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# IDARA (INSTITUTING WATER DEMAND MANAGEMENT IN JORDAN)

Third Year Bi-Annual Progress Report  
(October 2009- March 2010)

April 2010

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IDARA - Third Year Semi-Annual Progress Report

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## ABBREVIATIONS AND ACRONYMS

ACED	Aqaba Community Economic Development Project, funded by USAID
ADC	Aqaba Development Corporation
AW	Aqaba Water
BMP	Best Management Practice
ETVET	Employment and Technical and Vocational Education and Training
FOEME	Friends of the Earth Middle East
GAM	Greater Amman Municipality
GIS	Geographic Information System
IAPMO	International Association of Plumbing and Mechanical Officials
JEA	Jordan Engineers Association
JISM	Jordan Institute for Standards and Metrology
JNBC	Jordan National Building Council
JU	Jordan University
JUST	Jordan University for Science and Technology
KACE	King Abdullah II Center for Excellence
KPIs	Key Performance Indicators
MENA	Middle East and North Africa
MOE	Ministry of Environment
MOTA	Ministry of Tourism and Antiquities
MPWH	Ministry of Public Works and Housing
MOIT	Ministry of Industry and Trade
MWI	Ministry of Water and Irrigation
NGWA	Northern Governorate Water Authority
NWMP	National Water Master Plan
NWMP	National Water Master Plan
PMU	Program Management Unit
PPP	Public-Private Partnership
RSS	Royal Scientific Society
SOW	Scope of Work
TOT	Training of Trainers
VTC	Vocational Training Corporation
WAJ	Water Authority of Jordan
WDM	Water Demand Management
WDMU	Water Demand Management Unit
WEPC	Water Efficiency Performance Contracting
WIS	Water Information System
WSDs	Water Saving Devices
WUE	Water Use Efficiency
WUIP	Water Use Information Program

## 1. EXECUTIVE SUMMARY

This report presents activities carried out during the first six months of the third year work plan period that extends from October 1, 2009 to March 31, 2010. During this time IDARA continued the institutional strengthening of the WDMU and building capacity of the new director and his team in policy implementation, water demand forecasting, water demand data base, development of water use efficiency (WUE) plans and WUE tracking tool, and water wise landscaping. WDMU staff members have shown considerable progress during this period in WDM aspects related to the mission and objectives of the WDMU strategic plan. IDARA Support focused on institutionalization of WDM via the development of WUE plans, and capacity building in water demand forecasting, WUE tracking tool, WDM data base development, and residential end use survey planning. The WUE plan for Aqaba Water was completed during this period, and workshops using the change management tool were held with Miyahuna and NGWA stakeholders to develop their respective plans which will be finalized during the next reporting period. IDARA completed work with the King Abdullah II Center for Excellence (KACE) on the integration of water-energy use efficiency into the sub-criteria of the KACE award.

IDARA and WDMU succeeded in finalizing the WDM policy action plans for the Ministry of Tourism and Antiquities (MOTA) and the Ministry of Environment (MOE). Work on the development of WDM policy action plans for the Ministry of Industry and Trade (MOIT) and the Ministry of Public Works and Housing (MPWH) will be completed during the next reporting period. IDARA, JISM, and MWI made considerable progress in the development of Technical Standards for plumbing products. They prepared standards for toilets, urinals, lavatory, shower, and kitchen fittings and submitted them to JISM board for approval. The RSS laboratory equipment tender was awarded during March 2010, and IDARA will conduct training for RSS on the laboratory operation after completion of its construction. The technical committee completed the review of the new water and sanitation plumbing code which will be submitted to JNBC technical committee and stakeholders for approvals. The 19 recommendations for the high rise code are incorporated in the appendix of the new water and sanitation code. IDARA also presented these recommendations to the Dead Sea and Ma'an Development Zones Corporations for inclusion in the TORs of developers in their respective areas. IAPMO presented the institutional framework and training programs of the master plumber certification to ETVET, VTC, and other training providers.

Work on harmonizing and finishing the BMP guides started in March 2010. The adoption of water-wise landscaping in the six parks is progressing well. The xeriscape module was integrated in Jordan University landscaping curriculum. Planning for integrating the module at JUST has begun. The competition on low-income water efficient house was successfully launched in January 2010. IDARA nursery expert provided technical assistance to GAMA, Friends of the Earth Middle East, and a private nursery owner on growing and marketing native plants.

IDARA started the analysis for the billing data of the houses retrofitted during the Miyahuna-HSBC "Let's Save Water" campaign. Further analysis will be conducted during the coming quarter to finalize results. Discussion on a similar initiative is underway between Aqaba Development Company (ADC) and Aqaba Water.

The report sections provide details about project summary of implementation and accomplishment of each project task, summary of deliverables, and summary of issues and justifications of delayed activities.

## **2. SUMMARY AND ASSESSMENT OF PROJECT ACTIVITIES AND ACCOMPLISHMENTS**

### **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 in the Ministry and its two authorities**

IDARA organized two workshops where one of the change management models was utilized as a tool to assess the driving forces and restraining forces to the proposed water efficiency plans for both Miyahuna and NGWA. During these workshops, utility staff members were able to review the proposed water use efficiency programs, assess these programs and develop strategies to counteract obstacles and implement them.

### **Subtask 1.2.3: Identify external linkages between WDMU and other organizations, propose mechanisms to build these linkages, and develop a workplan to be jointly implemented**

During this period, IDARA and WDMU organized a workshop for the Ministry of Tourism and Antiquities and its stakeholders such as the hotel association, restaurant association, and the Jordan Tourism Board to finalize the WDM policy action plans according to the mandate of each organization. The action plans were later presented and fine tuned with the task force from MOTA. The same process was repeated with the Ministry of Environment. IDARA plans to support WDM policy action plans for the remaining two Ministries: Ministry of Industry and Trade, and Ministry of Public Works and Housing. Throughout the process, IDARA is engaging WDMU staff to develop their capacity in the development of action plans and prepare them to play a proactive role in the implementation phase.

### **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**

IDARA developed procedures for collection of WDM data as part of the needs assessment for the WDM database (Task 1.2.5), and required data processing procedures were identified.

Economic analyses for the WDM programs are being done at the utility level through the Water Use Efficiency tracking tool. Benefit-cost analysis for recommended practices is also included in the BMP guides.

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

IDARA completed the assessment of the WDM database in December 2009, deliverable 1 of this task, and provided the necessary recommendations to streamline WDM data collection and data management.

IDARA designed the WDM database for water utilities and WDMU, and their linkage with the NWMP, deliverable 2 of this task. An implementation plan that includes software and hardware, authentication and reporting requirements was also developed.

Many brainstorming sessions were held with the water utilities, WDMU, WIS and NWMP/MWI to discuss water demand and use data requirements that support the establishment of comprehensive water demand management database.

The list of required data for establishing WDM database was identified taking into consideration Water Use Efficiency (WUE) Tracking Tool, Demand Forecasting model input, calculation of water saving, and key performance indicators requirements.

IDARA's ICT consultant and database experts are currently testing the WDM database in collaboration with WDMU and water utilities.

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

The Water Use Information Program will be covered as part of the currently developed WDM Database. It will be linked to the NWMP and WIS during the second stage of WDM Database implementation, (task 1.2.5).

IDARA standardized the main use type categories that were deployed in the utilities' demand forecasting model and water-use efficiency tracking tool developed under task 1.5.2.

### **Task 1.4: Perform end-use analyses**

Implementation of the residential water use baseline survey in Miyahuna, NGWA and AW services areas is underway. In consultation with the three utilities and based on statistical analysis of billing and socioeconomic data, a representative sample of 2400 residential units was selected and identified for the survey. The survey instrument was also developed.

IDARA will install WSDs in every surveyed residential unit, as an incentive to encourage water users in the participation in the survey. IDARA completed test runs in small samples in the service areas of the three utilities to test and validate the survey instrument and select appropriate WSDs that fit with existing plumbing fixtures. Based on the findings of the test run, the survey instrument was amended and finalized, and the types of WSDs were identified. The three utilities have assigned the necessary technical and logistical teams to facilitate the implementation of the work.

