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ADVANCING THE BLUE REVOLUTION INITIATIVE

QUARTERLY REPORT 10: OCTOBER - DECEMBER 2009

JANUARY 2010

This publication was produced for review by the United States Agency for International Development. It was prepared by DAI.

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DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

USAID – DAI Contract No. EPP-I-00-04-00023-00

PREFACE

The United States Agency for International Development (USAID), through its Washington D.C.-based Bureaus for the Middle East (ME) and for Africa (AFR), and through its Office of Middle East Programs (OMEP) housed in USAID/Egypt, has contracted Development Alternatives, Inc. (DAI) to implement a task order called Advancing the Blue Revolution Initiative (ABRI) under the Water Indefinite Quantity Contract II. The effective dates of the contract are May 1, 2007 through April 30, 2010. ABRI is headquartered at DAI's offices in Bethesda, Maryland; it engages technical expertise and subcontractors throughout the Middle East and increasingly in Africa.

DAI submits progress reports three weeks after the close of each quarter providing details on the status of implementation activities. The reports include a discussion of operational problems and policy constraints encountered; proposed solutions; subsequent work plan modifications; and a schedule of activities for the upcoming quarter. DAI provides updates on project finances and expenditure of personnel level of effort directly to USAID and separate from the quarterly reports.

More detailed information on ABRI is available in other reports for readers who may not be familiar with the project. These reports are available from our project offices and USAID.

Peter Reiss
Chief of Party
USAID/Advancing the Blue Revolution Initiative
Development Alternatives, Inc.
January 21, 2010
Bethesda, Maryland, USA

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ACRONYMS

ACWUA	Arab Countries Water Utilities Association
ADWEA	Abu Dhabi Water and Electricity Authority
AFD	African Development Bank
AFR	Bureau for Africa
AFWA	African Water Association
AFESD	Arab Fund for Economic and Social Development
AMCOW	Africa Ministers Council on Water
ANE	Bureau for Asia and the Near East
AUB	American University of Beirut
AWA	Arab Water Academy
AWCA	Arab Water Council
AWWA	American Water Works Association
BOT	Build Operate Transfer
BRI	Blue Revolution Initiative
CPWC	Cooperative Programme on Water and Climate
CTO	Cognizant Technical Officer
DCA	Development Credit Authority
DSI	Turkey State Water Works
EQI	Environmental Quality International
EGAT	USAID Bureau for Economic Growth, Agriculture, and Trade
ESCWA	Economic and Social Commission for Western Asia (United Nations)
ETIC	Euphrates-Tigris Initiative for Cooperation
EUWI-FWG	European Union Water Initiative – Finance Working Group
EWAP	Evian Water Action Plan
GAP	Greater Anatolia Project
GDA	Global Development Alliance
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GOE	Government of Egypt
GTZ	Gesellschaft fuer Technische Zusammenarbeit
GWA	Gender and Water Alliance
GWC	Global Water Challenge
HIP	USAID Hygiene Improvement Project
ICT	Information and Communication Technology
ICARDA	International Center for Agricultural Research in the Dry Areas
IDARA	Instituting Water Demand Management in Jordan Program (USAID)
IFC	International Finance Corporation
IJC	International Joint Commission of the United States
IP3	Institute for Public-Private Partnerships
IWA	International Water Association
IUCN	International Union for Conservation of Nature
JEWEL	Jordan Education for Water and Environmental Leadership
JUST	Jordan University for Science and Technology
MDG	Millennium Development Goal
MENA	Middle East and North Africa
MOU	Memorandum of Understanding
NRW	Non-Revenue Water

