and to revise any existing specifications that do not include a labeling requirement to add a labeling requirement.

A scope of work for an international consultant in Product Certification, Testing and Manufacturing Specialist has been drafted.

Task 2.4: Establish a "Master Plumbers" Vocational Training Program at the VTC

Assessment of VTC Plumbing Facilities

IDARA conducted site visits for several facilities at the Vocational Training Corporation (VTC) including Irbid and Ein Al Basha centers to assess their capability in implementing an advanced level of plumbing training and master plumber program. Then, called for the formation of a technical committee at the VTC for the development of the proposed master plumber program. The committee was established in October 2007.

In December 2007, IDARA prepared an assessment report on the plumbing training programs at the VTC. The report included the following recommendations:

- Upgrade of VTC plumbing training facilities in order to improve basic plumbing training courses.
- Carry out the proposed master plumber program independently from the current plumbing training available at the VTC.
- Use Texas experience in the design of the proposed master plumber program.

During investigation and assessment of VTC plumbing facilities, IDARA was informed that the National Employment and Training (NET) Company launched a training program for professions in the construction sector including plumbing. The program was carried out at the VTC's training facilities from January to April 2008. As a result, the plumbing lab was not available to be upgraded at that time. To mitigate this, IDARA met with the MOL and NET Company and was granted their cooperation in upgrading the VTC facility at Ein Al-Basha using the 100,000 JD of local currency allocated by USAID.

Upgrade of VTC Plumbing Lab

IDARA prepared tender documents for the renovation works and will supervise the contractor during implementation. IDARA also assisted the VTC in developing a list of required furniture and equipment for the plumbing lab. The renovation tender was released in July 2008 and the upgrade of the plumbing lab is expected to be completed by March 2009.

Master Plumber Program

IDARA started working with the VTC on developing a “master plumbers” program. However, the responsibility of accrediting and certifying skilled workers including plumbers was moved to the Employment-Technical and Vocational Education and Training (E-TVET) Council and will no longer be the responsibility of the VTC. The ETVET Council was established under the law No 46, which was enacted in June 2008.

Following this institutional change, IDARA conducted several meetings with the Ministry of Labor (MOL) and the E-TVET to develop a certified “master plumbers” program. The E-TVET Council agreed to consider “master plumbers” program as a pilot program that the council and MOL can use to establish an advanced certification for all trades. Moreover, a committee will be established by the ETVET Council in October 2008 to draft an agreement/MOU between the Council and IDARA and to develop the certification framework for “master plumber’s” program. The development of a certified program is expected to be completed in the fourth quarter of 2009.

IDARA made significant effort in adjusting the timeline of this task and bringing it back to track.

Task 2.5: Prepare a Work Plan to Implement a Labeling Program

IDARA developed surveys and conducted informative interviews and discussions with the leading local manufacturers and importers of water-using plumbing products and appliances. IDARA conducted a workshop on May 15, 2008 to get stakeholders feedback and solicit their input on the workplan. A draft copy of the workplan was prepared and discussed with stakeholders, then submitted in August 2008. A market survey report was submitted in the following month.

Following the review of the workplan report and the Market Survey Report, the CTO recommended taking opinion of customers on plumbing products and appliance labeling instead of just relying on the sales agents’ perspectives’ as to what motivates customers. IDARA has designed a SOW to this effect. The final version of the workplan will incorporate the results of the customers’ survey and clarification on the comments on the August 2008 draft.

Task 2.6: Identify WDM enforcement mechanisms and recommend the most feasible

IDARA reviewed and assessed the existing WDM policies, laws/bylaws, instructions and enforcement mechanisms set by the different ministries, and gave a presentation at the Water Law Conference, held on June 18-19, 2008. During the conference, IDARA presented the draft WDM policy, and assessed the limitation of the current laws in addressing the various policy statements. The presentation illustrated the need for the development of a law for the water sector. The final WDM legal assessment report was submitted in September 2008. The report spelled out the limitations of the current laws and provided recommendations to address WDM policy.

IDARA will also assess current enforcement mechanisms related to WDM policy and provide recommendations for incentive-based and regulatory tools.

This task is ahead of schedule.

Task 2.7: Develop mechanisms to finance the implementation of WDM projects

Grant Pool

IDARA drafted the grant manual, which was approved by USAID. IDARA is finalizing a proposed list of grants that are linked to IDARA's grants objectives. Priority will be given to grants that have the highest impact in saving water and instituting WDM measures and functions.

Fixed Obligation grant (FOG) to RSS: IDARA is finalizing a grant agreement with the RSS to be signed in October 2008. Under this grant, RSS will draft a new plumbing code for Jordan. The Grant amount is \$28,248.59

Global Development Alliance

In May 2008, IDARA identified potential private partners for partnerships with the utilities to implement and promote Water Demand Management (WDM) in Jordan. Private partners include PepsiCo, Coca-Cola, Zain, Orange, and Nuqul. Based on consultation with these private partners and the utilities, IDARA selected two models for Global Development Alliance and Public-Private Partnership (PPP) opportunities:

- Model one, Integrated Water Audit for Water Efficiency and Sustainability, targets high water users in manufacturing, processing, and tourism to improve water efficiency and contribute a portion of the value of water savings for sustainable funding streams in support of water saving retrofit programs at residence, schools, and health care facilities in urban poor neighborhoods.
- Model two, Pooled Corporate Social Responsibility for Water Demand Management among the Poor, targets private companies, which have corporate social responsibility (CSR) programs, for long-term partnerships with utilities to fund through CSR programs projects retrofit of water devices and equipment in poor urban areas.

Current CSR programs in Jordan are mainly focused on education and health. IDARA is working on innovative approaches to bring water on the radar screen of the private sector as a vital element for health and sustainable development. To this effect, IDARA has recently started a pilot program in Abu Nseir area, in collaboration with Miyahuna and the MWI Water Demand Management Unit, to demonstrate the effectiveness of water saving devices to the public as well as the potential private partners for PPP. In addition, IDARA will use part of its grant pool to cost-share with private partner(s), who have CSR programs, the replication of the water saving devices retrofit program in Abu-Nseir in collaboration with Miyahuna. This program will pave the way for a long-term alliance between the private partner(s) and Miyahuna for expansion of the retrofit program to other urban poor areas. IDARA will also seek through in its Audit/end use activity to establish a model one type partnership with Miyahuna and high private water users such PepsiCo.

IDARA conducted a training session on May 29, 2008 to introduce GDA and public-private partnership principles and tools applied to water use efficiency to the Ministry of Water and Irrigation, WDMU, Miyahuna, private companies and non-governmental organizations.

Global Partnership of Output Based Aid

IDARA discussed the Global Partnership of Output Based Aid (GPOBA) with Miyahuna to identify topics for the development of a proposal to secure GPOBA funds.

Development Credit Authority

IDARA has been exploring Development Credit Authority (DCA) opportunities with private sector specifically potential manufacturers of water-efficient equipment.

Task 3.1: Expand the urban landscape program introduced by WEPIA.

Subtask 3.1.1: Explore public conceptions of culturally desirable park space use to inform water-wise landscaping efforts

During the second quarter of the project, the survey and focus group content was prepared and an agreement reached with JOHUD, an outreach organization, to assist the project in contacting/organizing participants in the targeted geographic areas. Data collection started at the end of October 2007.

Surveys were conducted in six geographic locations: Irbid, Aqaba, Karak, Madaba, Mafraq, and Kafraïn. The implemented survey method was the personal interview. Personal interviews were conducted with twenty-four men and women of diverse age groups in each of the six geographic areas. A total of 132 interviews were completed.

All the data for a total of 132 interviews that were completed was inputted, analyzed, and evaluated. The final report on surveys was submitted in June 2008.

All milestones in this task have been completed.

Subtask 3.1.2: Train personnel from at least 70 of the 99 municipalities on water-wise landscape principles

Under the patronage of the Mayor of Amman, the one-day seminar for mayors entitled “Water-Wise Landscaping in Jordan” was held on December 16, 2007. A total of 163 participants attended the seminar. Sixty-five attendees represented GAM, and 77 attendees represented 58 municipalities. Sponsorship for the seminar was secured through support from GAM. The seminar informed the mayors about the IDARA Project and this task, in preparation for asking the mayors to send appropriate personnel from their municipalities to attend training courses on water-wise landscaping principles and applications for public parks and areas. Presentations in the seminar included the following topics: An introduction to water-wise landscaping; GAM’s practices in water-wise landscaping; a briefing on IDARA’s activities; water-wise parks established under WEPIA; and, a briefing on IDARA’s municipal training and park implementation programs.

The seminar was a success. There was a high attendance from the various municipalities, and the discussions following the presentations indicated an interest on the part of the mayors in nominating technical staff for training and participating in water-wise park building initiatives.

Two GAM employed trainers, with background in agricultural engineering, were identified and underwent knowledge-base assessment and training. The bi-weekly training sessions took place at the IDARA office. A member of the WDMU was also attended the training sessions as part of the capacity building initiative for the WDMU. The trainers studied the completed material and their queries were addressed during the regular bi-weekly meetings.

All training content comprising of 11 modules was completed in year one. The trainers studied the material and their comments were incorporated.

Four training sessions for municipalities have been successfully completed. The first was held in Amman (May 4 -7, 2008) for the Greater Amman Municipality, and the second was held in Irbid (June 16 – 19, 2008) for 18 municipalities that comprise all the municipalities within the Irbid Governorate, the third was held in Zarqa (July 27 – 30, 2008) for 6 municipalities within the governorate, and the fourth held in Tafila (August 17 – 20, 2008) for six municipalities in the governorates of Tafila and Karak. The training courses are ongoing.

Contact with municipalities to nominate technical staff to participate water-wise landscape training is carried out in coordination with the Ministry of Municipal Affairs (MOMA) to ensure timely responses and better coordination with the municipalities.

Field visits to the WEPIA-established parks were conducted and an assessment report was completed and submitted.

Contact has been made with MOMA to establish links with their park building program. Initial discussions regarding the possibility of IDARA's grants program funding water-wise components, such as irrigation systems, have taken place. A preliminary assessment of the three park prototypes, adopted by MOMA has also been completed.