Moreover, a sample of 14 residential units was selected in Aqaba with the help of the AW to conduct end-use analysis using sub-metering technology. Water meters and data loggers were installed in each unit for 12 days. Analysis of the data is currently underway. The installation of the equipment was conducted jointly with the AW staff, who participated with IDARA on the inspection stage, water meter installation, and data logger's installation and removal.

Two persons of the Aqaba Water staff were trained on the installation of the equipment and the use of the specialized software for end use analysis.

Residential end use water metering will also be performed during the next six months in NGWA and Miyahuna service areas. Additional audits for commercial users (hotels, schools and universities and office buildings) will also be conducted in April-May 2010, the SOW for the consulting firm has been finalized and approved.

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

In November 2009, IDARA developed water demand management Key Performance Indicators in coordination with WDMU and the Program Management Unit (PMU) at the Ministry of Water and Irrigation (MWI). The WDM KPIs were designed to monitor implementation of the utilities Water Use Efficiency plans. Financial incentives that include water savings, avoided cost, and payback period are computed for each WDM measure by the WUE tracking tool that was developed for each water utility.

Demand forecast models were developed and tested for the three utilities and representatives from each utility were trained to use the demand models.

#### **Issues and mitigation**

Development of regulatory incentives depends on further development in the Water Sector Law.

### **Subtask 1.5.2: Assist the utilities in establishing WDM functions**

The final draft of Aqaba Water (AW) Water Use Efficiency (WUE) Plan was prepared in March 2010, and is under review by the WDMU and the utility.

The development of Miyahuna and NGWA WUE Plans started in January 2010 and March 2010 respectively. The change management tool was used to assist Miyahuna and NGWA in discussing and addressing barriers in the development and implementation of the WUE plan. IDARA will continue development of the WUE plans, and the draft version will be finalized during the next reporting period.

The leak detection program milestone will be covered as part of the roof top tanks and data-metering program, due to the fact that water utilities do not have the mandate to do post-meter work.

#### **Issues and mitigation**

Even though the introduction of WUE plans, forecasting models, and tracking tools have been welcomed by WDMU and the utilities; the implementation of WUE programs is faced with some challenges, among them the availability of required funds and the commitment of utilities to provide staff dedicated to the execution of the plans. IDARA will therefore make every effort in convincing the utilities to fully staff the WDM section as recommended by the WUE plan for each utility.

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

Following to the one-day water-energy efficiency forum for hotels in Aqaba held in partnership with ACED in September 2009 (task 1.2.3), IDARA will train private firms in providing water use efficiency services. IDARA will deliver a comprehensive training program for private sector companies covering water audits and end-use analysis, cost effectiveness calculations and Water Efficiency Performance Contracting (WEPC). The training will also showcase successful initiatives conducted by private firms.

### **Subtask 1.6.1: Develop BMP guides on conservation of nonagricultural water**

IDARA drafted four BMP guides out of seven, namely the Public Parks Landscaping BMP guide, Public Information and Outreach BMP guide, Hospitals BMP guide and the High-Rise and High Density Areas BMP guide. In order to harmonize the structure of all the BMPs and present them in one package, IDARA will work during the next six months to develop the unified structure, finalize the drafted guides, and prepare the remaining three guides for hotels, office buildings and residential units.

### **Subtask 1.6.2 & 2.2.2: Develop BMP guide for high-rise buildings and high-density residential development**

IDARA completed and submitted the recommended code provisions to achieve efficient water use in the high-rise and high-density developments in Jordan, in addition to the water efficiency recommendations for high-rise/high density developments for GAM Area C. The efficient water use recommendations were then translated into Arabic and incorporated in the final draft water supply and sanitation plumbing code, as an appendix as per the recommendations of the Plumbing Code Technical Committee. IDARA also presented these recommendations to the Dead Sea and Ma'an Development Zone Corporations for inclusion in the TORs of developers in their respective areas.

The High Rise BMP guide will be revised according to the uniform structure developed by the BMP guides specialists.

### **Issues and mitigation**

IDARA developed options for the funding and implementation of the satellite recycling plant and the establishment of the Management Company addressing a concern raised by stakeholders. The WDMU will follow up with Miyahuna, GAM, and WAJ for coordination on the endorsement and implementation of the efficient water use recommendations.

### **Task 1.7: Provide training and capacity building to promote WDM**

During this semester, IDARA engaged the WDMU staff in developing action plans for the Ministry of Tourism and Antiquities, and Ministry of Environment. This was very effective in exposing the staff to the various WDM initiatives and programs that these external organizations can develop and deliver.

IDARA is also building the capacity of water utilities and WDMU staff in water-use efficiency plans, demand forecasting models, development of GIS-enabled WDM database, and end-use baseline survey planning through hands-on training, technical assistance, in addition to change management workshops. The latter aimed at building the capacity of utility staff members to develop and implement the water-use efficiency programs suitable for their utility service area.

WDMU is working with WDMU and local municipalities' staff to build their capacity in the evaluation of existing parks landscape and design of rehabilitation of selected parks. This is done as part of the development of six water-wise parks in subtask 3.1.2

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

Research was conducted on the MENA region drought response principles and international drought response guidelines. Accordingly, a draft drought shortage plan, principles, guidelines and public messages will be completed within next quarter.

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

IDARA succeeded to support the King Abdullah II Center for Excellence in integrating water and energy use efficiency sub criteria in the public sector award, and to modify the sub-criteria of the private sector award to address both water and energy. In addition, IDARA developed and delivered a two-day TOT program for KACE staff on water and energy use efficiency. IDARA is currently coordinating with KACE to provide the center with a grant to support the implementation of the integration of water-energy use efficiency within the sub-criteria of King Abdullah II Award for Excellence for the public and private sectors.

**Task Completed.**

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

IDARA has been utilizing the WDM policy and strategy to create WDM driven programs. This has been accomplished through the development of WDM action plans for the touristic, industrial, and commercial sectors. Specific WDM programs have been evolved from action plans developed for the Ministry of Tourism and Antiquities and Ministry of Environment, respectively. These action plans have accounted for the specific needs, mandates, and target audience of each Ministry. In addition, during this phase and through the development of water use efficiency plans, IDARA has been training utility staff members on the new WDM policy, its role in promoting water-use efficiency, and the role of water utilities in implementing the policy.

### **Subtask 2.2.1: Develop a National Standardized Plumbing Code**

The Plumbing Code Technical Committee completed reviewing the draft code developed by RSS and incorporated the updates of the 2009 version of the Uniform Plumbing Code. The RSS technical team is currently working on compiling the reviewed draft and will submit it to JNBC technical committee in early May 2010. Then, JNBC will start with the codes review process.

### **Issues and mitigation**

The review and approval of the Plumbing Code is a lengthy process which might delay the adoption of the plumbing code. IDARA is working with the Jordan National Building Council at the Ministry of Public Works and Housings, the Royal Scientific Society, the Vocational Training Centers, and the Ministry of Labor to accelerate the review and approval of the plumbing code and finalize the development and implementation of the plumbers training programs.

### **Subtask 2.2.2: High Rise Code Recommendations**

The High Rise Code recommendations report was completed and approved by the plumbing code technical committee. Then, it was translated into Arabic and incorporated in the new plumbing code as an appendix.

#### **Task Completed**

### **Task 2.3: Implement a Plumbing Materials Certification Program**

The final Report on Technical Standards for plumbing products and water use electrical appliances was submitted in December 2009. The report includes a list of the water use technical specifications for a range of plumbing products, water use electrical appliances and commercial products.

Work with the plumbing products technical committee is ongoing. The toilet standard is finalized after including all comments from both the technical committee members and the Standards Editing Division at JISM. It is expected to be reviewed by JISM board within a couple of weeks.

The committee also prepared the draft standard for flushing devices "Specifications and test methods for filling and flushing valves for WC's and urinals". The standard was sent to local and international stakeholders for review in February 2010. After two-month period, the committee will study the comments and will accordingly issue the final draft for voting.

The plumbing products technical committee worked on the plumbing supply fittings standard where a number of products were considered including shower, lavatory, metering and self closing supply, and kitchen fittings. IDARA is also working with the electrical products technical committee on the clothes washer standard.

IDARA is also following up on the construction of the water products testing lab with RSS and MWI. The equipment tender was awarded during March 2010. IDARA will conduct training for RSS on the operation of the laboratory after completion of construction within the next six months.

### **Issues and mitigation**

The issuance of toilet standard is still on hold due to the delay in approving the proposed testing procedures and the resignation of the plumbing products technical committee.