NWSC	National Water and Sewage Corporation
NWRA	National Water Resources Authority (Yemen)
NWRIS	National Water Resources Information System
O&M	Operation and Maintenance
OES	Bureau of Oceans and International Environmental and Scientific Affairs
O/MEA	Office of Middle East Affairs
OMEF	USAID Office of Middle East Programs
ONEP	Office National de l'Eau Potable (Morocco)
ORMVAH	Office Régional de Mise en Valeur Agricole du Haouz (Morocco)
PMP	Performance Monitoring Plan
PWRF	Philippines Water Revolving Fund Program (USAID)
RAED	Arab Network for Environment and Development
RITSEC	Regional Information Technology and Software Engineering Center
SEEP	Small Enterprise Education Promotion Network
SIDA	Swedish International Development Agency
SIWI	Stockholm International Water Institute
SSUWC	Southern Sudan Urban Water Corporation
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IHE	UNESCO – International Water Education Institute
UNISDR	United Nations International Strategy on Disaster Reduction
UNU	United Nations University
WASH	Water Hygiene and Sanitation
WBCSD	World Business Council on Sustainable Development
WEF	Water Environment Federation
WEF	World Economic Forum
WIN	Water Integrity Network
WOP	Water Operator Partnership
WUA	Water User Association
WWC	World Water Council
WWF	World Wildlife Fund
WWW	World Water Week

HIGHLIGHTS OF THE QUARTER

Advancing the Blue Revolution Initiative (ABRI) addresses some of the most challenging water issues in the Middle East and Africa: the lack of access by the poor to improved water and sanitation services, inefficient and nonproductive water use, and transboundary river basin management. USAID manages and funds this contract through its Bureaus for the Middle East¹ and for Africa (AFR), and through its Office for Middle East Programs (OMEPE) housed in USAID/Egypt. The period of implementation is three years from May 2007 through April 2010. Development Alternatives, Inc. (DAI) serves as the prime contractor on the program. DAI implements the program with personnel based in Bethesda, Maryland and through the engagement of technical expertise and subcontractors throughout the Middle East and Africa.

This report presents the status of implementation for Quarter 9, the period of July through September, 2009. The report follows the broad outline stated in the contract. It details the status of implementation activities, problems encountered, and proposed solutions and work plan modifications, schedule of activities for the next quarter, and performance per planned targets. As appropriate, each of those main sections is divided in terms of the five major ABRI tasks and respective activities:

- Task 1: Promote Transboundary Water Cooperation to Improve Water Security
- Task 2: Improve Water Resources Management
- Task 3: Improve Water Supply and Sanitation Services
- Task 4: Overarching Program Support
- Task 5: Program Management

Major actions and achievements during the past quarter include the following:

- **Tigris-Euphrates Regional Track 2 Collaboration.** Team meetings were convened in Beirut, Lebanon, Aleppo, Syria, and Ankara, Turkey in October and November to review data and work out the necessary steps to accomplish the agreed upon Tasks under this activity. In Task 2 (Data Inventory), an inventory for the three countries was established consisting of data on hydraulic structures, socio-economic conditions, healthcare, education, a bibliography and a list of technical terms. In Task 3 (Data Harmonization), a framework for harmonization was established and tentatively agreed upon, in addition to producing nine maps for the Tigris Euphrates (TE) region in Geographic Information Systems (GIS) format. Under Task 5 (Clearinghouse), a domain for a website was reserved and principles for the representation of the compiled data were discussed. A plan was worked out to implement a training workshop for 26 young scientists on GIS in Aleppo in January 2010. Team meetings will be convened January 15-18, 2010 to draft the framework for the content of the final report on the activity.
- **Identify Opportunities for Improved Aquifer Management in Yemen.** The ABRI technical team also worked closely with the experts of the National Water Resources Authority (NWRA) to develop a database compatible with NWRA'S Main Database, called the National Water Resources Information System (NWRIS). Under Tasks 2 and 3 (Well

¹ When ABRI began, the Bureau for the Middle East was part of what was the Bureau for Asia and the Near East (ANE). The abbreviation ANE is used frequently in program documents.

Inventory and Monitoring Network), ABRI is also conducting a well and spring inventory survey of Wadi Buwaysh and Wadi Fuwwah in Hadhramout Government as per NWRA's Guidelines and under its supervision. For tabulation and analysis, all data collected from the well inventory survey was entered into the database system using the Microsoft Access Database program adopted by NWRA. The draft of the final report of Wadi Buwaysh was discussed with NWRA experts, who requested more site readings to make sure that the ground water levels in the Wadi have stabilized after the big flood of late 2008. Consequently, the ABRI team made another field visit to update the findings. The new readings that resulted from the additional visit have been incorporated in the reports. Work on the final task, Groundwater Modeling, has begun. By using the results of hydro-geological investigations and ABRI's assessments, refined aquifer characteristic values and abstraction estimates will yield better understanding of the groundwater flow regime in the area of the two investigated Wadis.