Discussions with the MOMA regarding IDARA's participation in the development of six water wise parks are ongoing. MOMA has prepared a report on potential parks requiring technical and financial assistance for consideration from IDARA. The report on the six parks has been reviewed and irrigation estimates obtained from irrigation specialist.

IDARA provided training in water-wise landscape principles to six JOHUD employees participating in an awareness project called the "Water-Wise Women's Initiative" (Four women and two men). The participants were given a condensed version of the municipal training course and covered the following topics: Landscapes in history; the seven principles of water-wise landscaping; drought-tolerant plant materials; drawing techniques and graphic communication; and, planting design. This training was an in-kind exchange of services between IDARA and JOHUD. In exchange, JOHUD set up the logistics for IDARA, through their outreach centers, to reach urban stakeholders in different geographic areas for the conduction of surveys for Task 3.1.1.

Subtask 3.1.3: Introduce water-wise landscaping principles in the curriculum of agricultural faculties in at least two universities

A preliminary survey of landscape courses at universities has been conducted. It included both the faculties of architecture and agriculture at five Jordanian universities.

Subtask 3.1.4: Expand work with nurseries

The assessment report on WEPIA-established nurseries was completed and submitted. A revised strategy and schedule for completion of this task have been proposed.

Accordingly, IDARA is going to concentrate efforts in providing technical assistance to large government and/or large private sector nurseries. CBO owned nurseries will only be supported if sustainability could be insured after the conduction of rigorous evaluations.

A check-list for potential new sites that are interested in becoming nurseries was developed. The check-list was sent to JOHUD to fill out for potential sites under their supervision.

A meeting was held with JOHUD regarding potential CBOs interested in becoming nurseries. A JOHUD biodiversity site in Ajlun was identified as a suitable possibility.

The GAM nursery in Ain Ghazal was visited by the IDARA team in order to get an overview of their production facilities and product range and to further explore the potential for technical support in establishing an in-house drought tolerant tree nursery. Initial discussions for potential cooperation with the project have taken place.

A brainstorming session was held with GAM's Director of Nurseries and nursery consultant to discuss this further. GAM's nursery director has been approached to further explore the potential for technical support in establishing an in-house drought tolerant tree nursery.

The preparation of a business plan for the Productive Women's Cooperative Society Nursery in Marka has also begun in coordination with the nursery consultant.

Contact with ASEZA's Planning and Studies Department was made. The Planning and Studies Department sent IDARA copies of the Gensler guidelines (Masterplan guidelines for Aqaba) and the plant list adopted by the Saraya project. These lists have been reviewed for use later in the Project as potential product lines for new nurseries.

Subtask 3.1.5: Determine incentives for water-wise landscaping

Work on this task will be carried out in the second year of the project.

Task 3.2: Host a competition for best design of low-income water efficient houses in the highland and the Jordan Valley areas

In the first quarter of the project, a meeting was held with the Minister of Public Works and Housing to explore avenues whereby IDARA may provide conceptual designs for Government housing projects, thus gaining more visibility and possibly greater acceptance for the competition and the concept of water efficient housing.

A meeting was held with the Housing and Urban Development Corporation (HUDC) department responsible for providing low-income house designs to citizens. The meeting was held with the Director of Design Department at the Housing and Urban Development Corporation, to explore the potential for hosting the competition with one of the developers working on HUDC's housing villages. An agreement was made to pursue improving the adopted prototypes for water and energy efficiency. A letter was sent to HUDC to obtain information on these design prototypes given to citizens.

IDARA then contacted a representative from one of the development companies, TAMEER, to explore the company's interest in possible sponsorship. TAMEER expressed interest in working with IDARA on improving water-efficiency in their projects (particularly the Giza project for the limited-income sector), but no conclusion was reached. Future meetings are planned to further pursue this potential.

IDARA is exploring the possibility of building the Aqaba-prototype developed under the WEPIA project. Discussions with Habitat for Humanity took place and field visits to Habitat's sites have been conducted.

Discussions with ASEZA and ADC regarding the building of the Aqaba design competition prototype were started.

SABEQ has also been approached for the possibility of co-sponsorship of the competition and for the possibility of funding the building of the Aqaba prototype.

In response to a request to conduct the competition at an earlier date than planned in the proposal, IDARA will conduct the competition in Year 2.

Task 3.3: Provide plumbing services to poor rural areas.

This task originally entailed distributing 20,000 school bags in poor rural areas. During the Project Management Committee meeting on November 15, 2007, the Committee voted to revise this task to "providing plumbing services to poor rural areas".

During the fourth quarter, DAI submitted a request to modify task 3.3 to provide plumbing services to poor rural areas. IDARA signed a grant agreement in April 2008 with CBIWDM project -Mercy Corps to provide plumbing services to poor rural areas. According to the agreement, Mercy Corps will award seven grants of \$10,000 each to the seven CBOs.

Mercy Corps received 26 proposals for plumbing services; in which 14 were screened to be potential grantees. Based on the selection criteria, the Advisory Committee selected the seven CBOs.

An awarding ceremony for the seven CBOs was conducted in August 2008 at the Ministry of Water and Irrigation. Mercy Corps conducted three training workshops for these CBOs:

- Loan management training: one day training.
- Technical training: 2 day workshop.
- Proposal Writing

Task 3.4: Implement Best Management Practices in pilot areas

During the fifth quarter, a preliminary list of the best management practices that will be implemented in pilot areas was developed. This entailed a number of tasks including; retrofit of a pilot residential area with water saving devices, and implementation of a rebate program for toilets and another one for washing machines.

A concept paper was drafted for implementation of a pilot program in a residential area in Abu Nuseir Housing Complex. The paper detailed the objective of the pilot program and its linkage with other IDARA tasks, such as the grants, and the formation of a Global Development Alliance to replicate the program with Miyahuna in collaboration with the private sector.

Sample residential units were selected based on water consumption data provided by Miyahuna/CIS Department. A preliminary verification visit was made to cross match meters numbers and customers with that of the tables and GIS maps. Installation of the devices will take place during the month of October 2008.

This task is ahead of schedule.

4. SUMMARY OF ACCOMPLISHED ACTIVITIES AND DELIVERED SERVICES

Task	Deliverable	Actual Completion	Scheduled Completion as per workplan	Issues/ Comments
1.1	Three restructuring scenarios	November 2007	December 2007	
1.1	Institutional framework	October 2008	January 2008	Draft: Feb. 2008 Final: Oct. 2008
1.1	Restructuring scenarios workshop resulting in a consensus scenario	November 2007	February 2008	
1.2.1	Assessment report of the WDMU organizational structure within MWI	December 2007	October 2007	Draft: Oct. 2007 Final: Dec. 2007
1.2.1	Gap analysis report	October 2008	December 2007	Draft: Feb. 2008 Final: Oct. 2008
1.2.1	Transformation guidelines	October 2008	January 2008	Draft: Feb. 2008 Final: Oct. 2008
1.2.1	Strategic business plan	March 2008	February 2008	Draft: Feb. 2008 Final: Mar. 2008
1.2.1	Conduct two-day change management training workshop every six months starting in Year 2	August 2008	Every 6 months	First workshop
1.2.2	Initial draft policy	May 2008	May 2008	
1.2.2	Urban WDM Policy Workshop to discuss policy	November 2007	June 2008	
1.2.2	Agricultural WDM Policy Workshop to discuss policy	July 2008	June 2008	
1.2.2	Refine Policy to reflect stakeholder comments	July 2008	August 2008	
1.2.2	Adoption of the National Water Demand Management Policy for Jordan	August 2008	Year 2	
1.3	Assessment report of current and available data and determine deficiencies	March 2008	January 2008	Task leader could not join IDARA before end of October 2007
1.3	National water use information program plan	March 2008	Year 2	
1.5	Develop decentralized vision	January 2008	January 2008	
1.6.1	BMP Task Force Established	September 2007	September 2007	

Task	Deliverable	Actual Completion	Scheduled Completion as per workplan	Issues/ Comments
1.6.1	7 BMPs drafted for comment	August 2008	July 2008	
1.6.2	Hold Initial High Rise Workshop	July 2008	July 2008	
2.2.1	Establish Plumbing Task Force	July 2007	August 2007	
2.2.1	Review current plumbing Jordanian codes	December 2007	June 2008	MPWH needed time to make decision about code update approach
2.2.1	Sign agreement with MPWH and RSS to develop a new plumbing code.	July 2008	NA ²	
2.3	Identify rules and codes related to the manufacture and import of plumbing equipment and appliances	August 2008	August 2008	
2.3	Identify water efficiency specifications/regulations	August 2008	August 2008	
2.3	Draft water efficiency technical specifications/regulations for faucets toilets, and plumbing materials	August 2008	August 2008	
2.4	Assess Capability of existing VTC and other training facilities	December 2007	September 2007	
2.4	Prepare renovation tender documents for the VTC	July 2008	NA	
2.5	Work plan for labeling water-saving fixtures and appliances	August 2008	May 2008	Draft work plan
2.6	The final WDM legal assessment report was submitted	September 2008	NA	
2.7	Grant Guidelines and Manual Developed	July 2008 (Manual approval date)	April 2008	The approval process took several months.
2.7	Grants from CBIGP linked to Activity 3 investigated	April 2008	November 2007	Task 3.3 was changed to grant to CBIGP
3.1.1	Identify target groups in focus areas	August 2007	August 2007	
3.1.1	Prepare survey and focus group content	August 2007	August 2007	
3.1.1	Connect with counterpart outreach organizations/centers	September 2007	September 2007	
3.1.1	Establish task force	November 2007	November 2007	