Progress on clothes washer standard is slow as JISM did administrative restructuring for the electrical products division. Therefore, meetings were not conducted on regular basis. IDARA/MWI sent a letter in this regard to speed up the process and continue working the clothes washer standard project.

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

In October 2009, IDARA signed a Memorandum of Understanding with the ETVET and VTC to establish a master plumber certification and training program. The Career Development Expert in IAPMO, IAPMO conducted field visits and interviews with stakeholders in Jordan, and collected data on plumbing training and education programs for the development of certification framework. IAPMO's second visit was at the end of March 2010 to present and discuss the certification framework report and deliverables. An introductory workshop was held on March 29, 2010 whereby all stakeholders were invited.

During the workshop, the pilot program that includes the certification and training components was presented to all stakeholders. Accordingly, a task force committee was formed to study the draft report submitted by IAPMO.

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

IDARA has started exploring opportunities for the identification of tax incentive schemes to promote WDM technology. IDARA will work on providing recommendations on enforcement mechanisms for the water and sanitation code and the high-rise water use and reuse efficiency recommendations developed in Task 1.6.2-2.2.2.

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

Building on the success of the implementation of the first residential WSDs retrofit program in Amman through the partnership between Miyahuna with the HSBC Bank, IDARA is exploring partnerships between the private sector and the two other utilities (AW and NGWA) to initiate implementation of residential retrofit programs that are part of the water-use efficiency plans of these utilities.

#### **GDA/Corporate Social Responsibility**

IDARA has conducted initial analysis for the billing data of the houses retrofitted during the “Let’s Save Water” campaign to identify the percentage of achieved savings as a result of water saving devices installation in these houses. Further analysis will be conducted during the coming quarter to finalize results.

Discussion with the Aqaba Development Company (ADC) and AW on the implementation of the second PPP in water-use efficiency in Jordan is underway.

#### **Performance Contract**

IDARA has drafted a SOW for a consultant to build the capacity of private sector entities, including engineering firms, in providing Water Demand Management services. A comprehensive training will be conducted during the upcoming quarter for private companies on water efficiency performance contracting.

#### **Grants**

During this period, IDARA designed two additional activities to be implemented through IDARA’s grants pool. The first is the implementation of water-wise landscaping measures in public parks in six municipalities in Jordan. This activity has already scoped the first grant to the Municipality of Manshiet Bani Hassan, an in-kind grant for the installation of a planting and irrigation system in Manshiet Bani Hassan Garden. The second activity consists in using a small grant to fund training related to the integration of water-energy use efficiency in the King Abdullah II Award for Excellence sub-criteria. The training covers water-energy sub-criteria for public and private sector institutions.

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

The grant mechanism/cost sharing to fund the development of six water-wise parks was determined. Three parks were selected as they met IDARA's technical requirements: Manshiet Bani Hassan, Husseinieh, and Karak. Designs for all three parks have been completed with the participation of engineers from each municipality. One grant application from Manshiet Bani Hassan has been successfully received.

Three additional parks were identified in Subeihi, Deir Alla, and Azraq.

RFP preparations for the installation of water-wise plants and irrigation systems in the Manshiet Bani Hassan Garden are underway.

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

A xeriscape module was integrated into Jordan University's (JU) Landscaping and Floriculture curriculum. The Course was successfully taught by Dr. Jamal Suwwan in the fall semester (September 2009 - January 2010). Additional materials will be supplied to supplement the JU course for the fall semester (2010).

Planning for integrating the module at JUST has begun.

### **Subtask 3.1.4: Expand work with nurseries**

Technical assistance to Friends of the Earth Middle East (FOEME) and the Greater Amman Municipality (GAM) in setting up drought-tolerant tree nurseries is on-going. Technical assistance was provided by a nursery expert from Arizona, in March 2010. He delivered two lectures and provided hands-on training on the nursery sites, in addition to advising a private nursery on growing and marketing native plants.

### **Subtask 3.1.5: Determine incentives for water-wise landscaping**

The demonstration garden developed for the Miyahuna headquarters is on hold. IDARA is discussing creating another demo-site in another location. IDARA also completed the design of a water-wise roof garden for the Ruwwad Center in Jabal Al-Natheef.

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

The competition was successfully launched in January 2010. Additional funding for the prize money was secured through the Jordan Engineers' Association. Jury logistics are currently in the planning stage.

### **Task 3.3: Provide plumbing services to poor rural areas.**

So far, plumbing services and maintenance have been provided to 175 households in Al-Zarqa and Al-Mafraq Governorates for the purpose of improving water-use efficiency and increasing water availability in these households. Two female dorms in the neighborhood of Aal Al-Bait University have been also retrofitted with more than 100 WSDs installed on kitchen, bathroom faucets and showers. One of these dorms (Al-Areen Dorm) was partially

retrofitted in the summer of 2009, but due to the achieved reduction in the water bill, the administration of the dorm decided to install WSDs on all faucets. The dorm administration claimed that the percentage of achieved saving is around 30-35% of the original water bill.

**Task Completed**

**Task 3.4: Implement Best Management Practices in pilot areas**

The quarterly water consumption data for the year 2009 was obtained from Miyahuna. Subsequently, final data analysis was carried out for the retrofitted subscribers of Abu Nuseir. A summary report documenting Abu Nuseir pilot retrofit program will be completed before the end of June 2010.

### 3. SUMMARY OF ACCOMPLISHED ACTIVITIES AND DELIVERED SERVICES

Task	Deliverable	Scheduled Completion as per workplan	Actual Completion	Issues/ Comments
1.2.1	Change Management Workshop for Miyahuna conducted	February 2010	January 2010	
1.2.1	Change Management Workshop for NGWA conducted	February 2010	March 2010	
1.2.3	Action plan for the Ministry of Environment developed and presented to the task force members	March-June 2010	January 2010	
1.2.3	Action plan for the Ministry of Tourism & Antiquities developed and presented	March-June 2010	March 2010	
1.2.4	Procedures for Collection of WDM data	Year 4	Dec. 2009	Covered as part of task 1.2.5
1.2.5	WDM Database Needs Assessment	December 2009	December 2009	
1.2.5	A comprehensive WDM database designed	December 2009	December 2009	
1.5.1	WDM KPIs developed	December 2009	November 2009	
1.9	Training of KACE trainers on WDM measures & techniques conducted	March 2010	February 2010	
2.2.1	A new plumbing code drafted	December 2009	December 2009	
2.2	High Rise Code Recommendations	December 2009	December 2009	
2.3	Report on technical specifications and recommended testing protocols for water using products	December 2009	December 2009	
2.4	A certification framework developed	March 2010	March 2010	The certification framework was presented at a workshop for the E-TVET and other stakeholders and is awaiting their approval
3.1.2	3 municipalities identified	December 2009	December 2009	
3.1.2	Cost sharing strategies for 3 parks identified	October 2009	October 2009	

Task	Deliverable	Scheduled Completion as per workplan	Actual Completion	Issues/ Comments
3.1.3	Module prepared (JU)	October 2009	August 2009	
3.1.3	Module integrated (JU)	February 2010	February 2010	
3.2	Launch competition	January 2010	January 2010	

#### 4. DELAYED ACTIVITIES/DELIVERABLES AND JUSTIFICATION

Task	Activity/Deliverable	Scheduled Completion as per workplan	Anticipated Completion
1.6.1	Produce Public Information BMP Implementation Guide	December 2009	June 2010
1.8	Identify drought response principles and drought response guidelines	February 2010	June 2010