- **Commercialization through Water Users Associations (WUAs).** In collaboration with and through support from the USAID mission in Rabat, the ABRI team prepared and organized the final WUA workshop in Rabat, Morocco on November 17, 2009. The workshop was attended by nearly 40 participants, including farmers of the WUAs, USAID, Ministry of Agriculture, ORMVA of El Haouz, Doukkala, Oriental and Souss Massa, CROP-Life International, Drip Irrigation association (AMIAG), the private sector, educational institutions, and research and development institutions. The ABRI team presented the Business Plan developed for WUAs prior to the workshop and distributed hard copies in French and Arabic. In addition to presenting the business plan, several presentations were delivered on a broad range of topics.
- **Support the Arab Countries Water Utilities Association (ACWUA).** Members of the ACWUA Board of Directors Business Plan Work Group meet on two occasions (Amman, Jordan October 14-15 and Alexandria, Egypt November 17-18) to review and comment on draft sections of the Five-Year Business Plan developed by the Business Planning Lead Expert. Based on this effort, the Business Planning Lead Expert was able to generate a first draft of the Business Plan, which was delivered to the ACWUA Secretary General on December 14, 2009 for review and comment, before it is issued as a Final Draft to the entire Board of Directors, prior to their planned Board Meeting in Rabat, Morocco on 22 January 2010.

ABRI also provided technical support by preparing proposals for ACWUA to be submitted to funding agencies outside of USAID, in addition to preparing presentations that were presented at conferences, helping ACWUA to establish its brand at regional events. The sponsorship package was finalized and outreach began for ACWUA's upcoming Non-Revenue Water conference in Rabat, Morocco on January 20-21, 2010.

ABRI sponsored the attendance of ACWUA's Secretary General at the RAED climate change adaptation workshop in Cairo, Egypt, which brought together utilities, government, civil society and private sector to identify national hotspots and create community level climate change adaptation action plans over the next two years.

- **Utility Twinning in Africa.** During the quarter, ABRI worked diligently to support the creation of a twinning relationship between the national water utility of Uganda, the National Water & Sewerage Corporation (NWSC) and the emerging Southern Sudan Urban Water Corporation, the multi-city water parastatal for Southern Sudan (SSUWC). During the reporting period, Mr. Hagger and USAID's Carl Mitchell met with NWSC's Managing

Director, William Muhairwe, in Nairobi, Kenya and discussed the proposed program with him, where he confirmed his support. ABRI then supported a meeting in Johannesburg, South Africa in November 2009 between Mr. Mitchell, senior designated members from NWSC, and USAID/Juba's Senior Water Advisor, during which they reviewed budgets and activities and reached broad agreement. Near final partnership agreements were then exchanged between NWSC and SSUWC and were reviewed by USAID/Washington. The parties agreed in December 2009 that the Minister of Water Resources and Irrigation (MWRI) from Southern Sudan would travel to Kampala early in 2010 to participate in a formal signing ceremony.