² Not applicable since it was not mentioned in the First Year Workplan

Task	Deliverable	Actual Completion	Scheduled Completion as per workplan	Issues/ Comments
3.1.1	Conduct surveys	February 2008	January 2008	
3.1.1	Evaluate data	May 2008	March 2008	
3.1.1	Complete public perceptions report	June 2008	June 2008	
3.1.2	Visit and assess parks developed by WEPIA	September 2007	September 2007	
3.1.2	Identify municipalities and obtain information on managers and staff	September 2007	September 2007	
3.1.2	Identify 2 trainers	September 2007	September 2007	
3.1.2	Enlist mayors	October 2007	October 2007	
3.1.2	Hold seminar for mayors	December 2007	November 2007	
3.1.2	Mayors nominate staff to be trained	Year 2	February 2008	Nomination of staff is ongoing and is done through MOMA
3.1.2	Prepare content of training sessions	March 2008	March 2008	
3.1.2	Trainers trained	March 2008	March 2008	
3.1.2	Conduct water wise landscape training and field trips	April 2008	Year 2	
3.1.4	Assess nurseries established under WEPIA	January 2008	January 2008	
3.1.4	Identify and assess organizations to assist	July 2007	March 2008	
3.3	Identify the best mechanism to implement the program	January 2008	January 2008	
3.3	Develop Action plan and TOR to implement the program through CBIWDM	March 2008	March 2008	
3.3	Sign agreement and implement the program	April 2008	April 2008	
3.3	Identify potential beneficiaries and conduct field visits	June 2008	May 2008	
3.3	Select Beneficiaries and award grants	August 2008	July 2008	

5. SUMMARY OF PROBLEMS AND ISSUES FACED DURING IMPLEMENTATION AND MEANS OF ADDRESSING THEM

TASK 1.2.5- Design and build appropriate databases under WDMU as integral components of the Water Information System deployed at the MWI

Streamlining of the WDM data collection and data management started behind schedule due the following reasons:

1. Delays in identifying and hiring the Design Analyst and WDM Monitoring and Forecasting Specialist.
2. Streamlining of WDM data collection and data management cannot start before existing data are assessed as per deliverable one of task 1.3, i.e. the assessment report, and data gaps are identified, and collected. Accordingly a SOW for an ICT specialist, who was commissioned to carry out the necessary work, was drafted, and its implementation is underway.
3. Data collection is pending several activities including initial results from end use analysis – task 1.4.
4. Other pre-requisites include a) completion of the assessment of the existing data collection methods, data entry and warehousing systems for water uses currently deployed within the billing systems at the utilities, scheduled for completion in October 2008 under the 3rd deliverable of task 1.3, b). The database needs assessment and the development of a model for WDM data warehousing and exchange between the utilities and the WIS. This assessment can only start after item a) above is accomplished March 2009.

TASK 1.3- Strengthen the MWI Planning Directorate by establishing a national water use information program

Deliverable one of this task, “Report on assessment of current and available data”, was delayed for the following reasons:

1. The task started behind schedule due to delays in identifying and hiring the Design Analyst and WDM Monitoring and Forecasting Specialist.
2. IDARA was requested to hire a forecasting specialist to review the forecasting approach presented in deliverable one draft report which was submitted in March 2008. The review was finalized by Aquacraft in August 2008.

IDARA has made significant effort to catch up on this delay and is expecting to complete deliverable one along with deliverable two, “National Water Use Information Program Plan” in November 2008 since deliverable two is highly dependent on the recommendations of deliverable one. Note that deliverable two is due in the second year work plan.

TASK 1.4- Perform end-use analyses

The delay of deliverable one, “large consumers and residential users identified for analysis”, is mainly due to poor quality of billing data, thus requiring significant time and effort for data verification and validation. This deliverable will be completed in November 2008.

The end use analysis deliverable date was moved from August 2008 to December 2008 for the reasons below:

1. **Residential End Use:** Considerable amount of time was required to analyze flow conditions at residential units in Jordan due to complexity of water supply distribution systems

(intermittency of supply, low pressure after roof tank, dual solar-diesel water heating, etc). In addition to difficulties to schedule field trip for the Aquacraft consultants, who are highly in demand in the U.S., given that they are the only company that can provide highly specialized end use metering.

2. **Commercial End Use:** Delays of this task are mainly due to difficulties in accessing data from Miyahuna, and lack of reliable information.

A pilot area was therefore selected to work with a small set of data to enable identification of data problems at a small scale, before moving to the whole service area.

With support from the Director General of Miyahuna, IDARA succeeded to get all the data requested in October, 2008.

Task 1.5.1- Introduce regulatory incentive mechanisms to encourage utilities to adopt water demand management

During the design of WDM KPIs activity, it was realized that the WDM Policy and its legal assessment are pre-requisites to the development of the KPIs. Thus, IDARA postponed the development of KPIs till the completion of the WDM policies and the legal assessment of these policies. The deliverable date was shifted from August 2008 to March 2009.

Task 1.5.3- Assist the private sector in each utility area to establish WDM functions and services

The start and deliverable date of assessment of barriers and opportunities to participation in efficient water market are postponed to year three given that the assessment should be done after development of business plan for utilities.

TASK 1.8- Introduce and promote drought response principles in the water community

Given that this activity involves limited level of effort; its deliverable was postponed to February 2009 to combine its SOW with other tasks in order to leverage funds.

TASK 2.2.1- Develop a national standardized plumbing code

Drafting a new Plumbing Code for Jordan has been delayed due to the following reasons:

1. Reluctance of the Plumbing Code Technical Committee to adopt the UPC in Jordan. This entailed conducting 22 meetings, between July 2007 and January 2008, to review the Jordanian and the Uniform Plumbing Codes, and reach a consensus for adopting the UPC with some local amendments. To facilitate the adoption, IAPMO waived the UPC copyright for Jordan.
2. Cost of developing the Code. JNBC did not have enough fund to support this activity. To address this issue IDARA co-share the cost of developing the code with JNBC. An agreement between JNBC, RSS and IDARA was drafted and signed in July 2008 for development of code.

TASK 2.4- Establish a “Master Plumbers” Vocational Training Program at the VTC

This activity has witnessed significant delays in the upgrade of VTC’s plumbing lab in Amman for the following reasons:

1. The plumbing center was not available to be upgraded: In spring of 2008, all vocational training centers were undertaken by the newly established National Employment and Training Company to train their candidates.

2. Funding was not available in 2007: VTC didn't receive the allocated 180,000 JD from the local currency program of 2007 as the funds were allocated to another ministry by mistake.
3. Institutional shift in responsibility: The accreditation and certification of skilled workers will no longer be the responsibility of the VTC as it's now under the mandate of the E-TVET Council (under the umbrella of MOL). From now on, IDARA counterpart will be the MOL and the E-TVET Council.

As a result, there will be a delay in the completion of the upgrade works until March 2009 and for the Master Plumber task until the fourth quarter of 2009.

TASK 3.2- Host a competition for best low-income water efficient houses in the highland and the Jordan Valley areas

Securing funding for the competition and WEPIA prototype has taken more time than anticipated in the work plan. From the explorations conducted so far, the institutions and companies we have approached, expressed interest but have not made any financial commitments. IDARA will continue to search for potential sponsors but cannot specify a date as to when this could be secured. Building relationships with development companies takes time, and we are hoping to develop such relationships by providing technical assistance in the initial stages.

6. DELAYED ACTIVITIES/DELIVERABLES AND JUSTIFICATION

Task	Activity/Deliverable	Scheduled Completion as per workplan	Anticipated Completion	Reasons for Delay
1.2.5	Provide TA to streamline WDMU data collection and data management	March 2008	March 2009	<ol style="list-style-type: none"> No data are collected or stored in WDMU. This activity could only start after the review of the WDM data needs was made by Aquacraft (upon MWI request) and completed in July 2008. See also section 3 for more details
1.4	Conduct end use analyses for large consumers	August 2008	December 2008	<ol style="list-style-type: none"> Data acquisition and reliability issues. Delay in availability of consultants
1.4	Conduct end use analyses for residential uses	August 2008	December 2008	<ol style="list-style-type: none"> Lengthy feasibility testing period for data loggers. Lengthy acquisition of ordered equipment
1.5.1	WDM KPIs	August 2008	October 2008 (initial report)	Need to complete WDM policy and its legal assessment before developing the KPIs
1.5.3	Assessment report on barriers and opportunities for participation in water efficient markets	July 2008	March 2009	To be done after the development of business plans for utilities
1.8	Drought response guidelines distributed	August 2008	April 2009	Delay in availability of the consultant
2.2	Plumbing Code Drafted	August 2008	October 2009	See section 5 above
2.4	Upgrade training facilities	March 2008	December 2008	Upgrade to be done by VTC. See section 4 above.
2.4	Develop a “master plumbers” program	August 2008	August 2009	Counterpart changed. See section 4 above
3.1.4	Prepare business plan for PWCS nursery	June 2008	December 2008	Difficulty obtaining updated financial information from PWCS nursery

Task	Activity/Deliverable	Scheduled Completion as per workplan	Anticipated Completion	Reasons for Delay
3.2	Explore financing of WEPIA prototype	August 2008	TBD	This task is behind schedule (see Section 5, above)
3.2	Approach developers to sponsor competition	November 2007	Ongoing	Sponsors have been approached

7. ANNEXES

ANNEX I- MONITORING AND EVALUATION PLAN

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
Program Objective-Level: Instituting Water Demand Management in Jordan										
Total number of people trained (Management indicator)	People trained are those who have participated in project training activities.	This will allow the IDARA to monitor how many people have been trained through the project.	Number	Yr 1:195 Yr 2: 550 Yr 3: 350 Yr 4: TBD	Yr 1:549	Gender, type of participant (MWI, utilities, private sector, plumbers, etc.), location, topic of training	Project records	The Chief of Party and Activity Leaders will review project records	Annually	11
Number of beneficiaries (Management indicator)	Beneficiaries are those Jordanian citizens who have been assisted by the IDARA anywhere along the water demand supply chain	This will allow the IDARA to monitor total number of people who have been assisted by the IDARA.	Number	Yr 1: 600 Yr 2: 800 Yr 3 & 4: TBD	Yr 1: 977	Location, gender, sector, services area	Project records	The Chief of Party and Activity Leaders will review project records	Quarterly	3 and 11
Activity 1: Institutional Capacity for Water Demand Management										
Score on the Water Organization Capacity Assessment Tools (WOCAT) ³										
Task 1.1: Build consensus on WDM functions and institutions as part of the water sector reform and restructuring										
No performance measures needed, work plan milestones instead										
Task 1.2: Institute planning, allocation, and monitoring functions at the WDMU										
WDM Functional Operations Milestone scale score ⁴	The Functional Operations Milestone tracks the capability of key water demand functions, focused on planning, regulatory, and operational functions. The	This indicator will measure the process of effective functioning of WDMU operations in order to better	Score	Yr 1, 2, 3 & 4: TBD	WDMU score: 15	Function, level of decentralization	IWDMJ staff, USAID SO team staff, and WDMU	The IWDMJ team, along with WDMU key staff, the USAID SO team, and other	Annually	

³ This indicator was used to measure the performance of IDARA under Task 2.5

⁴ The assessment of WDMU functions and operations has been included as part of the WOCAT assessment tool under Task 2.5 in the second year work plan of IDARA. Therefore, this indicator has been removed from year 2 work plan.