## 5. WORKPLAN FOR THE FOLLOWING PERIOD

Task	Activity/Deliverable	Start date	Deliverable due	Comments
1.2.5	Integrate GIS technology into Database	April 2008	April 2010	GIS needs assessment will be conducted first.
1.2.5	Present findings of WDM database needs to stakeholders	April 2009	June 2010	
1.2.5	Develop and test the WDM database	June 2009	June 2010	New requirement were requested by utilities and will be added to the design.
1.2.5	Train counterparts and utilities on new WDM data collection and management model	March 2010	September 2010	
1.3	Implement Data collection management and analysis	October 2008	September 2010	
1.4	Conduct end use analysis for commercial users	October 2007	April 2010	
1.4	Complete end use analysis for various users	Jan. 2009	June 2010	
1.5.2	Develop leak detection program	March 2009	April 2010	Utilities don't have mandate to do post-meter work, IDARA will cover this milestone as part of data metering and roof top tanks.
1.5.2	Train utilities on leak detection program.	April 2009	April 2010	Utilities don't have mandate to do post-meter work, IDARA will cover this milestone as part of data metering and roof top tanks.
1.5.3	Assess barriers and opportunities to participation in water efficient markets.	April 2010	September 2010	
1.6.1	Produce Hospital BMP Implementation Guide	November 2008	April 2010	
1.6.1	Produce Hotel BMP Implementation Guide	April 2009	June 2010	
1.6.1	Produce Office BMP Implementation Guide	April 2009	August 2010	
1.6.1	Produce Residential BMP Implementation Guide	October 2009	September 2010	
1.7	Conduct in coordination with JUST University a WDM technical training for WDMU	January 2010	June 2010	

Task	Activity/Deliverable	Start date	Deliverable due	Comments
	and utility staff			
1.7	Conduct TOT training course for potential VTC Instructors "Master Plumbers Certification"	March 2010	August 2010	
2.2.1	Review the drafted plumbing code by the plumbing code review committee	November 2008	June 2010	
2.2.1	Design and carry out training on the new code to the construction industry, plumbing trade, municipalities, and the public	July 2010	September 2010	
2.4	Develop the "master plumbers" program	July 2007	April 2010	
2.4	Identify training candidates	January 2009	July 2010	
2.4	Train VTC trainers	October 2009	August 2010	
3.1.2	Determine cost-sharing strategies for 3 other parks	June 2010	September 2010	
3.1.2	Provide technical assistance to municipalities (design of parks)	January 2010	June 2010	
3.1.3	Hold seminar at JUST	May 2009	June 2010	
3.1.3	Prepare module for Petra	September 2009	September 2010	
3.1.4	Provide technical assistance to new nurseries (FOEME, Ur Garden)	January 2009	October 2010	
3.2	Select winning entries	June 2010	June 2010	
3.4	Collect lessons learnt on implementation.	February 2009	September 2010	

6. FINANCIAL STATUS ON THE CONTRACT AND UPDATE ON THE PROCUREMENT PLAN

Activity	Budget	Actuals					Cumulative Expenditures C- Yr One	Budget B Year 2	Budget					Cumulative Expenditures D- (4/1-3/31/09)	Budget E Year 3	Budget					Budget G Year 4	Total Budget of each line	Remaining Budget= sum(A-C)+(B-D)+(E-F)+G
		A Year 1	Apr-Jun 07	Jul-Sep 07	Oct-Dec 07	Jan-Mar 08			Apr-Jun 08	Jul-Sep 08	Oct-Dec 08	Jan-Mar 09	Apr-Jun 09			Jul-Sep 09	Oct-Dec 09	Jan-Mar 2010	F- (4/1-3/31/10)				
<b>A. Salaries and Wages</b>																							
Expatriate Long Term Technical Assistance	DAI	\$116,405	\$27,000	\$33,000	\$27,000	\$30,688	\$117,688	\$124,585	\$24,226	\$29,757	\$30,028	\$32,462	\$116,473	\$130,531	\$32,191	\$23,859	\$28,972	\$35,789	\$120,811	\$137,057	\$508,578	\$153,606	
CCN Long Term Technical Assistance	DAI	\$49,928	\$9,094	\$15,701	\$12,461	\$17,569	\$54,826	\$200,315	\$27,521	\$60,321	\$48,124	\$58,918	\$194,885	\$207,959	\$58,748	\$48,124	\$10,775	\$56,656	\$174,303	\$218,358	\$676,560	\$252,547	
<b>Total Long Term Technical Assistance</b>		<b>\$166,333</b>	<b>\$36,094</b>	<b>\$48,701</b>	<b>\$39,461</b>	<b>\$48,257</b>	<b>\$172,514</b>	<b>\$324,900</b>	<b>\$51,747</b>	<b>\$90,079</b>	<b>\$78,152</b>	<b>\$91,380</b>	<b>\$311,358</b>	<b>\$338,490</b>	<b>\$90,939</b>	<b>\$71,983</b>	<b>\$39,747</b>	<b>\$92,445</b>	<b>\$295,114</b>	<b>\$355,415</b>	<b>\$1,185,138</b>	<b>\$406,153</b>	
DAI Short Term Technical Assistance	DAI	\$50,079	\$19,152	\$5,446	\$11,758	\$14,273	\$50,629	\$8,104	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$58,183	\$7,554	
Independent Consultants-STTA-Expats	DAI	\$1,165	\$0	\$0	\$0	\$0	\$0	\$11,914	\$10,354	\$15,925	\$0	\$3,911	\$30,190	\$32,092	\$23,900	\$0	\$3,720	\$0	\$27,620	\$22,173	\$167,344	\$109,535	
Independent Consultants-STTA-CCN	DAI	\$8,825	\$0	\$0	\$0	\$5,780	\$5,780	\$29,847	\$6,168	\$2,420	\$1,760	\$0	\$10,347	\$9,493	\$4,288	\$0	\$0	\$0	\$4,288	\$9,662	\$57,827	\$37,412	