- **Africa Non-Revenue Water Manual and Conference.** During the quarter, work intensified on the production of the first Non Revenue Water (NRW) Manual specifically designed for African utilities as well as on the design of the seminar which will launch the product. ABRI completed a first draft of the Non-Revenue Water Manual for Africa, which is currently under review by project team members. AfWA also notified ABRI that the USAID proposed NRW seminar had been accepted for Kampala and asked ABRI to complete the program design, inform speakers etc. USAID will open the seminar and asked ABRI to contact the International Water Association (IWA) and ascertain whether they would like to co-sponsor the seminar and co-open the session. IWA responded in the affirmative. This activity is consistent with the IWA-USAID Memorandum of Understanding which ABRI helped to structure earlier in 2009.
- **Future Water Leaders Program.** ABRI invited the Future Water Leaders based in Egypt to attend the RAED climate change workshop in Cairo in keeping our promise to provide opportunities for continued learning through other ABRI activities. Four fellows attended the workshop. This activity is closed as of last quarter.
- **Partnership and Alliance Building.** A major focus of the partnership team during the reporting period was researching and compiling an inventory of potential research partners and co-funders from the Middle East, United States, Europe and United Nations to support the Middle East Center of Excellence on Water (MECEW). The partnership team also facilitated meetings with RAED (Arab Regional Network of Environment and Development), ACWUA, the Office National de l'Eau Potable (ONEP), International Water Association (IWA), and the Regional Information and Technology and Software Engineering Center (RITSEC) to strengthen their regional knowledge sharing and case studies on the topic of climate change. We began discussions of how to share the partnership model of the RAED "Arab Communities Adapting to Climate Change" workshop with Sub-Saharan utility colleagues during the upcoming 15th African Water Association Congress to be held in Kampala, Uganda. For ACWUA, ABRI created the sponsorship package and form in English and French, as well as the sponsorship page on ACWUA.org for their upcoming 3rd Best Practice Conference on Non-Revenue Water to be held January 20-21, 2010 in Rabat, Morocco. Finally, following up on the interest expressed by the Dutch embassy in Syria to fund Syrian participation in ETIC activities, a proposal for the "Young Professional Forum for Collaboration in the Euphrates Tigris Region" was submitted to Tarek Morad (Dutch Embassy in Cairo) who has forwarded it on to his colleagues in Syria.
- **Africa WASH Trainings.** The third and final WASH Training was held in Nairobi, Kenya from October 26th through October 30th, 2009. The training brought together 20 participants from USAID missions in Africa, plus one State Department representative. The training included plenary and working group presentations and exercises, plus site visits to an EcoTact Iko Toilet in downtown Nairobi and a Water and Sanitation for the Urban Poor

(WSUP) project in Naivasha. The training received positive feedback from participants who expressed their commitment to maintain contact with their colleagues upon returning to their posts to facilitate cross learning and a desire for the training to be expanded and held again in the future.

- **USAID Programming Guidelines Manual.** During the period, the technical team submitted two more drafts of the manual to USAID for review prior to general distribution.
- **Building Awareness through International Outreach and Communications.** ABRI submitted the final World Water Week synthesis reports for USAID-sponsored seminars to the Stockholm International Water Institute (SIWI). These are available under the seminar pages online at www.worldwaterweek.org. ABRI invited strategic partner IWA to co-convene a seminar on Non-Revenue Water best practices at the upcoming 15th Congress of the African Water Association (AfWA). ABRI will also be launching the USAID-funded Non-Revenue Water Handbook with African case studies at the AfWA Congress, which is the first conference to discuss the climate change impacts on African utilities. In this context, ABRI is also working with IWA to present the methodology and program achievements from the RAED “Arab Communities Adapting to Climate Change” program in a seminar on disaster preparedness, thereby providing knowledge transfer between the Middle East, North Africa, and Sub-Saharan Africa regions.
- **Morocco Wastewater Reuse for Agriculture.** The final reports documenting this activity were submitted to USAID through the Development Experience Clearinghouse.
- **Middle East Center of Excellence on Water.** In December, the ABRI director, Peter Reiss, lead two-person pre-assessment team in Egypt, Israel, Jordan, and the United Arab Emirates, meeting with 67 people from USAID Missions, U.S. Embassies, ministries and agencies, water-related international and regional centers, foreign donors, the private sector, and an NGO. The objectives of the trip were to update partners on the U.S. government’s interest in exploring a center on water in the Middle East; explain the assessment process, which involves U.S. government interagency participation through regular and repeated discussions with partners in the region; solicit ongoing partner collaboration during the design and implementation phases; begin discussing national and regional needs and opportunities in the water sector; and request their welcoming of a larger interagency group in February/March 2010 to continue the discussions and co-design. The team submitted a trip report to USAID/Middle East at the end of 2009.