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
	Milestone lists 10 stages, and progress from each stage is weighted according to importance.	manage water demand in Jordan.					staff	stakeholders, will score each key function along the milestones, tracking progress from year to year. It is suggested that this be done at the same time as the portfolio review process within the Mission.		
WDMU Policy Milestone Scale Score	The Policy Milestone tracks the progress of key water policies, from the provision of input by water entities including NGOs, to the drafting of policy language, through the approval process, to the promulgation of the new policy(ies), to the training of WDMU and others on the policy(ies), and finally to the corrective actions taken in response to the new policy(ies). The Milestone lists 8 stages, and each completed stage is assigned 1 point, and maximum possible points= 8.	This indicator will measure the process of passing and enforcing WDMU policies needed for improved management of water demand in Jordan.	Score	Yr 1: TBD Yr 2: 7 Yr 3 & 4: TBD	Yr 1: 6	Policy Topic	IDARA Staff, USAID SO team staff, and WDMU staff	The IDARA team, along with WDMU key staff, the USAID SO team, and other stakeholders, will score each key policy along the milestones, tracking progress from year to year. It is suggested that this be done at the same time as the portfolio review process within the Mission.	Annually	2
Number of types of members on the National	The National Water Alliance is a forum that will include a	The National Water Alliance will serve as	Number	Yr 1: 6 Yr 2, 3 & 4:	Yr 1: 0	Organization type	Project records,	Activity 1 Leader will	Annually	

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
Water Alliance ⁵	broad representation of water demand stakeholders. Types include representatives from private-sector entities (businesses, utilities, associations, NGOs, etc.) and public sector entities (ministries, municipalities, local governments, etc.).	a forum for participatory decision making and for building consensus. As membership in the Council expands, different perspectives and knowledge will be incorporated into planning, allocation decisions, and monitoring of the functions of the WDMU.		TBD		(public/private)	organization records	review project data and Alliance meeting notes		
Number of linkages formed to support WDM functions and programs ⁶	Linkages, between organizations such as committees, working groups, task forces, etc., can be formal or informal, but must meet regularly or as triggered by an agreed-upon event. Linkages are formalized to bring together staff from a variety of groups within the WDM community to conduct collaborative problem solving together.	As linkages bring about collaborative problem solving on water issues, better decisions and processes will be developed within the WDM community. In addition, trust between the WDM groups will improve.	Number	Yr 1: 4 Yr 2: 40 Yr 3 & 4: TBD	Yr 1: 32	Private institutions, public institutions, and NGOs:	WDMU Project records	IDARA team WDMU staff	Quarterly	2
Number of institutions with improved water-use and demand management information ⁷	Data related to WDM requires to be collected and integrated into existing systems at MWI and the utilities through the development of appropriate database tables	As the water community adopts, integrates and learns to effectively utilize databases and exchange information, it will	Number of database tables updated, or designed and implemented	Yr 1: 0 Yr 2: 7 Yr 3 & 4: TBD	Yr 1: 0	Type of database (end-use, billing, demand forecasting, GIS data tables), type of	Utilities and/or MWI systems	Team leader/ WDM monitoring and forecasting will review and assess score	Annually	10

⁵ This indicator has been found not applicable. Therefore, it has been removed from the second year work plan.

⁶ During implementation of IDARA, this indicator has been slightly changed

⁷ During implementation of IDARA, this indicator has been added to track the number of institutions with improved water-use and demand management information.

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
		allow improved planning and allocation of resources at the planning level and improve operations and decision making.				information managed				
Task 1.3: Strengthen the MWI Planning Directorate by establishing a national water use information program										
Number of sources included in national water use information systems	Sources are those water demand entities that generate data that are critical to WDMU's capability of producing accurate reports. Sources can include water users such as hotels, households, and water suppliers, etc., as well as metered data. The information system is the collection and analysis process within the WDMU.	This will directly measure whether the WDMU is using data from all available and relevant sources.	Number	Yr 1: 0 Yr 2: 17 (8 external, 9 internal) Yr 3 & 4: TBD	Yr 1: 11 (2 external, 9 internal)	Internal and external institutions	Project records, WDMU records	The Chief of Party and the Team Leader/ WDM monitoring and forecasting will review project records	Annually	10
Task 1.4: Perform end-use analyses										
Number of stakeholders involved with the end-use analyses	End-use analyses are equivalent to water audits conducted within key industries/users groups. Stakeholders include the hotel industry, hospital industry, etc., as well as the WDMU, utilities, and other water entities.	This indicator measures the extent to which stakeholders reference and apply end-use analysis data. The more the stakeholders participate in end-use analyses, the more likely they will implement water savings and better management practices.	Number	Yr 1: 6 Yr 2: 12 (5 internal, 7 external including 2 private companies) Yr 3 & 4: TBD	Yr 1: 0	Internal and external institutions	Project records	The Team Leader/ WDM monitoring and forecasting will interview key stakeholders	Annually	11
Number of information gathering or research	Water users include industries, municipalities, etc.	This indicator measures the number	Number	Yr 1: 1 (Profiling of	Yr 1: 1 (Profiling	Stakeholders (industry,	Project records,	The Team Leader/ WDM	Annually	12

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
activities related to profiling water users and analyzing municipal consumption patterns ⁸		of activities focused on profiling water users and analyzing municipal consumption patterns.		large consumers for Miyahuna) Yr 2: 1 (same as above) Yr 3 & 4: TBD Yr 4: TBD	of large consumers for Miyahuna)	municipality, etc.)	MWI and utility records	monitoring and forecasting will review with MWI, utilities and municipalities		
Number of end-use analyses carried out independently by MWI and utilities	End-use analyses are equivalent to water audits conducted within key industries/users groups. Carried out independently means that the MWI and/or utilities conduct their own end-use analyses without funding by donors.	This indicator measures the progress IDARA is making in conducting end use analysis of customer categories.	Number	Yr 1: 8 Yr 2: 15 residential, 37 commercial, Yr 3 & 4: TBD	Yr 1: 0	User categories and service areas (utilities)	Project records, MWI and utility records	The Team Leader/ WDM monitoring and forecasting will review project and other records	Annually	7

⁸ During implementation of IDARA, this indicator has been added to track the number of information gathering or research activities related to profiling water users and analyzing municipal consumption patterns

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
Task 1.5: Assist in the establishment of a decentralized system for water demand management functions										
Score on the Water Organization Capacity Assessment Tool (WOCAT)	The WOCAT scores water entities along 7 dimensions that are critical to effective operations of organizations (governance, management practices, human resources, financial resources, service delivery, external relations, and sustainability). Each dimension is scored along a 7-point scale, where 0 = N/A, 1 = needs urgent attention, all the way to 6 = acceptable, needs maintaining. Then all the dimension totals will be added together to get the water organization's final score for the year.	In order to measure our progress in creating effective organizations, we will use the assessment tool to evaluate their capacity by looking at governance, management practices, human resources, financial resources, service delivery, external relations, and sustainability.	Score	Yr 1: 21 Yr 2: Miyahuna score: 21 out of 42. AWC score: 19 out of 42. NGWA score: 17 out of 42. WDMU score: 21 Yr 3 & 4: TBD	Yr 1: Miyahuna score: 12 out of 42. AWC score: 12 out of 42. NGWA score: 9 out of 42. WDMU score: 15	Institution	Project records, organization records	The Chief of Party will review and assess the scores	Annually, to be completed for project's annual report	
Number of training participants ⁹	Training includes those training activities focused on implementing water audits, commercial and code enforcement, etc. and managed by IWDMJ, or by IWDMJ partners, or by other organizations using IWDMJ training curricula. Participants are those people who have completed the training.	This will track the number of people who have been trained through IWDMJ. As the capacity of the WDMU-related entities increases, they will be able to better manage water demand in their localities.	Number	Yr 1: 0 Yr 2: 120 Yr 3 & 4: TBD	Yr 1: 102 (60 males, 42 females)	Topic, gender, institution, location	Project records, institutional records	The Training and Outreach Expert will review each organization	Quarterly	3, 11
Task 1.6.1 Develop BMP guides on conservation of nonagricultural water										
Number of best management practices (BMP) guides developed	A best practice is defined as the optimum possible way of doing something. A best	This indicator will measure the identification of best	Number	Yr 1: 0 Yr 2: 3	Yr 1: 0	Topic of best practice	Project records	Number of BMP guides submitted to	Annually	2

⁹ This performance indicator has been removed from the second year work plan as it is already included under Task 1.7.