DAI STTA - Home Office Support	DAI	\$24,766	\$10,462	\$5,244	\$6,019	\$2,413	\$24,139	\$18,326	\$1,320	\$4,562	\$3,204	\$2,311	\$11,397	\$15,798	\$2,833	\$1,820	\$1,434	\$1,093	\$7,181	\$18,183	\$77,073	\$34,356	
<b>Total Short Term Technical Assistance</b>		<b>\$84,835</b>	<b>\$29,614</b>	<b>\$10,690</b>	<b>\$17,777</b>	<b>\$22,466</b>	<b>\$80,548</b>	<b>\$168,191</b>	<b>\$17,842</b>	<b>\$22,907</b>	<b>\$4,963</b>	<b>\$6,222</b>	<b>\$51,934</b>	<b>\$57,383</b>	<b>\$31,020</b>	<b>\$1,820</b>	<b>\$5,154</b>	<b>\$1,093</b>	<b>\$39,088</b>	<b>\$50,018</b>	<b>\$419,317</b>	<b>\$188,857</b>	
<b>Total Labor-Salaries and Wages</b>		<b>\$251,168</b>	<b>\$65,709</b>	<b>\$59,392</b>	<b>\$57,238</b>	<b>\$70,723</b>	<b>\$253,061</b>	<b>\$493,091</b>	<b>\$69,590</b>	<b>\$112,986</b>	<b>\$83,115</b>	<b>\$97,602</b>	<b>\$363,292</b>	<b>\$395,873</b>	<b>\$121,959</b>	<b>\$73,803</b>	<b>\$44,901</b>	<b>\$93,539</b>	<b>\$334,201</b>	<b>\$405,433</b>	<b>\$1,604,455</b>	<b>\$595,010</b>	
<b>B. Fringe Benefits DAI</b>																							
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	\$13,459	\$14,083	\$55,981	\$59,263	\$14,185	\$10,400	\$12,314	\$14,938	\$51,837	\$62,872	\$260,753	\$72,608	
<b>Total Fringe Benefits</b>		<b>\$77,456</b>	<b>\$22,929</b>	<b>\$17,695</b>	<b>\$18,135</b>	<b>\$21,569</b>	<b>\$80,328</b>	<b>\$61,162</b>	<b>\$14,540</b>	<b>\$13,899</b>	<b>\$13,459</b>	<b>\$14,083</b>	<b>\$55,981</b>	<b>\$59,263</b>	<b>\$14,185</b>	<b>\$10,400</b>	<b>\$12,314</b>	<b>\$14,938</b>	<b>\$51,837</b>	<b>\$62,872</b>	<b>\$260,753</b>	<b>\$72,608</b>	
<b>C. Overhead</b>																							
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	\$52,770	\$60,271	\$210,394	\$215,873	\$56,353	\$43,954	\$27,925	\$56,625	\$184,857	\$227,838	\$825,358	\$256,099	
<b>Total Overhead</b>		<b>\$166,327</b>	<b>\$46,269</b>	<b>\$40,239</b>	<b>\$39,345</b>	<b>\$48,154</b>	<b>\$174,007</b>	<b>\$215,320</b>	<b>\$40,696</b>	<b>\$56,658</b>	<b>\$52,770</b>	<b>\$60,271</b>	<b>\$210,394</b>	<b>\$215,873</b>	<b>\$56,353</b>	<b>\$43,954</b>	<b>\$27,925</b>	<b>\$56,625</b>	<b>\$184,857</b>	<b>\$227,838</b>	<b>\$825,358</b>	<b>\$256,099</b>	
<b>D. Travel, Transportation and Per Diem</b>																							
1. International Travel		\$22,000	\$12,089	\$12,604	\$2,089	\$3,670	\$30,453	\$59,740	\$4,139	\$2,077	\$43,394	\$3,215	\$52,826	\$25,462	\$1,000	\$0	\$0	\$0	\$1,000	\$37,153	\$144,355	\$60,077	
2. Per Diem		\$26,020	\$12,206	\$2,051	\$9,269	\$5,011	\$28,537	\$77,456	\$11,525	\$4,651	\$0	\$0	\$16,176	\$21,642	\$1,244	\$713	\$0	\$0	\$1,957	\$18,358	\$143,476	\$96,806	
3. Miscellaneous Travel Expenses		\$2,200	\$142	\$191	\$0	\$1,401	\$1,733	\$3,914	\$2,310	\$378	\$0	\$0	\$2,688	\$1,698	\$3,512	\$657	\$0	\$0	\$4,168	\$1,530	\$9,342	\$752	
<b>Total Travel, Transportation and Per Diem</b>		<b>\$50,220</b>	<b>\$24,437</b>	<b>\$14,845</b>	<b>\$11,359</b>	<b>\$10,082</b>	<b>\$60,723</b>	<b>\$141,110</b>	<b>\$17,975</b>	<b>\$7,106</b>	<b>\$43,394</b>	<b>\$3,215</b>	<b>\$71,690</b>	<b>\$48,802</b>	<b>\$5,756</b>	<b>\$1,369</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,126</b>	<b>\$57,041</b>	<b>\$297,173</b>	<b>\$157,635</b>	
<b>E. Allowances</b>																							
1. Post Differential		\$6,199	\$1,350	\$1,650	\$1,650	\$2,025	\$6,675	\$6,634	\$2,644	\$1,515	\$1,501	\$1,515	\$7,175	\$6,951	\$1,858	\$1,874	\$1,874	\$1,817	\$7,424	\$7,298	\$27,082	\$5,808	
2. Cost of Living Allowance		\$4,115	\$0	\$1,171	\$958	\$2,743	\$4,872	\$4,202	\$583	\$1,750	-\$1,403	\$1,638	\$2,568	\$4,328	\$2,099	\$1,892	\$1,892	\$1,923	\$7,807	\$4,458	\$17,103	\$1,856	
3. Danger Payment		\$18,595	\$3,750	\$4,950	\$4,050	\$5,850	\$18,600	\$19,902	\$4,645	\$4,688	\$4,099	\$4,383	\$17,815	\$20,852	\$4,893	\$3,749	\$3,834	\$5,454	\$17,931	\$21,895	\$81,244	\$26,899	
4. Temporary Quarters Subsistence Allowance		\$8,891	\$2,454	\$2,606	\$0	\$0	\$5,060	\$6,146	\$0	\$0	\$1,429	\$0	\$1,429	\$0	\$0	\$0	\$0	\$0	\$0	\$4,345	\$19,382	\$12,893	
5. Living Quarters Allowance		\$19,503	\$19,774	\$24	\$115	\$179	\$20,093	\$33,990	\$28,107	\$4,959	\$1,619	\$2,201	\$36,886	\$38,192	\$14,797	\$364	\$15,123	\$2,927	\$33,211	\$39,338	\$131,023	\$40,834	
6. Household Effects		\$19,944	\$0	\$0	\$6,669	\$0	\$6,669	\$29,546	\$7,727	\$0	\$150	\$0	\$7,877	\$3,819	\$8,046	\$0	\$9,023	\$1,150	\$18,219	\$32,001	\$85,310	\$52,545	
7. Educational Allowance		\$0	\$0	\$0	\$0	\$0	\$0	\$30,000	\$0	\$31,115	\$0	\$95	\$31,210	\$15,914	\$1,000	\$14,723	\$42	\$1,000	\$16,765	\$16,391	\$62,305	\$14,330	
<b>Total Allowances</b>		<b>\$77,247</b>	<b>\$27,328</b>	<b>\$10,401</b>	<b>\$13,442</b>	<b>\$10,798</b>	<b>\$61,969</b>	<b>\$130,420</b>	<b>\$43,706</b>	<b>\$44,027</b>	<b>\$7,394</b>	<b>\$9,831</b>	<b>\$104,959</b>	<b>\$90,056</b>	<b>\$32,693</b>	<b>\$22,603</b>	<b>\$31,788</b>	<b>\$14,272</b>	<b>\$101,356</b>	<b>\$125,726</b>	<b>\$423,449</b>	<b>\$155,164</b>	