1. STATUS OF IMPLEMENTATION ACTIVITIES

TASK 1: PROMOTE TRANSBOUNDARY WATER COOPERATION TO IMPROVE WATER SECURITY

Activity 1.1: Design a Track 2 Shared Initiative by Riparian Experts on the Tigris-Euphrates

Activity Manager: Faisal Rifai (DAI)

During the reporting period, the title of the Tigris-Euphrates collaboration was produced in three languages (Arabic, Turkish and English) as follows:

Fırat-Dicle Bölgesi'nde Ortaklaşa Planlama ve Bilgi Açılımı ETIC ve ABRI Ortak Eylemi
Collaborative Planning and Knowledge Development in the Tigris-Euphrates Region

Task 2 (Data Inventory) and Task 3 (Data Harmonization)

During the reporting period, the three riparian teams of experts continued to compile publicly available data from various sources and establish the data inventory as described in the July – September quarterly report. This exercise consisted of identifying the types of publicly available data in each country and listing and cataloging them in-detail with cross-referencing. The data inventory was established for the administrative boundaries where the Euphrates and Tigris Rivers pass. The region comprised 11 governorates in Turkey, 4 governorates in Syria and 18 governorates in Iraq. The inventory consisted of information on hydraulic structures, climatic parameters, land use, social and human data, healthcare, and economic data, research activity, and a bibliography and list of technical terms in Arabic, Turkish and English.

During the reporting period, the experts also agreed upon the framework for data harmonization (Task 3). It was decided that common data will be presented by thematic classification and by Governorate. The data is in MS-Word 2003 and MS-Excel files.

Nine thematic maps for the TE region were also produced in GIS format. The possibility of producing much of the compiled data in GIS format was considered.

A domain for a website has been reserved in the name of www.etic-org.net and principles for the representation of the compiled data were discussed.

Meetings and Events

- National teams in Iraq, Syria, and Turkey held several meetings in their home countries to discuss the compilation of data and the design of future work.

- The Activity Manager convened meetings in Aleppo with the Syrian team and two team coordination meetings in Ankara from September 30 - October 3, 2009. During the meetings the teams discussed the progress of the ongoing effort, made several decisions relevant to Tasks 2, 3, and 5 and planned for next steps. Also, meetings were held in Beirut, Aleppo and Ankara November 10-16 for follow-up.

Proposed for the coming period:

Contributions to capacity building efforts (Task 4) are planned for January 2010 on GIS in the Tigris- Euphrates region for 26 young scientists from Iraq, Turkey and Syria. The program will consist of 8 sessions on the fundamentals of GIS, hydraulic structures, institutional structure of the Water Sectors in the riparian countries, and principles and practices of GIS in the TE region.

Additionally, a team meeting will be held in Aleppo, Syria on January 16-18, 2010 and will specifically:

- Review, discuss and finalize the three Country Coordinator reports on Iraq, Syria and Turkey, giving background information on their respective countries
- Complete the remaining gaps in country data to match the common data structure for the three countries
- Finalize the establishment of a common standard for a searchable website and framework for harmonization
- Finalize the production of Tigris-Euphrates multi-layer maps
- Facilitate collaboration among different languages by preparing a list in three languages of all major locations (town, cities, governorates, mountains, rivers, dams, hydraulic structures. etc) with correct spellings and pronunciations
- Use data to complete the GIS project in the Tigris-Euphrates region
- Translate the multi-layered map in three languages for the dams in the Tigris-Euphrates region in GIS format and a longitudinal profile for the Rivers showing water levels
- Work out a tentative plan for the content of the final report of the Activity and start working to finalizing the compiled data

TASK 2: IMPROVE WATER RESOURCES MANAGEMENT

Activity 2.1: Identify Opportunities for Improved Aquifer Management in Yemen

Activity Manager: Ali Farhan (Hydro-Yemen)

The draft of the final report of Wadi Buwaysh has been discussed with NWRA experts. Upon discussing the final report, they requested more site readings to make sure that the ground water levels in the wadi have been stabilized after the big flood of late 2008. Consequently, the ABRI team made another field visit to update the findings of the earlier visit that was undertaken during March-April 2009. The second visit was undertaken on October 3, 2009 and continued for 8 days. It covered the areas of Wadi Buwaysh and Wadi Fuwwah. The new readings that resulted from the additional visit have been incorporated in the reports. After updating, the final reports of both Wadis (Tasks 2 and 3) will be completed and delivered by the end of December 2009. As a result of these changes, the work on the final task, Groundwater Modeling, has also been extended to the end of February 2010.