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
on water conservation and non-agricultural water ¹⁰	practice is formulated after the study of specific business or organizational case studies to determine the most broadly effective and efficient means of organizing a system or performing a function.	practices that will help improve water demand management and conservation in selected non-agricultural sectors.		Yr 3: 3 Yr 4: TBD				USAID		
Task 1.6.2 Develop BMP Guide for High Rise Buildings										
Number of stakeholders involved in the development of BMPs	Developing a sense of ownership by stakeholders is important to successfully implementing BMPs	This indicator measures the extent to which stakeholders reference and apply BMPs. The more the stakeholders participate in BMP development, the more likely they will implement BMPs.	Number	Yr 1: 73 (56 external, 17 internal) Yr 2: 73 Yr 3 & 4: NA	Yr 1: 73 (56 external, 17 internal)	Internal and external institutions	Project Records	The Senior Technical Advisor will review sign in sheets for workshops and meetings	Annually	4
Task 1.7: Provide training and capacity building to promote water demand management										
Score on the Water Organization Capacity Assessment Tool (WOCAT)	The WOCAT scores water entities along 7 dimensions that are critical to effective operations of organizations (governance, management practices, human resources, financial resources, service delivery, external relations, and sustainability). Each dimension is scored along a 7-point scale, where 0 = N/A, 1 = needs urgent attention, all the way to 6 = acceptable, needs maintaining. Then all the dimension totals will be added together to get the water organization's final	In order to measure our progress in creating effective organizations, we will use the assessment tool to evaluate their capacity by looking at governance, management practices, human resources, financial resources, service delivery, external relations, and sustainability.	Score	Yr 1: 0 Yr 2: Miyahuna score: 21 out of 42. AWC score: 19 out of 42. NGWA score: 17 out of 42. WDMU score: 21 Yr 3 & 4: TBD	Yr 1: 0	Institution	Project records, organization records	The Training and Outreach Expert will review and assess the scores	Annually, to be completed for project's annual report	

¹⁰ During implementation of IDARA, this indicator has been slightly changed to cover the development of BMP guides

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
	score for the year.									
Average score on individual skills assessment rating	Skills and knowledge are defined as those key areas that the trainings have focused on, to build the capacity of individuals within water demand institutions key to project results. The short skills/knowledge assessment tool will be based on the content of the training.	An increase in skills and knowledge will improve the ability of staff in organizations to better manage water demand.	Score	Yr 1, 2, 3 & 4: TBD	Yr 1: 0 (not applicable)	Location, gender, topic of training, participant type	Project records, organization records. This assessment tool may be used twice for each training participant: first, immediately before the training begins; second, immediately after the training ends.	The Training and Outreach Expert will review each organization	Annually	
Number of training participants	Trainings are those training activities focused on water demand management and managed by IDARA, or by IDARA partners, or by other organizations using IDARA training curriculum. Participants are those people who have completed the training.	This will track the number of local and municipal water staff, and others associated with water demand management at the local level who have been trained. As the capacity of the local and municipal staff increases, their skills will improve, and the capability of their institutions to make decisions about water will be	Number	Yr 1: 0 Yr 2: 120 Yr 3&4: TBD	Yr 1:102 (60 males, 42 females)	Topic, gender, institution, location	Project records, institutional records	The Training and Outreach Expert will review each organization	Quarterly	3, 11

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
		strengthened.								
Task 1.8: Introduce and promote drought response principles in the water community										
Number of information gathering or research activities related to drought response principles ¹¹	Drought response principles are rules or standards for dealing with drought that have worked in other countries.	This indicator will track the number of research efforts to identify relevant principles from other drought responses throughout the world.	Number	Yr 1: 0 Yr 2: 1 Yr 3& 4: NA	Yr 1: 0	Type of drought response principles (chronic, acute)	Project records, institutional records	IDARA will carry out the research	Once- in year 2	12
Number of drought response principles that have been introduced and promoted by utilities and WDMU	Introduced means brought in and established from another country into Jordan. Drought response principles are rules or standards for dealing with drought that have worked in other countries. Promoted means that these principles are printed or used in media campaigns	This indicator will measure both the identification of relevant and possible principles from other drought responses throughout the world, and of the promotion of those introduced principles within the Jordanian context.	Number	Yr 1: 0 Yr 2: 15 ones introduced and 2 used Yr 3 & 4: TBD	Yr 1: 0	Principles introduced and principles promoted	Project records, institutional records	The Team Leader/ WDM monitoring and forecasting will track the number of introduced and promoted principles	Annually	12
Task 1.9: Design, administer, and institutionalize a yearly event to recognize individuals, institutions, and industries that help advance water efficiency										
Number of integrated events accepted by national water entities as part of a national campaign ¹²	Integrated events are those that include both upstream and downstream water stakeholders, as well as combining several related mediums for each event. Events are those planned occurrences to promote water efficiency within a wide/broad audience throughout Jordan.	This indicator will measure the acceptance by key Jordanian water entities of a critical project milestone.	Number	Yr 1: 1 Yr 2: 1 Yr 3: 1 Yr 4: 1	Yr 1: 0	Location, Event	Project records	Team Leader will track and review project information and interview key water entities	Annually	

¹¹ This indicator is added to year 2 work plan as it is found needed for assessing the progress of this task.

¹² This indicator has been removed from year 2 work plan, and replaced with the number of organizations score on the water efficiency sub-criteria under the King Abdullah II Center for Excellence Award

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
Number of organizations who scored on the water efficiency sub-criteria under the King Abdullah II Center for Excellence Award	Scoring on water efficiency sub-criteria will include retrofit, water saving devices, leak detection, water harvesting, gray water reuse, recycling, etc.	This indicator will track the number of organizations who implement water efficiency measures.	Number	Yr 1: NA Yr 2: NA Yr 3 & 4: TBD	Yr 1: 0 (not applicable)	Utilities, public, private entities	King Abdullah II Award for Excellence records	The Training and Outreach Expert will track and review project records	Annually	5
Activity 2: Enabling Institutional and Legal Environment										
Task 2.1: Assist in creating a stakeholder-driven WDM policy program										
Number of stakeholders involved in policy change	Stakeholders include utilities, Government of Jordan ministries, plumbing companies, and other water entities. Policy designates a process. This process includes the elaboration of programs by different, usually public and private collective actors and the way the programs are then applied as concrete programs and actions.	This indicator will measure the commitment of water entity stakeholders in changing and improving policy.	Number	Yr 1: 6 Yr 2: 68 Yr 3 & 4: TBD	Yr 1: 68	Internal and external institutions	Project documents	The Senior Technical Advisor will review project documents	Annually	4
Task 2.2.1 Develop a national standardized plumbing code										
Percentage of approved new standards that meet or exceed International Standards ¹³	International Association of Plumbing and Mechanical Officials and others (International Code Council) have established minimum plumbing codes for global application. International standards are a set of rules or principles that articulate the minimum necessary for safe or effective operations.	This indicator will measure the degree of parallel between Jordanian plumbing code and the international standards for plumbing. The greater the parallel, the greater the likelihood that Jordanian codes will	Percent	Yr 1: 0 Yr 2, 3 & 4: TBD	Yr 1: 0	Meet/Exceed	IAMPO, ICC, Project documents	Activity 2 Leader will review each standard code and Jordanian codes	Annually	2

¹³ During implementation of IDARA, this indicator has not been found adequate to assess the performance of IDARA on this task. Therefore, it has been removed from year 2 work plan.

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
		help improve safety and service quality standards.								
Total number of public documents with new codes disseminated ¹⁴	Public documents include guides, checklists, manuals, or other media that are available in the public. New codes are those plumbing codes that meet or exceed international standards.	This indicator is a proxy for GOJ approval of national standardized plumbing codes.	Number	Yr 1: 0 Yr 2, 3 & 4: TBD	Yr 1: 0	Type (posters, handbook, guides, information packets, PSAs)	Project records, organization records	Activity 2 Leader will review project documents	Annually	2
Total number of people trained on the new codes ¹⁵	Once implemented, the new codes will need to be disseminated through public documents such as guides, checklists, manuals, as well as training and workshops.	This indicator will convey the extent of dissemination of the new codes implemented.	Number	Yr 1: 0 Yr 2: 0 Yr 3: 20 Yr 4: TBD	Yr 1: 0	Type (posters, handbook, guides, information packets, PSAs)	Project records, organization records	The Program Manager will review project documents	Annually	11
Task 2.2.2 Draft a report that recommends to the Ministry of Water and Irrigation the specifications on water that need to be incorporated into a potential High-rise Building Code										
No. of recommended practices to include in High Rise Code	A recommendation is a practice that can improve water efficiency in a high rise building	Water efficiency will be improved as more recommended practices are identified	Number	Yr 1: NA Yr 2: 5 Yr 3 & 4: NA	Yr 1: 0 (not applicable)	NA	Project records	The Senior Technical Advisor will review project records	Annually	
Task 2.3: Implement a plumbing materials certification program										
Number of rules and codes identified ¹⁶	Plumbing materials to be certified means those materials for which JISM has adopted specifications.	This indicator will measure the acceptance of plumbing materials certification.	Number	Yr 1: 5 Yr 2, 3 & 4: TBD	Yr 1: 0	N/A	Project records	Activity 2 Leader will review project documents	Annually	2
Number of technical standards drafted for	Plumbing materials to be certified means those water	This indicator will measure the drafting	Number	Yr 1: 1	Yr 1: 1	N/A	Project	The Senior Technical	Annually	12

¹⁴ During implementation of IDARA, this indicator has not been found adequate to assess the performance of IDARA on this task. Therefore, it has been removed from year 2 work plan.

¹⁵ Added to year 2 work plan to replace the originally proposed indicators

¹⁶ This indicator has been replaced with “the number of technical standards drafted for Jordan”

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
Jordan ¹⁷	using products for which a JISM technical committees have completed a draft standard	of JISM standards for water using products		Yr 2: 2 Yr 3 & 4: TBD			records	Advisor will review project documents		
Task 2.4: Establish a “master plumbers” vocational training program at the VTC										
Number of master plumbers trained in certification programs	Plumbers are those who are trained.	This will raise the quality of plumbing services.	Number	Yr 1: 0 Yr 2: 10 Yr 3: 50 Yr 4: 40	Yr 1: 0	Program, gender, location	Project records, program records	The Program Manager will review each program	Annually	11
Task 2.5: Prepare a workplan to implement a labeling program										
Number of types of appliances and fixtures with labels in place in the market ¹⁸	Plumbing appliances and fixtures include: dish-washers, clothes washers, faucets, shower heads, etc. Labels indicate how much water the appliance or fixture uses. In the market means that it is available for sale (retail or wholesale).	This indicator will measure the availability of types of fixtures and appliances that are labeled. The more types of appliances and fixtures that are labeled and available, the greater the chances are that plumbing construction will be effective and efficient.	Number	Yr 1: 10 Yr 2, 3 & 4: TBD	Yr 1: 0	Type of fixture/appliance, Location of market, Type of label	Plumbing companies, markets, project records	Activity 2 Leader will review project documentation	Annually	
Number of research and information gathering activities to identify the types of appliances and fixtures with labels in place in the market ¹⁹	Plumbing appliances and fixtures include: dish-washers, clothes washers, faucets, shower heads, etc. Labels indicate how much water the appliance or fixture	This indicator will quantify the number of activities focused on the availability of types of fixtures and appliances that are	Number	Yr 1: 1 Yr 2: 1 (depending on funding of labeling	Yr 1: 1	Type of fixture/appliance, Location of market, Type of label	Plumbing companies, markets, project records	The Senior Technical Advisor will review project documentation	Annually	12