Activity	Budget		Actuals					Budget		Actuals					Budget		Actuals					Total Budget of each line	Remaining Budget= sum(A-C)+(B-D)+(E-F)+G		
	A		Apr-Jun 07	Jul-Sep 07	Oct-Dec 07	Jan-Mar 08	Cumulative Expenditures C- Yr One	B		Apr-Jun 08	Jul-Sep 08	Oct-Dec 08	Jan-Mar 09	Cumulative Expenditures D- (4/1-3/31/09)	E		Apr-Jun 09	Jul-Sep 09	Oct-Dec 09	Jan-Mar 2010	Cumulative Expenditures F- (4/1-3/31/10)			G	
	Year 1	Year 2						Year 3	Year 4																
<b>F. Other Direct Costs</b>																									
1. DBA Insurance	\$3,010	\$1,226	\$0	\$0	\$0	\$1,226	\$4,306	\$0	\$4,306	\$0	\$4,983	\$9,289	\$2,956	\$0	-\$1,116	\$151	\$7,039	\$6,074	\$2,912	\$13,184	\$13,184	-\$3,405			
2. Medical Exams and Inoculations	\$2,900	\$0	\$0	\$62	\$70	\$132	\$2,266	\$176	\$2,920	\$0	\$0	\$3,096	\$1,273	\$113	\$0	\$0	\$0	\$113	\$1,639	\$8,078	\$4,738				
3. Program Support Costs	\$194,473	\$108,473	\$24,807	\$19,633	\$16,409	\$169,322	\$80,334	\$37,305	\$12,333	\$51,350	\$35,848	\$136,837	\$69,096	\$19,545	\$24,232	\$84,066	\$42,943	\$170,786	\$71,169	\$415,072	-\$61,873				
4. Support Staff CCN	\$20,828	\$2,138	\$2,775	\$5,895	\$5,895	\$16,703	\$40,529	\$10,035	\$7,888	\$7,792	\$9,417	\$35,132	\$44,319	\$9,588	\$8,662	\$7,457	\$8,672	\$34,379	\$45,649	\$151,325	\$65,111				
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	\$39,007	\$21,982	\$88,999	\$124,889	\$32,824	\$11,991	\$10,660	\$8,082	\$63,556	\$130,598	\$430,038	\$255,306				
<b>Total Other Direct Costs</b>	<b>\$262,070</b>	<b>\$115,067</b>	<b>\$32,292</b>	<b>\$35,728</b>	<b>\$26,473</b>	<b>\$209,559</b>	<b>\$261,127</b>	<b>\$68,668</b>	<b>\$34,305</b>	<b>\$98,150</b>	<b>\$72,230</b>	<b>\$273,353</b>	<b>\$242,533</b>	<b>\$62,071</b>	<b>\$43,769</b>	<b>\$102,333</b>	<b>\$66,736</b>	<b>\$274,909</b>	<b>\$251,967</b>	<b>\$1,017,697</b>	<b>\$259,876</b>				
<b>G. Training and Workshops</b>																									
Activity 1	\$7,500	\$2,108	\$1,077.48	\$2,908.48	\$158.34	\$6,252	\$16,500	\$2,298.09	\$5,086.66	\$5,282.36	\$5,809.67	\$18,477	\$18,000	\$2,807.56	\$3,325.67	\$20,905.75	\$13,763.50	\$40,802	\$16,000	\$58,000	-\$7,531				
Activity 2	\$0	\$0	\$0	\$535.54	\$188.41	\$724	\$20,000	\$1,187.50	\$4,152.00	\$0.00	\$97.82	\$5,437	\$20,000	\$0.00	\$0.00	\$1,535.31	\$506.35	\$2,042	\$17,000	\$57,000	\$48,797				
Activity 3	\$0	\$0	\$0	\$651.91	\$1,481.90	\$2,134	\$20,000	\$3,837.53	\$4,117.65	\$3,646.10	\$2,716.03	\$14,317	\$17,008	\$38.56	\$0.00	\$0.00	\$224.88	\$263	\$16,409	\$53,417	\$36,702				
Task 3.3: Efficient water use in rural areas-Mercy Corps	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$100,000				
Pilot Projects and Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$8,168	\$3,386	\$2,736	\$14,290	\$60,000	\$6,141	\$0	\$593	\$0	\$6,734	\$30,000	\$190,000	\$168,976				
High Rise	\$0	\$0	\$0	\$0	\$0	\$0	\$15,895	\$0	\$3,233.91	\$2,820	\$5,785.05	\$11,839	\$0	\$3,092	\$0	\$0	\$0	\$3,092	\$0	\$15,895	\$964				
<b>Total Program Activities</b>	<b>\$7,500</b>	<b>\$2,108</b>	<b>\$1,077</b>	<b>\$4,096</b>	<b>\$1,829</b>	<b>\$9,110</b>	<b>\$272,395</b>	<b>\$7,323</b>	<b>\$24,758</b>	<b>\$15,135</b>	<b>\$17,144</b>	<b>\$64,360</b>	<b>\$115,008</b>	<b>\$12,080</b>	<b>\$3,326</b>	<b>\$23,034</b>	<b>\$14,495</b>	<b>\$52,934</b>	<b>\$79,409</b>	<b>\$474,312</b>	<b>\$347,908</b>				
<b>H. Sub Contracts</b>																									
IP3	\$341,423	\$25	\$146,592	\$123,224	\$25,942	\$295,783	\$428,396	\$57,600	\$138,818	\$56,590	\$79,503	\$332,510	\$437,096	\$73,196	\$10,892	\$0	\$0	\$84,088	\$9,759	\$1,216,674	\$504,292				
ECO Consult	\$169,630	\$0	\$26,618	\$51,614	\$60,757	\$138,989	\$80,370	\$61,900	\$46,789	\$0	\$0	\$108,690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000	\$2,322				
CSBE	\$83,493	\$0	\$17,117	\$16,664	\$16,001	\$49,782	\$115,205	\$17,203	\$18,286	\$5,428	\$7,846	\$48,763	\$73,573	\$24,622	\$16,189	\$27,458	\$25,542	\$93,811	\$67,132	\$339,403	\$147,046				
ValuAdd	\$47,287	\$0	\$0	\$16,899	\$16,899	\$35,987	\$23,377	\$0	\$0	\$0	\$0	\$23,377	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83,274	\$42,998				
WMI	\$52,811	\$0	\$0	\$0	\$0	\$0	\$21,193	\$0	\$0	\$0	\$52,127	\$52,127	\$32,873	\$0	\$0	\$0	\$0	\$0	\$23,101	\$129,978	\$77,851				
Expat Pool	\$0	\$0	\$0	\$0	\$0	\$0	\$114,000	\$0	\$15,206	\$60,301	\$37,931	\$113,438	\$33,990	\$67,943	\$19,460	\$48,397	\$0	\$135,800	\$37,132	\$185,122	-\$64,115				
CCN Pool	\$0	\$0	\$0	\$0	\$0	\$0	\$110,700	\$0	\$17,422	\$0	\$17,422	\$39,552	\$489	\$6,000	\$22,421	\$0	\$28,910	\$26,417	\$176,669	\$130,336					
Bahman Sheikh Associates (BSA)	\$0	\$0	\$0	\$0	\$0	\$0	\$76,199	\$0	\$11,429	\$65,199	\$0	\$76,628	\$34,100	\$11,000	\$0	\$13,978	\$24,978	\$0	\$110,299	\$8,693					
Aquacraft Inc./ Charlie Pike (Actual)	\$0	\$0	\$0	\$0	\$0	\$0	\$63,001	\$0	\$15,921	\$22,607	\$6,165	\$44,693	\$20,000	\$6,165	\$0	\$0	\$6,165	\$0	\$83,001	\$32,142					
Consolidated Consultants (CC)	\$0	\$0	\$0	\$0	\$0	\$0	\$39,418	\$0	\$0	\$0	\$29,564	\$29,564	\$10,817	\$0	\$9,855	\$0	\$9,855	\$0	\$50,235	\$10,817					
<b>Total Sub Contracts</b>	<b>\$694,644</b>	<b>\$25</b>	<b>\$190,326</b>	<b>\$191,502</b>	<b>\$119,599</b>	<b>\$501,452</b>	<b>\$1,084,469</b>	<b>\$160,081</b>	<b>\$246,450</b>	<b>\$227,547</b>	<b>\$213,136</b>	<b>\$847,213</b>	<b>\$682,001</b>	<b>\$183,416</b>	<b>\$62,396</b>	<b>\$112,254</b>	<b>\$25,542</b>	<b>\$383,607</b>	<b>\$163,541</b>	<b>\$2,624,655</b>	<b>\$892,382</b>				
<b>SUBTOTAL PROGRAM COSTS</b>	<b>\$1,586,632</b>	<b>\$303,872</b>	<b>\$366,267</b>	<b>\$370,844</b>	<b>\$309,226</b>	<b>\$1,350,210</b>	<b>\$2,659,094</b>	<b>\$422,578</b>	<b>\$540,189</b>	<b>\$540,962</b>	<b>\$487,513</b>	<b>\$1,991,242</b>	<b>\$1,849,409</b>	<b>\$488,512</b>	<b>\$261,621</b>	<b>\$354,549</b>	<b>\$286,145</b>	<b>\$1,390,828</b>	<b>\$1,373,827</b>	<b>\$7,527,852</b>	<b>\$2,736,682</b>				
Genereral and Administrative Costs	9.10%	\$144,384	\$27,652	\$33,328	\$33,818	\$28,140	\$122,869	\$241,978	\$38,765	\$49,157	\$40,958	\$40,586	\$169,467	\$162,389	\$42,488	\$23,807	\$32,264	\$26,039	\$124,598	\$125,018	\$685,035	\$249,038			
<b>TOTAL DAI PROGRAM COSTS</b>		<b>\$1,731,016</b>	<b>\$331,525</b>	<b>\$399,595</b>	<b>\$404,662</b>	<b>\$337,366</b>	<b>\$1,473,079</b>	<b>\$2,901,072</b>	<b>\$461,344</b>	<b>\$589,346</b>	<b>\$581,920</b>	<b>\$2,160,709</b>	<b>\$1,946,881</b>	<b>\$531,000</b>	<b>\$285,429</b>	<b>\$386,813</b>	<b>\$312,185</b>	<b>\$1,515,426</b>	<b>\$1,498,845</b>	<b>\$8,212,887</b>	<b>\$2,985,720</b>				
Fixed Fee	6.50%	\$112,516	\$21,549	\$25,974	\$26,303	\$21,929	\$95,750	\$188,570	\$34,419	\$38,307	\$31,918	\$31,628	\$140,446	\$126,547	\$33,110	\$18,553	\$25,143	\$20,293	\$97,099	\$97,425	\$533,838	\$191,763			
<b>TOTAL DAI PROGRAM COSTS PLUS FIXED FEE</b>		<b>\$1,843,532</b>	<b>\$353,074</b>	<b>\$425,569</b>	<b>\$430,965</b>	<b>\$359,295</b>	<b>\$1,568,829</b>	<b>\$3,089,641</b>	<b>\$495,763</b>	<b>\$627,653</b>	<b>\$613,838</b>	<b>\$2,301,155</b>	<b>\$2,073,428</b>	<b>\$564,110</b>	<b>\$303,982</b>	<b>\$411,956</b>	<b>\$332,477</b>	<b>\$1,612,525</b>	<b>\$1,596,270</b>	<b>\$8,746,724</b>	<b>\$3,177,482</b>				
<b>Small Grants</b>																									
Small Grants Program	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$0	\$79,983	\$0	\$0	\$79,983	\$175,000	\$11,299	\$0	\$49,750	\$0	\$61,049	\$100,000	\$358,968	\$358,968				
Small Grants Fee	2.00%	\$0	\$0	\$0	\$0	\$0	\$4,500	\$0	\$1,600	\$0	\$0	\$1,600	\$3,500	\$226	\$0	\$995	\$0	\$1,221	\$2,000	\$7,179	\$7,179				
<b>Total Grants</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$229,500</b>	<b>\$0</b>	<b>\$81,583</b>	<b>\$0</b>	<b>\$0</b>	<b>\$81,583</b>	<b>\$178,500</b>	<b>\$11,525</b>	<b>\$0</b>	<b>\$50,745</b>	<b>\$0</b>	<b>\$62,270</b>	<b>\$102,000</b>	<b>\$366,147</b>	<b>\$366,147</b>				
<b>Grand Total</b>		<b>\$1,843,532</b>	<b>\$353,074</b>	<b>\$425,569</b>	<b>\$430,965</b>	<b>\$359,295</b>	<b>\$1,568,829</b>	<b>\$3,319,141</b>	<b>\$495,763</b>	<b>\$709,236</b>	<b>\$613,838</b>	<b>\$2,382,738</b>	<b>\$2,251,928</b>	<b>\$575,635</b>	<b>\$303,982</b>	<b>\$462,701</b>	<b>\$332,477</b>	<b>\$1,674,795</b>	<b>\$1,698,270</b>	<b>\$9,112,871</b>	<b>\$3,543,629</b>				
Year one: covers the period from April 2007 till March 2008																									
Year two: covers the period from April 2008 till March 2009																									
Year three: covers the period from April 2009 till March 2010																									
Year four: covers the period from April 2010 till March 2011																									
<b>Obligation</b>																									
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%																							