Task 1: Creating a Database

The ABRI technical team engaged in this activity worked closely with the experts of the National Water Resources Authority (NWRA) for two months to develop a database compatible with NWRA'S Main Database, which is called National Water Resources Information System (NWRIS). The database has been created using MS Access 2003 and includes a component to store and coordinate all monitoring parameters for Wadi Buwaysh and Wadi Fuwwah. New monitoring parameters can easily be added without changing the structure of the database. Currently, water related data originating from other Authorities are being added as well as data resulting from specific field studies, such as data on rainfall, climate, ground water etc.

Implementing Tasks 2 and 3: Well Inventory and Monitoring Network

The well and spring inventory survey of Wadi Buwaysh and Wadi Fuwwah in Hadhramout is being conducted as per NWRA's guidelines and under its supervision. For tabulation and analysis, all data collected from the well inventory survey was entered into the database system using the Microsoft Access Database program adopted by NWRA.

Implementing Task 4: Groundwater Modeling

Work on the final task, Groundwater Modeling, has begun. By using the results of hydro-geological investigations and assessments of the ABRI team, refined aquifer characteristic values and abstraction estimates will yield better understanding of the groundwater flow regime in the area of the two investigated wadis.

Proposed for the coming period:

- Work on the final task (Task 4: Groundwater Modeling) has already begun. The task's objective is to assess aquifer opportunities for actions in the two wadis—Buwaysh and Fuwwah—of Hadhramout in Yemen. It will include updating the estimates on annual recharge and discharge; Making predictions for groundwater table changes; Assessing the general flow direction of groundwater and examining the possibility of interference of groundwater aquifers layers in horizontal and vertical directions.
- The activity will be concluded by completing Tasks 2 and 3 by the end of December 2009, while Task 4 will continue until the end of February 2010.

Activity 2.2: Integrate Irrigation Water User Participation into the Latest Commercialization and Private Sector Management Thinking

Activity Manager: Amer Jabarin (ECO Consult)

Following the stakeholders' workshops that were held in Marrakech, Morocco from May 12-13, 2009 (attended by more than 50 participants from the WUAs members and other stakeholders) and the subsequent brainstorming sessions in the Tamellalt region in El Haouz (Marrakech) for two WUAs (El Fath and Soutania), a model for future collaboration and partnerships between the WUAs and other stakeholders was developed. This model created the foundation for building the WUA business plan.

- In collaboration with and through support from the USAID mission in Rabat, the ABRI team prepared and organized the final workshop in Rabat on November 17, 2009. The workshop was attended by nearly 40 participants from the following organizations and sectors:
 - The farmers of the WUAs
 - USAID
 - Ministry of Agriculture, ORMVA of El Haouz, Doukkala, Oriental and Souss Massa.
 - CROP-Life International
 - Drip Irrigation association (AMIAG)
 - Private sector
 - Educational institutions
 - Research and development institutions.

- The workshop was inaugurated by Mustafa Hamzaoui from USAID/Morocco and Said Bara from the Ministry of Agriculture.

- The ABRI team presented the business plan and distributed hard copies in French and Arabic. In addition to presenting the business plan, several presentations were delivered in the workshop covering the following topics:
 - WUAs in Morocco, weaknesses and strengths
 - Contract farmers in Morocco.
 - Green Morocco Plan: What about the WUAs?
 - Green Morocco Plan and the aggregation system
 - CROP-Life and the training program for the WUAs
 - Drip irrigation associations and the partnership with the WUAs
 - SOPROLIVES and the aggregation program with the WUAs

- As indicated in the business plan, the ABRI team was able to help in establishing the following partnerships between WUAs and other business establishments, described below:
 - WUAs with AMIAG: AMIAG conducted free feasibility studies on the drip irrigation system for the two WUAs and will also provide training on the use of the drip irrigation system.
 - WUAs with CROP-Life: CROP-Life is delivering a series of training sessions to about 60 farmers of WUAs covering a wide range of issues that were raised by farmers during our meetings in May and August 2009. The first round of farmer training was held on November 19, 2009.
 - SOPROLIVES, a society of olive producers and processors, is thinking about an aggregation form with the WUAs. The ORMVAH is now working with them on the details of the collaboration.