¹⁷ This indicator has been added to replace the old indicator (i.e. number of rules and codes identified)

¹⁸ This indicator has been removed from year 2 work plan and is replaced with the “Number of research and information gathering activities to identify the types of appliances and fixtures with labels in place in the market”

¹⁹ This indicator is added to year 2 work plan to assess the performance of IDARA in Task 2.5

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
	uses. In the market means that it is available for sale (retail or wholesale).	labeled.		workplan) Yr 3: 1 Yr 4: 1						
Number of stores/shops that carry labeled appliances and fixtures	Plumbing appliances and fixtures include: dish-washers, clothes washers, faucets, shower heads, etc. Labels indicate how much water the appliance or fixture uses. Store/shop means an entity that sells appliances at retail or wholesale.	This indicator will measure the number of stores that sell labeled products. The more stores that sell labeled products, the larger will be the availability of labeled products. This may be a proxy for demand among both the retailers and wholesalers, and for the ultimate customer for labeled materials.	Number	Yr 1: 10 Yr 2: TBD Yr 3 & 4: TBD	Yr 1: 0 (not applicable)	Type of fixture/appliance, Location of market, Type of label	Plumbing companies, markets, project records	The Senior Technical Advisor will review project documentation	Annually	5
Task 2.6: Identify WDM enforcement mechanisms and recommend the most feasible										
Percentage of plumbing code enforcement recommendations accepted by the Government of Jordan / MWI	Recommendations are those enforcement options that are most likely to work in Jordan, based on stakeholder assessments. Accepted means that the GOJ (and/or MWI) has reviewed and approved of the enforcement mechanisms recommended.	This indicator is a measure for the level of Government support for WDM.	Percentage	Yr 1: 0 Yr 2: NA Yr 3 & 4: TBD	Yr 1: 0 (not applicable)	Punitive/incentive	Project documentation	The Chief of Party will review acceptance process of GOJ and/or MWI	Annually	2
Task 2.7: Develop mechanisms to finance the implementation of WDM projects										
Number of mechanisms to finance the implementation of WDM projects in place	Financial mechanisms can include grants, contracts, loans, joint ventures or other mechanisms that support water demand management projects. In place means that they have been approved (through a MOU or other	This indicator will measure the number and types of financial mechanisms in place for WDM projects in Jordan.	Number	Yr 1: 1 Yr 2: 2 Yr 3 & 4: TBD	Yr 1: 0	Type of financial mechanisms	Project documentation	The Chief of Party will review project documentation	Annually	

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
	agreement) that is binding.									
Dollar value of financial instruments in place	Financial instruments can include: grants, contracts, loans, joint ventures or other mechanisms that support water demand management projects. In place means that they have been approved (through a MOU or other agreement) that is binding.	This indicator will measure the value and types of financial instruments for WDM projects in Jordan.	Number	Yr 1: 0 Yr 2: TBD Yr 3 & 4: TBD	Yr 1: 0	Type of financial instruments	Project documentation	The Chief of Party will review project documentation	Annually	
Activity 3: Demonstrate Selected Water Demand Management Initiatives to the Public										
Task 3.1: Expand the urban landscape program introduced by WEPIA										
Number of water-wise public parks landscaped designs developed for public parks	Water-wise landscaping is an environmentally friendly form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs, and ground cover. Public landscaped designs are plans for public spaces/parks.	This measure will indicate the incorporation of water-wise landscaping principles in public parks.	Number	Yr 1: 0 Yr 2: 6 Yr 3 & 4: NA	Yr 1: 0	Location, size	Project records	The Landscape Specialist will review project documentation and interview notes	Annually	
Number of people trained in water-wise landscaping principles	Water-wise landscaping is an environmentally friendly form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs, and ground cover. Trainings are those training activities focused on water-wise landscaping and managed by IDARA, or by IDARA partners, or by other organizations using IDARA approved training curriculum. Participants are those people who have completed the training.	This will track the number of people who have been trained in water-wise landscaping. As the knowledge and understating of water-wise landscaping principles increases, water management demand should rationalize. This indicator also measures the demand for water-wise landscaping among landscape	Number	Yr 1: 105 Yr 2: 75 Yr 3 & 4: TBD	Yr 1: 74	Gender, location	Project records, program records	The Landscape Specialist will review each program	Annually	3

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
		professionals and organizations.								
Number of public parks converted/ or created based on water-wise landscaping principles that are maintained after project resources end ²⁰	Public parks will be located in the larger municipalities within Jordan, and are free for the public to enjoy and visit. Water-wise landscaping is an environmentally friendly form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs, and ground cover. Converted means that the parks were originally designed based on non-water-wise landscaping principles, and have been redesigned. Created means that no park and/or no water-wise landscaping existed previous to the project activity. Maintained means that the parks have the resources (financial and technical) to continue to exist after project resources end.	This indicator will track the number of completed parks water-wise landscaped through project efforts, and maintained by the municipalities and IDARA. This will measure the relevance and acceptance of water-wise landscaping principles at the local level by Jordanians.	Number	Yr 1: 0 Yr 2: NA Yr 3 & 4: 6	Yr 1: 0 (not applicable)	Location	Project records, IDARA records, municipal records	The Landscape Specialist will review project records	Annually	
Number of institutions of higher- education adopting water-wise landscaping principles into their curriculum	Institutions of higher-education are those universities and colleges within Jordan. Adopting means that either an entire curriculum and degreed program exists for water-wise landscaping, or that curriculum at the course level exists. Water-wise	This indicator will measure whether the principles of water-wise landscaping have been accepted within Jordanian higher-education institutions as a part of their curriculum.	Number	Yr 1: 0 Yr 2: NA Yr 3 & 4: 2	Yr 1: 0 (not applicable)	Specific water-wise landscaping curriculum / inserted into existing agricultural curriculum, university	Project records	The Landscape Specialist will review each program	Annually	

²⁰ This indicator has been changed to assess the number of water-wise public parks that have been converted or created by IDARA rather than assessing the percentage.

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
	landscaping is an environmentally friendly form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs, and ground cover.									
Number of university agricultural students completing classes which include water-wise landscaping principles	Completing means that they have passed the water-wise landscaping class. Water-wise landscaping is an environmentally friendly form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs, and ground cover.	This indicator is a proxy measure for demand for classes on water-wise landscaping at the universities. As well, it is an indicator that the university has adopted water-wise landscaping into the curriculum.	Number	Yr 1: 0 Yr 2: NA Yr 3 & 4: TBD	Yr 1: 0 (not applicable)	University of Jordan, Mu'tah University, JUST	Faculty records	The Landscape Specialist will review each program	Annually, probably only after year 3 of the IDARA team project	3
Task 3.2: Host a competition for the best low-income, water-efficient houses in the highland and Jordan Valley areas										
Number of design entrants to competition	Design entrants are submitted by teams of architects, students, apprentices, engineers, master plumbers, landscapers, interior designers, etc. The competition is for the best low-income, water-efficient house design.	This indicator will measure the number of designs submitted, and is a proxy for the interest and demand for low-income water-efficient housing.	Number	Yr 1: 0 Yr 2: TBD Yr 3 & 4: NA	Yr 1: 0 (not applicable)	Team location	Project records	The Landscape Specialist will review project records	Annually	
Number of strategies developed to finance building of prototypes or mass construction based on designs	Financing strategy means any public-private partnership to provide financial assistance or support. Design means a plan developed for low-income water-efficient housing under the competition of this Task.	This indicator will measure the marketability of the winning design for a low-income water-efficient house. It is a proxy for the builders' expectation that such a model will be in demand by home buyers in	Number	Yr 1: 0 Yr 2: NA Yr 3 & 4: TBD	Yr 1: 0 (not applicable)	Location	Project records	The Landscape Specialist will review each program	Annually	

Performance Indicator	Definition of Indicator	Justification/ Management Utility	Unit of Measurement	Target	Achieved in year 1	Disaggregate	Data Source	Method of Collection	Schedule of Collection	Link to USAID PMP Indicator
		Jordan.								
Task 3.3: Provide plumbing services and plumbing fixtures to rural areas										
No of homes in rural areas provided with plumbing services and/or water saving devices or other plumbing equipment	Plumbing services are being provided through a grant to Mercy Corps	Plumbing services will reduce leakage and installing plumbing appliances will result in the more efficient use of water	Number	Yr 1: 0 Yr 2: 70 Yr 3 & 4: TBD	Yr 1: 0	Type of service or device provided	Project records,	The Program Manager will review each program	Annually	
Task 3.4: Implement best management practices in pilot areas										
Number of BMPs implemented by utilities	A best practice is defined as the optimum way of doing something. Implemented means the BMP is institutionalized by the utility.	This indicator will measure the number BMPs implemented.	Number	Yr 1: 0 Yr 2, 3 & 4: TBD	Yr 1: 0	Utility, subject matter of BMP	Utility records, project records	The Water Engineer will review project records	Annually	2
Number of customers benefitting by implementation of BMPs ²¹	Individual customers receiving water efficiency services through audits, retrofits, training, etc.	This indicator will measure the number of beneficiaries from implementations of BMPs	Number	Yr 1: 0 Yr 2: 1000 Yr 3 & 4: TBD	Yr 1: 0	By utility and type of BMP	Utility records, project records	The Water Engineer will review project records	Annually	3

²¹ This indicator is added to the second year work plan.