## Equipment and Material

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

Unit		Description	Unit Cost	Total
<b>Office Equipment</b>	<b>Main Office</b>			
	1	Copier	\$ 4,011	\$ 4,011
	1	Fax Machine	\$ 376	\$ 376
	1	Safe	\$ -	\$ -
	1	Telephone System	\$ 609	\$ 609
		Telephone unit	\$ -	\$ 723
	1	Binding Machine	\$ 410	\$ 410
	2	Flip Chart Stand	\$ 100	\$ 200
	11	Cell Phone	\$ -	\$ -
	9	A/C / heat units	\$ -	\$ 4,887
	0	Small A/C units		\$ -
	0	Generator 40KW	\$ -	\$ -
	1	Water Cooler	\$ 139	\$ 139
	1	Refrigerator	\$ 410	\$ 410
	1	Microwave	\$ 99	\$ 99
<b>Office Equipment Subtotal</b>				<b>\$ 11,865</b>
<b>Office Furnishings</b>				
	11	Desks	\$ -	\$ 3,037
	22	Desk Chairs	\$ -	\$ 1,144
	0	Guest Chairs	\$ -	\$ -
	2	Filing Cabinets	\$ -	\$ 226
	6	Small Filing Cabinets	\$ -	\$ 805
	7	Bookshelves	\$ -	\$ 1,236
	4	Meeting Room Lg Table	\$ -	\$ 746
	1	Meeting Room Sm Table	\$ -	\$ 191
	14	Meeting Room Chairs	\$ -	\$ 494
	1	Desks size 200	\$ 374	\$ 374
	1	Meeting Room round table	\$ 191	\$ 191
	1	Chair Manager	\$ 64	\$ 64
	6	Guest Chairs	\$ 49	\$ 297
	2	Small Filing Cabinets	\$ 113	\$ 226
	1	Gust Table	\$ 35	\$ 35
	1	Bookshelves	\$ 177	\$ 177
	1	Guest table smal	\$ -	\$ 35
		Floor PVC Tile	\$ -	\$ 2,022
		Blind curtains	\$ -	\$ 665
	1	Cabinet for COPs office	\$ 155	\$ 155
	1	Cabinet for Admin Assistant's office	\$ 177	\$ 177
<b>Office Furnishings Subtotal</b>				<b>\$ 12,296</b>
<b>Vehicle</b>	2	Cars	\$ 21,000	\$ 42,000
Vehicle freight				\$ -
<b>Vehicle Subtotal</b>				<b>\$ 42,000</b>
<b>Office Gear Total</b>				<b>\$ 66,160</b>

<b>Computer Equipment</b>					
<b>Item</b>	<b>Qty Year</b>	<b>Component</b>	<b>Description</b>	<b>Unit Cost</b>	<b>Total</b>
<b>Server (File/Print/Active Directory/Antivirus/Lotus Notes services)</b>					
Server	1	Generation 5 server	Dual-Core and Quad-Core Intel® Xeon™ 5000 sequence processors with up to 8 MB Level 2 cache for blazing performance; systems support up to 2 processors, 1333/1066/667 MHz front side bus (FSB), Intel® 5000Z chipset, Network Controller Embedded Single NC373i Multifunction Gigabit NIC, Storage Controller Smart Array E200i Controller with 128MB and BBWC, Hard Drive None Ship Standard	\$2,200	\$2,200
Power supply	1	Redundant Power Supply	Redundant Power Supply 350/370/380 G5 Worldwide Kit	\$250	\$250
Fan kit	1	Fan kit	Hot Plug Redundant System Fan Kit for ML350 G5	\$65	\$65
Memory	1	Memory	1 GB FBD PC2-5300 2 x 512 MB Kit	\$350	\$350
HDD	7	Storage	HP 72GB 3G SAS 10K SFF HDD	\$350	\$2,450
SCSI controller	1	SCSI controller	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	\$140	\$140
Backup Drive	1	Backup Drive	StorageWorks Ultrium 448 Internal Tape Drive (carbonite)	\$1,650	\$1,650
Backup Tape	1	Backup media	HP Ultrium 400GB Custom Labeled Data Cartridge (20pk)	\$900	\$900
Cleaning tape	1	Cleaning media	HP Ultrium Universal Cleaning Cartridge	\$70	\$70
Deployment	1	Deployment	Rapid Deployment Pack, Single-Server License	\$118	\$118
Management	1	Server Management	ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server	\$304	\$304
Monitor	1	Monitor	15" Flat Panel Monitor	\$185	\$185
UPS/220V	1	True Online UPS	3000 VA online UPS /230V	\$1,415	\$1,415
UPS/Battery	1	UPS External Battery	72V Extended Battery Module	\$390	\$390
UPS Environmental Monitoring Card	1	UPS Environmental Monitoring Card	UPS Environmental Monitoring Card	\$130	\$130
UPS Connect card	1	UPS Connect Card	Web/SNMP UPS Connectivity Device	\$225	\$225
				<b>SubTotal</b>	<b>\$10,842</b>