- The Business Plan and financial analysis clearly showed the high interest of the WUAs farmers to install drip irrigation systems. The analysis showed that the gross margin per hectare is around 9500 Dh/Ha and demonstrated that the improvement in water use efficiency resulting from installing the drip irrigation system will raise the returns per cubic meter of water from 5 Dh/m³ to 12.7 Dh/m³.

Proposed for the coming period:

This activity has been completed.

TASK 3: IMPROVE WATER SUPPLY AND SANITATION SERVICES

Activity 3.1: Support the Arab Countries Water Utilities Association

Activity Manager: Peter Reiss (ABRI Director)

- Working sessions for the business planning subcommittee resumed during the reporting period. The first session took place in Amman, Jordan at ACWUA's headquarters on 14-15 October. Attendees included ACWUA's Secretary General, the business planning subcommittee, ABRI business planning expert, Philip Giantris, and ABRI Technical Assistance advisor (Koussai Quteishat). Participants reviewed the following elements of the Business Plan, as developed by the Business Planning Lead Expert:
 - Vision statement
 - Mission statement
 - Strategic goals
 - Organizational structure and staffing
 - Actions plans
 - Budget forecast

An important element of this meeting was to revise and come to a final decision on the quantitative values for each of the Strategic Goals. Equally important at this meeting was the long and necessary discussion that surrounded the Organizational Structure and Staffing of ACWUA. This meeting also provided the Business Planning Lead Expert with additional financial and forecasted membership data to allow for a greater refinement of the financial model that supports the Business Plan.

- A second session took place in Alexandria, Egypt on the 17th and 18th of November. Attendees included the ACWUA Secretary General, the business planning subcommittee, an ACWUA Chairperson, and the ABRI business planning expert. The Board of Directors Business Plan Work Group reviewed the following elements of the Five-Year Business Plan, as developed by the Business Planning Lead Expert:
 - Knowledge management plan
 - Communications plan
 - Organizational structure and staffing
 - Action plans in support of strategic goals
 - Budget forecast

The Knowledge Management Plan and the Communications Plan were both explained by the Business Planning Lead Expert. The Action Plans to support each of the Strategic Goals was discussed in detail. Finally, the Budget Forecast was discussed and reviewed in great detail, by line item, to help guide the Business Planning Lead Expert in the preparation of the First Draft Business Plan.

- Following the Alexandria meeting, the Business Planning Lead Expert developed the First Draft of the Business Plan with a budget forecast and transmitted it to the Secretary General on December 14, 2009. This draft plan is expected to be translated and submitted to the Board of Directors in January 2010 for approval.
- For both business planning meetings, ABRI provided full financial coverage (travel and accommodation) for all travelling participants.
- ABRI supported ACWUA's participation in the RAED climate change workshop held on October 31 - November 1, 2009 in Cairo, Egypt. ABRI fully covered the participation cost of ACWUA's Secretary General, in addition to providing technical assistance in preparing his presentation for the event.

During the Cairo workshop, ONEP, ACWUA and ABRI also finalized the sponsorship package and discussed the purpose and content of an ACWUA membership questionnaire. Following this discussion, ABRI finalized a membership questionnaire to help ACWUA vet their product and service offering defined in the business plan. This questionnaire will serve as a baseline for a redesigned questionnaire to be created by specific ACWUA working groups in the future.

- ABRI provided support in preparing a proposal that was submitted to UN-HABITAT for the implementation of WOPs located in the region in association with ACWUA.
- ABRI provided consultations to GTZ for their mid-year review of the activity supporting ACWUA and also participated in consultations between ACWUA and SIDA, which is considering proposals submitted by ACWUA for the support of two of their Technical Working Groups.
- ABRI supported the development of the sponsorship page for the upcoming non-revenue water (NRW) conference in Morocco in early 2010.