ANNEX II- ANNUAL FINANCIAL STATUS REPORT

First Year Financial Report (April 2007- September, 2008)

Summary

Activity	Budget		Actuals				Cumulative Expenditures C- Yr One	Budget			Cumulative Expenditures D- (4/1-9/30/08)	Remaining Budget (A + B)-(C+D)
	Year 1	Apr-Jun 07	Jul-Sep 07	Oct-Dec 07	Jan-Mar 08	Year 2		Apr-Jun 08	Jul-Sep 08			
A. Salaries and Wages												
Expatriate Long Term Technical Assistance DAI	\$116,405	\$27,000	\$33,000	\$27,000	\$30,688	\$117,688	\$124,585	\$24,226	\$29,757	\$53,983	\$69,319	
CCN Long Term Technical Assistance DAI	\$49,928	\$9,094	\$15,701	\$12,461	\$17,569	\$54,826	\$200,315	\$27,521	\$60,321	\$87,843	\$107,574	
Total Long Term Technical Assistance	\$166,333	\$36,094	\$48,701	\$39,461	\$48,257	\$172,514	\$324,900	\$51,747	\$90,079	\$141,826	\$176,894	
DAI Short Term Technical Assistance DAI	\$50,079	\$19,152	\$5,446	\$11,758	\$14,273	\$50,629	\$8,104	\$0	\$0	\$0	\$7,554	
Independent Consultants-STTA-Expats DAI	\$1,165	\$0	\$0	\$0	\$0	\$0	\$11,914	\$10,354	\$15,925	\$26,279	\$86,800	
Independent Consultants-STTA-CCN DAI	\$8,825	\$0	\$0	\$0	\$5,780	\$5,780	\$29,847	\$6,168	\$2,420	\$8,588	\$24,305	
DAI STTA - Home Office Support DAI	\$24,766	\$10,462	\$5,244	\$6,019	\$2,413	\$24,139	\$18,326	\$1,320	\$4,562	\$5,882	\$13,071	
Total Short Term Technical Assistance	\$84,835	\$29,614	\$10,690	\$17,777	\$22,466	\$80,548	\$168,191	\$17,842	\$22,907	\$40,749	\$131,729	
Total Labor-Salaries and Wages	\$251,168	\$65,709	\$59,392	\$57,238	\$70,723	\$253,061	\$493,091	\$69,590	\$112,986	\$182,575	\$308,623	
B. Fringe Benefits DAI												
Expatriate DAI Direct Hires (LTTA and STTA) DAI	\$77,456	\$22,929	\$17,695	\$18,135	\$21,569	\$80,328	\$61,162	\$14,540	\$13,899	\$28,439	\$29,851	
Total Fringe Benefits	\$77,456	\$22,929	\$17,695	\$18,135	\$21,569	\$80,328	\$61,162	\$14,540	\$13,899	\$28,439	\$29,851	
C. Overhead												
Expatriate LTTA, STTA and LTTA CCN - DAI Direct Hire DAI	\$166,327	\$46,269	\$40,239	\$39,345	\$48,154	\$174,007	\$215,320	\$40,696	\$56,658	\$97,354	\$110,286	
Total Overhead	\$166,327	\$46,269	\$40,239	\$39,345	\$48,154	\$174,007	\$215,320	\$40,696	\$56,658	\$97,354	\$110,286	
D. Travel, Transportation and Per Diem												
1. International Travel	\$22,000	\$12,089	\$12,604	\$2,089	\$3,670	\$30,453	\$59,740	\$4,139	\$2,077	\$6,216	\$45,071	
2. Per Diem	\$26,020	\$12,206	\$2,051	\$9,269	\$5,011	\$28,537	\$77,456	\$11,525	\$4,651	\$16,176	\$58,763	
3. Miscellaneous Travel Expenses	\$2,200	\$142	\$191	\$0	\$1,401	\$1,733	\$3,914	\$2,310	\$378	\$2,688	\$1,693	
Total Travel, Transportation and Per Diem	\$50,220	\$24,437	\$14,845	\$11,359	\$10,082	\$60,723	\$141,110	\$17,975	\$7,106	\$25,081	\$105,526	
E. Allowances												
1. Post Differential	\$6,199	\$1,350	\$1,650	\$1,650	\$2,025	\$6,675	\$6,634	\$2,644	\$1,515	\$4,159	\$1,999	
2. Cost of Living Allowance	\$4,115	\$0	\$1,171	\$958	\$2,743	\$4,872	\$4,202	\$583	\$1,750	\$2,334	\$1,112	
3. Danger Payment	\$18,595	\$3,750	\$4,950	\$4,050	\$5,850	\$18,600	\$19,902	\$4,645	\$4,688	\$9,333	\$10,564	
4. Temporary Quarters Subsistence Allowance	\$8,891	\$2,454	\$2,606	\$0	\$0	\$5,060	\$6,146	\$0	\$0	\$0	\$9,977	
5. Living Quarters Allowance	\$19,503	\$19,774	\$24	\$115	\$179	\$20,093	\$33,990	\$28,107	\$4,959	\$33,066	\$334	
6. Household Effects	\$19,944	\$0	\$0	\$6,669	\$0	\$6,669	\$29,546	\$7,727	\$0	\$7,727	\$35,094	
7. Educational Allowance	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000	\$0	\$31,115	\$31,115	-\$1,115	
Total Allowances	\$77,247	\$27,328	\$10,401	\$13,442	\$10,798	\$61,969	\$130,420	\$43,706	\$44,027	\$87,734	\$57,964	

Activity	Budget		Actuals				Cumulative Expenditures C- Yr One	Budget		Projections	Cumulative Expenditures D- (4/1-9/30/08)	Remaining Budget (A + B)-(C+D)
	A Year 1	Apr-Jun 07	Jul-Sep 07	Oct-Dec 07	Jan-Mar 08	B Year 2		Apr-Jun 08	Jul-Sep 08			
F. Other Direct Costs												
1. DBA Insurance	\$3,010	\$1,226	\$0	\$0	\$0	\$1,226	\$4,306	\$0	\$4,306	\$4,306	\$1,784	
2. Medical Exams and Inoculations	\$2,900	\$0	\$0	\$62	\$70	\$132	\$2,266	\$176	\$2,920	\$3,096	\$1,939	
3. Program Support Costs	\$194,473	\$108,473	\$24,807	\$19,633	\$16,409	\$169,322	\$80,334	\$37,305	\$12,333	\$49,638	\$55,847	
4. Support Staff CCN	\$20,828	\$2,138	\$2,775	\$5,895	\$5,895	\$16,703	\$40,529	\$10,035	\$7,888	\$17,923	\$26,731	
5. Total Insurance and Social Charges CCN Supporting Staff	\$40,859	\$3,230	\$4,710	\$10,138	\$4,099	\$22,177	\$133,692	\$21,152	\$6,858	\$28,010	\$124,364	
Total Other Direct Costs	\$262,070	\$115,067	\$32,292	\$35,728	\$26,473	\$209,559	\$261,127	\$68,668	\$34,305	\$102,973	\$210,665	
G. Training and Workshops												
Activity 1	\$7,500	\$2,108	\$1,077.48	\$2,908.48	\$158.34	\$6,252	\$16,500	\$2,298.09	\$5,086.66	\$7,385	\$10,363	
Activity 2	\$0	\$0	\$0	\$535.54	\$188.41	\$724	\$20,000	\$1,187.50	\$4,152.00	\$5,340	\$13,937	
Activity 3	\$0	\$0	\$0	\$651.91	\$1,481.90	\$2,134	\$20,000	\$3,837.53	\$4,117.65	\$7,955	\$9,911	
Task 3.3: Efficient water use in rural areas-Mercy Corps	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$100,000	
Pilot Projects and Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$8,168	\$8,168	\$91,832	
High Rise	\$0	\$0	\$0	\$0	\$0	\$0	\$15,895	\$0	\$3,233.91	\$3,234	\$12,661	
Total Program Activities	\$7,500	\$2,108	\$1,077	\$4,096	\$1,829	\$9,110	\$272,395	\$7,323	\$24,758	\$32,081	\$238,704	
H. Sub Contracts												
IP3	\$341,423	\$25	\$146,592	\$123,224	\$25,942	\$295,783	\$428,396	\$57,600	\$138,818	\$196,418	\$277,618	
ECO Consult	\$169,630	\$0	\$26,618	\$51,614	\$60,757	\$138,989	\$80,370	\$61,900	\$46,789	\$108,690	\$2,322	
CSBE	\$83,493	\$0	\$17,117	\$16,664	\$16,001	\$49,782	\$115,205	\$17,203	\$18,286	\$35,489	\$113,427	
ValuAdd	\$47,287	\$0	\$0	\$0	\$16,899	\$16,899	\$35,987	\$23,377	\$0	\$23,377	\$42,998	
WMI	\$52,811	\$0	\$0	\$0	\$0	\$0	\$21,193	\$0	\$0	\$0	\$74,004	
Expat Pool	\$0	\$0	\$0	\$0	\$0	\$0	\$114,000	\$0	\$15,206	\$15,206	\$98,794	
CCN Pool	\$0	\$0	\$0	\$0	\$0	\$0	\$110,700	\$0	\$0	\$0	\$110,700	
Bahman Sheikh Associates (BSA)	\$0	\$0	\$0	\$0	\$0	\$0	\$76,199	\$0	\$11,429	\$11,429	\$64,770	
Aquacraft Inc./ Charlie Pike (Actual)	\$0	\$0	\$0	\$0	\$0	\$0	\$63,001	\$0	\$15,921	\$15,921	\$47,080	
Consolidated Consultants (CC)	\$0	\$0	\$0	\$0	\$0	\$0	\$39,418	\$0	\$0	\$0	\$39,418	
Total Sub Contracts	\$694,644	\$25	\$190,326	\$191,502	\$119,599	\$501,452	\$1,084,469	\$160,081	\$246,450	\$406,531	\$871,130	
SUBTOTAL PROGRAM COSTS												
	\$1,586,632	\$303,872	\$366,267	\$370,844	\$309,226	\$1,350,210	\$2,659,094	\$422,578	\$540,189	\$962,767	\$1,932,749	
General and Administrative Costs	9.10%	\$144,384	\$27,652	\$33,328	\$33,818	\$28,140	\$122,869	\$241,978	\$38,765	\$49,157	\$87,612	\$175,880
TOTAL DAI PROGRAM COSTS		\$1,731,016	\$331,525	\$399,595	\$404,662	\$337,366	\$1,473,079	\$2,901,072	\$461,344	\$589,346	\$1,050,379	\$2,108,629
Fixed Fee	6.50%	\$112,516	\$21,549	\$25,974	\$26,303	\$21,929	\$95,750	\$188,570	\$34,419	\$38,307	\$68,275	\$137,061
TOTAL DAI PROGRAM COSTS PLUS FIXED FEE		\$1,843,532	\$353,074	\$425,569	\$430,965	\$359,295	\$1,568,829	\$3,089,641	\$495,763	\$627,653	\$1,118,653	\$2,245,690
Small Grants												
Small Grants Program		\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$0	\$79,983	\$79,983	\$145,017
Small Grants Fee	2.00%	\$0	\$0	\$0	\$0	\$0	\$0	\$4,500	\$0	\$1,600	\$1,600	\$2,900
Total Grants		\$0	\$0	\$0	\$0	\$0	\$0	\$229,500	\$0	\$81,583	\$81,583	\$147,917
Grand Total		\$1,843,532	\$353,074	\$425,569	\$430,965	\$359,295	\$1,568,829	\$3,319,141	\$495,763	\$709,236	\$1,200,236	\$2,393,607