Item	Qty Year 1	Component	Description	Unit Cost	Total
<b>Desktop with monitor and UPS specs</b>					
Desktop	2	Desktop PC - convertible minitower	Intel® Q965 Express chipset, and Intel Graphics Media Accelerator 3000 integrated graphics, Intel Core 2 Duo E6300 Processor (1.86-GHz, 2 MB L2 cache, 1066-MHz FSB),support non-ECC DDR2 PC2-5300 (667-MHz) and PC2-6400 (800-MHz) memory, 80GB hard drive, 1GB RAM, CD-RW write—2,400 to 4,800 KB/s (16X to 32X), 10/100/1000 Ethernet, , Windows XP Pro	\$1,200	\$2,400
GIS Desktop	1	Desktop PC-GIS	HP XW4600E6850 250GB CRW, Keyboard, Literature With CD Mouse, Computer Monter cable	\$2,125	\$2,125
LCD Monter	2	HP LCD Monter	HP 20" LCD 800: 1 160x1200LP 2065 Carbon silver 2x DVI-I 8MS, Powercord, Literature with CD, USB Cable, Computer Cable	\$415	\$830
HP Basic Docking Station	1	HP Basic	Hp Basic docking station 150W adapter	\$219	\$219
HP Elitebook	1	Hp Elitebook	HP Elitebook 8530W Mobile 8530W interl Centrino Pro Core 2 T9400 2.5G 2, Ac Adapter, Powercord, Literature with CD	\$2,409	\$2,409
Battery	1	Battery	HP Ultra-Capacity ion notebook Battery	\$164	\$164
Mouse	1	Mouse	HP USB 2BTN optical Scroll Mouse	\$16	\$16
Kensington Lock	1	Lock	Kensington microsaver Notebook lock	\$35	\$35
Flash drive	1	Flash drive	Kingston 8GB Data Traveler 100USB 2.0 Flash drive	\$28	\$28
Powerware	1	Powerware	Powerware 5115 750 VA/500W 230V, 2 power card, USB Cable, Computer cable, literature pack with hardware	\$239	\$239
Targus Sport Stand	1	Targus Sport Stand	Targus Sport Standard Black platinum nylon notebook backpack 15 "	\$49	\$49
					\$0
Monitor	2	Monitor	17-inch TFT Flat Panel Display – Analog/Digital & Multimedia	\$200	\$400
UPS	2	UPS	700VA/425W, Input 230V/ Output 230V, Interface Port DB-9 RS-232	\$250	\$500
MemoryStick	2	MemoryStick	2.0 Hi-Speed - USB flash drive 512 MB	\$45	\$90
Local Back-up Device	2	Local Back-up Device	Sony BWU-100A Internal Blu-ray™ Disc Rewritable Drive	\$275	\$550
Local Backup media	2	Blu-Ray	Sony 50GB Blu-ray Dual Layer Recordable Disk	\$25	\$50
				<b>SubTotal</b>	<b>\$10,104</b>
<b>Laptop and Accessories specs</b>					
Laptop	7	Laptop Computer	Genuine Microsoft Windows XP Professional, Intel® Core™ Duo Processors T2300 to T2600*,Mobile Intel 945GM Express Chipset, 533- or 667-MHz DDR2 SDRAM, dual channel memory support, min 40-GB 5400 rpm, Intel Graphics Media Accelerator 950,integrated 802.11 a/b/g or 802.11 b/g wireless LAN module and Bluetooth®, 7-in-1 Media Reader, Broadcom NetLink Gigabit Ethernet PCI Controller, three-year standard parts and labor warranty	\$1,612	\$11,284
Laptop	1	Laptop computer	Numega Laptop from Home office	\$1,996	\$1,996
Extra Battery	7	Extra Battery	Extended Life Battery - travel Battery	\$155	\$1,085
surge protection	7	Surge Suppressor	Notebook surge suppressor 120/240 V	\$20	\$140
GPS	2	GPS handheld	Garmin Etrex Vista	\$152	\$304
MemoryStick	7	MemoryStick	2.0 Hi-Speed - USB flash drive 512 MB	\$45	\$315
Case	7	Case	Backpack	\$49	\$343
Security Lock	7	Security Lock	Security Cable Lock	\$50	\$350
				<b>SubTotal</b>	<b>\$15,817</b>

Item	Qty Year 1	Component	Description	Unit Cost	Total
<b>Digital Imaging</b>					
Printer	1	Network Printer	B/W - Laser - A4 (8.25 in x 11.7 in) - 1200 dpi x 1200 dpi - 45 ppm - EN, Fast EN, <b>230 V</b>	\$1,815	\$1,815
Mobile Printer	1	Ink jet printer	mobile a4/letter ink jet printer with battery	\$350	\$350
Printer	1	Network Color Printer	Laser, 600 x 600 dpi; 16ppm black, 16ppm color	\$1,321	\$1,321
Camera	1	Computer ready camera	6-Megapixel Digital Camera with Optical Image Stabilizer	\$310	\$310
Camera Kit	1	Camera Kit	Kit with carrying case, batteries, and charger	\$100	\$100
Camera Memory	1	Camera Memory	1 GB SD Memory Card - SD3 (133x) class speed	\$50	\$50
LCD Projector	1	LCD Projector	Digital Projector	\$1,125	\$1,125
ProjectorBulb	1	Projector Bulb	Lamp module	\$450	\$450
Scanner	1	color Scanner	2400 x 2400 resolution; 8.5" x 11.7" scan size, with automatic feeder	\$1,100	\$1,100
				<b>SubTotal</b>	<b>\$6,621</b>
<b>Network and Communication Equipment</b>					
Internet connectivity	1	Router	Leased Line-Router and internet connection required by ISP	\$5,000	\$5,000
Firewall	1	Firewall	Firewall, unlimited user licences with 3year SmartNET agreement Next Business Day (NBD) and VPN option	\$710	\$710
Tools	1	Tools	Network toolkit (Crimper / Tester / Connectors / Tools)	\$325	\$325
Cabling	1	Network Cabling	Network / Phone Cabling (Labor/Cable /Racks /Outlets)	\$2,500	\$2,500
Switch	1	Network switch	Network switch with 24 10/100/1000 ports	\$350	\$350
				<b>SubTotal</b>	<b>\$8,885</b>
			<b>TOTAL HARDWARE</b>		<b>\$52,269</b>

Item	Qty Year 1	Component	Description	Unit Cost	Total
<b>SOFTWARE (All software requires maintenance agreements or software assurance options for 3 years)</b>					
<b>* Software Assurance Upgrade or maintenance agreement should be purchased during the fourth year.</b>					
Server	1	Operating System	MSFT Win 2003 SRV License with Software assurance	\$834	\$834
Server	8	Client access licence	MSFT Win 2003 SRV CAL with Software assurance	\$34	\$272
Server	1	media	MSFT Win 2003 SRV Media	\$26	\$26
Client Application	8	Application suite	MSFT Office Pro 2003 License	\$650	\$5,200
Client Application	1	media	MSFT Office Pro 2003 Media	\$26	\$26
Client Application	1	Project management	MSFT Project 2003 License	\$597	\$597
Client Application	1	media	MSFT Project 2003 Media	\$26	\$26
Client Application	1	Project management	MSFT Visio 2003 License	\$279	\$279
Client Application	1	media	MSFT Visio 2003 Media	\$26	\$26
Server	1	Collaboration Server	Lotus Domino Application SRV R7 License with passport advantage	\$2,141	\$2,141
Server	1	Media	Lotus Domino Application SRV R7 Media	\$120	\$120
Client Application	8	Collaboration License	Lotus Notes R7 Client Desktop & Collaboration License with passport advantage	\$130	\$1,040
Client Application	1	Mail/Workgroup Client	Lotus Notes R7 Client Developer and Administrator & Collaboration License with passport advantage	\$590	\$590
Backup and Recovery	1	server backup software	Brightstor ArcServe R 11.5 for Windows plus media	\$812	\$812
Backup and Recovery	1	server backup software agents	Brightstor ArcServe r11.5 Agent for Lotus Notes for Win	\$648	\$648
Anti-virus	8	AV licence	Symantec corporate antivirus v10.x plus Media	\$50	\$400
client management	8	client management licence	Altiris Client management software licence all levels	\$95	\$760
server management	1	server management licence	Altiris server management software licence all levels	\$475	\$475
GIS Software	1	GIS Application	ARC GIS 9.0	\$1,550	\$1,550
Client Application	2	Desktop publishing	Adobe Acrobat Standard latest release	\$200	\$400
Tripp lite traveler	1	Tripp lite traveler	Tripp lite traveler surge suppressor	\$14	\$14
Western Digital	1	Western Digital	Western Digital 250 GB passport essential USB 2.0 external	\$119	\$119
Excel 2007	2	Excel 2007	Excel 2007 Nevada	\$4	\$8
Lotus notes	2	Lotus notes	Lotus Notes 7 Nevada	\$4	\$8
Powerpoint	2	Powerpoint	powerpoint 2007 Nevada QRG	\$4	\$8
Word	2	Word	Word 2007 Nevada ORG	\$4	\$8
Reference	8	Reference	Tri-fold cards - "Help Guides" for Lotus Notes R7	\$4	\$32
Reference	8	Reference	Tri-fold cards - "Help Guides" for MS Word 2003	\$4	\$32
Reference	8	Reference	Tri-fold cards - "Help Guides" for MS Excell 2003	\$4	\$32
Reference	8	Reference	Tri-fold cards - "Help Guides" for MS Power Point 2003	\$4	\$32
				<b>TOTAL Software</b>	<b>\$16,514</b>
				<b>TOTAL HARDWARE AND SOFTWARE</b>	<b>\$68,783</b>
				Shipping	\$ 4,500
				<b>GRAND TOTAL</b>	<b>\$ 73,283</b>