Year one: covers the period from April 2007 till March 2008

Year two: covers the period from April 2008 till March 2009

Obligation

Obligation Per the Contract	\$4,300,000
Actual expended through Sept 30,2007	\$778,642
Actual expenditures through June 30,2008	\$2,064,592
Actual expenditures through Sept 30,2008	\$2,773,828
Total Remaining Obligation	\$1,526,172
Amount of obligation spend	64.51%

ANNEX III- PROJECT BIBLIOGRAPHY

The following reports have been prepared and delivered during the first year of IDARA project,

1. Task 1.2.1- Combined report on the WDMU, draft report submitted in October, 2008.
2. Task 1.2.1- WDMU Strategic and operational plan 2008-2012, March 3, 2008.
3. Task 1.2.2- National Water Demand Management Policy for Jordan, July, 2008
4. Task 1.3- Assessment of Available Data and Gap Analysis, draft report submitted in March 2008.
5. Task 1.3- Report from Water Demand Management Data and Forecasting Specialists; AQUACRAFT, Inc., August, 2008. Internal report by AQUACRAFT reviewing Deliverable 1 “Assessment of Available Data and Gap Analysis” under Task 1.3 for the Establishment of a National Water Use Information Program.
6. Task 2.4- Assessment report for plumbing training at the Vocational Training Corporation, December 2007.
7. Task 2.5- Water Efficient Products Labeling Work Plan, draft report submitted in August 2008.
8. Task 2.6- Legal assessment report, September 2008.
9. Task 3.1.1- Perceptions of public parks in Jordan, August 2008
10. Task 3.1.2- WEPIA- established water-wise parks assessment report, January 2008.
11. Task 3.1.2- WEPIA-Established Community-based native and Drought- tolerant plant nurseries assessment report, January 2008.

ANNEX IV- TECHNICAL ASSISTANCE

Below are the technical assistance activities that took place during the first year of IDARA, including specialist name, purpose and duration of consultation, achievements, and problems encountered;

Task 1.2.1: Assess the organizational structure of the WDMU
Assignment: Develop 5 Year Strategic Business Plan for the WDMU
Specialist name: Philip Giantris
Duration of consultation: 24 LOE: October 2007 to February 2008
Achievements/ deliverables: <ul style="list-style-type: none"> • Conduct WDM stakeholders workshop conducted achieve consensus on WDM restructuring scenario • WDMU functions, roles, and organizational structure of WDMU defined and its linkages with internal and external institutions were identified • WDMU 5-year strategic business plan related implementation action plan were completed
Issues encountered: none
Mitigation measures: none

Task 1.3: Strengthen the MWI Planning Directorate by establishing a national water use information program
Task 1.4: Perform End Use Analysis & Demand Forecasting
Assignment: Data needs for WDM, Propose demand forecasting Methodology for Jordan & End use analysis sample selection for long term implementation
Specialist name: Loay Froukh
Duration of consultation: 28 days out of the total consultancy period of 66 days
Achievements/ deliverables: The following achievements were integrated as part of the 1st deliverable under task 1.3 “Assessment of Current Water Use and Demand Data”:
<ol style="list-style-type: none"> 1) Proposed Methodology for demand forecasting 2) Data needed for WDM 3) Development of a methodology for the preparation of samples for end use analysis.
Issues encountered: difficulties in accessing the billing data needed for demand forecasting.
Mitigation measures: IDARA seeked support of the Director General of Miyahuna and succeeded to get the needed data in October 2008.

Task 1.3: Strengthen the MWI Planning Directorate by establishing a national water use information program
Task 1.4: Perform End Use Analysis & Demand Forecasting
Assignment: Review of IDARA’s 1st Deliverable under task 1.3 “Assessment of Current Water Use and

Demand Data”
Specialist name: Bill Deoreo, Peter Mayer and Clive Jones (Aquacraft)
Duration of consultation: 8 days out of the total consultancy period of 9 days
<p>Deliverables: Written report reviewing the 1st deliverable with respect to IDARA’s recommendations on the demand forecasting methodology, and the data needs for the GIS based WDM database.</p> <p>Achievements:</p> <ol style="list-style-type: none"> 1) Confirmation of the forecasting methodology proposed by IDARA 2) Further suggestions and recommendations to support improved reliability of forecasting, 3) Preliminary design schematic for the GIS-based database 4) Sample templates for data collection 5) Proposal on Water Use and Demand Management and forecasting data flow throughout the Supply Chain in Jordan 6) Preliminary model on the role of the different stakeholders in water demand management and forecasting
Issues encountered: None
Mitigation measures: None

Task 1.5.1: Introduce regulatory incentive mechanisms to encourage utilities to adopt demand management measures
Assignment: Development of key performance indicators (KPIs) tied to regulatory incentive mechanisms
Specialist name: Philip Giantris
Duration of consultation: trip 1: 9 days in September 2008, trip 2: 6 days. Assignment to be completed in March 2009.
<p>Achievements/ deliverables:</p> <ul style="list-style-type: none"> • KPIs development approach (September, 2008) • Workshop on KPI development approach (September, 2008) • List of developed KPIs and implementation action plan prepared (March 2009)
Issues encountered: none
Mitigation measures: none

Task 1.6.2 and 2.2.2: High Rise BMP Guide, Code Recommendations and GAM Criteria
Assignment: Research International Best Management Practices and Presentation at the first High Rise Workshop on July 29
Specialist name: Charlie Pike, Water Specialist
Duration of consultation: 12 LOE: July 1 to August 31, 2008
Achievements/ deliverables: Draft Research Reports and Presentations at July 29 Workshop

Issues encountered: none
Mitigation measures: none

Task 1.6.2 and 2.2.2: High Rise BMP Guide, Code Recommendations and GAM Criteria
Assignment: Research International Best Management Practices and Presentation at the first High Rise Workshop on July 29
Specialist name: Bahman Sheikh, Reuse Specialist
Duration of consultation: 15 LOE: June 23 to August 31, 2008
Achievements/ deliverables: Draft Research Reports and Presentations at July 29 Workshop
Issues encountered: none
Mitigation measures: none

Task 2.5: Prepare a Work Plan to Implement a Labeling Program
Assignment: Work Plan to Implement a Labeling Program
Specialist name: Lisa Surprenant
Duration of consultation: 32 LOE: March 3, 2008 – June 16, 2008
Achievements/ deliverables: Draft Market Study and Draft Work Plan
Issues encountered: Final draft required substantial revisions
Mitigation measures: IDARA staff revised final draft and submitted it to USAID

Task 2.7: Develop mechanisms to finance the implementation of WDM projects
Assignment: Public-private partnerships for water demand management
Specialist name: Christopher McGahay
Duration of consultation: 2 weeks (May 17-30, 2008)
Achievements/ deliverables: <ul style="list-style-type: none"> • Potential private sector partners identified • Training workshop for stakeholders on public private partnership • Two partnership implementation models fully described and characterized
Issues encountered: None
Mitigation measures: None

ANNEX V- OVERSEES TRAINING

No training has taken place overseas. Instead, all training has been delivered in Jordan.

ANNEX VI- IN-COUNTRY TRAINING

Below is a list of courses, workshops and seminars organized in Jordan and number of participants for each event.

Task	In-country courses	Number of participants	Gender disaggregation (Female: male)
Task 1.2.1	WDMU restructuring workshop	30	(7:23)
Task 1.2.1	Change management workshop	28	(4:23)
Task 1.2.2	WDM policy workshop	30	(7:23)
Task 1.2.2	Agriculture WDM Policy workshop	44	(9:35)
Task 1.3	Water use information program	24	(3:21)
Task 1.6.1	BMPs task Force workshops	21	(10:11)
Task 1.6.2 & 2.2.2	High-rise workshop	73	(21:52)
Task 2.5	Labeling workshop	33	(7:26)
Task 2.7	Global Development Alliance	18	(7:11)
Task 3.1.2	Seminar for mayors on water-wise landscaping in Jordan	163	Information not available
Task 3.1.2	Water-wise landscape training for municipalities (Amman)	16	(12:4)
Task 3.1.2	Water-wise landscape training for municipalities (Irbid)	26	(11:15)
Task 3.1.2	Water-wise landscape training for municipalities (Zarqa)	18	(7:11)
Task 3.1.2	Water-wise landscape training for municipalities (Karak and Tafila)	16	(8:8)
Task 3.3	Training of CBOs on proposal writing (Irbid)	31	(6:25)
Task 3.3	Training of CBOs on proposal writing (Jerash)	28	(15:13)
Task 3.3	Training of CBOs on proposal writing (Mafraq)	56	(11:45)
Task 3.3	Training of CBOs on proposal writing (Zarqa)	24	(5:19)
Task 3.3	Training of CBOs on revolving loan management manual (Mafraq)	4	(0:4)
Task 3.3	Training of CBOs on revolving loan management manual (Zarqa)	12	(4:8)
Task 3.3	Technical training of CBOs in Mafraq	5	(0:5)
Task 3.3	Technical training of CBOs in Zarqa	13	(5:8)

ANNEX VII- EQUIPMENT AND MATERIALS

Below is a list of all IT and office equipments and furnishings purchased during the first year of the project.