Proposed for the coming period:

- Engage the ABRI business planning team and short term communications consultant with the ACWUA-appointed program director to finalize the expanded business plan, including communication strategies. It is worth mentioning at this stage that the appointment of a program director has not yet happened at the Association.
- The Secretary General will provide comments on the Draft Business Plan to the Business Planning Lead Expert, who will incorporate them into a Final Draft Business Plan.
- The Final Business Plan will be sent to each member of the Board of Directors, prior to the Board of Directors Meeting planned for January 22, 2010 in Rabat, Morocco. The final actions and decisions of the Board of Directors will be incorporated into the Final Five-Year Business Plan. Once the business plan is finalized, it will be produced both in English and Arabic.
- Provide support to ACWUA's technical working groups (scopes of work, approach and communication plan), contingent upon their formation.

- Provide technical support to ACWUA by preparing a presentation on the organization's behalf on the role of water utilities in Arab countries (based on ACWUA's experience) in water conservation and protection for urban water management. The presentation will be given at the workshop on Water Demand Management being planned by the International Development Research Center (IDRC) and Arab Water Academy (AWA) in Abu Dhabi in January 2010.
- Non-Revenue Water Conference – ABRI is collaborating with GTZ and ONEP to solicit sponsorships and exhibitors for the January conference which has the purpose of building ACWUA's brand and membership offering in the region.
- ABRI will design and convene an Internal Planning Meeting to discuss roles and responsibilities among ACWUA's staff. The result could be a 2010 annual plan with clear and agreed upon responsibilities and procedures and an operations manual.
- ABRI will support an Expert Panel for ACWUA, which will bring a panel of utility experts to explore ACWUA's working groups. This will specifically include an assessment of how they will be productive and useful, their goals, how to gain member commitments, and how they should function. ABRI will help develop the agenda, organize and facilitate the meeting.

Activity 3.2: Support the Egypt Regulatory Agency

Activity Manager: Peter Reiss (DAI)

The ABRI Director met with Director General Mohamed El Alfy to discuss the status of the activity. Eng. El Alfy has asked ABRI to provide assistance with an operator certification program and provide MIS/IT assistance.

Operator Certification Program

The Ministry of Housing, Utilities and Urban Development (MHUUD) has mandated the development of a program to certify water and wastewater treatment plant operators through a system of examinations. USAID is supporting that mandate in the Water Policy and Regulatory Reform project where an operator certification policy has been developed and all water and wastewater plants have been rated and classified on the basis of size and complexity of treatment process. Based upon the classification of plants, the operators will be grouped for certification. For each of those groupings core operator competencies must be developed. Based upon those core competencies, exam questions will be developed. As operator certification exams will be composed of 50 questions, a databank of 150 questions must be developed for each of four water operator classifications and four wastewater classifications.

MIS/IT Technical Assistance

Under the USAID-funded Water and Wastewater Sector Policy Reform project (WWSPR), a web based program management system (PRiSM) was developed for the Ministry of Housing, Utilities and Urban Development (MHUUD). That system currently tracks over 2,000 construction projects being managed by five MHUUD Agencies. The WWSPR project finished in September of 2009 and further reports and system enhancements to the system have been requested by MHUUD Agencies.

Proposed for the coming period:

ABRI will enter into a subcontract with CHME to carry-out the activities described above.

Activity 3.3: Develop a Twinning Relationship in Africa

Activity personnel: Jeremy Hagger (DAI)

During the quarter, ABRI worked diligently to support the creation of a twinning relationship between the national water utility of Uganda, the National Water & Sewerage Corporation (NWSC) and the emerging Southern Sudan Urban Water Corporation, the multi-city water parastatal for Southern Sudan (SSUWC). During the third quarter of 2009, ABRI's Jeremy Hagger went to Juba, Southern Sudan where he met with the USAID Mission and the key officials of both the Ministry and the SSUWC. He shared twinning documents with both utilities and secured agreement in principle from both utilities. During the fourth quarter of the year, Mr. Hagger and USAID's Carl Mitchell met with NWSC's Managing Director, William Muhairwe, in Nairobi, Kenya and discussed the proposed program with him where he confirmed his support. ABRI then supported a meeting in Johannesburg, South Africa in November 2009 between Mr. Mitchell, senior designated members from NWSC, and USAID/Juba's Senior Water Advisor. They reviewed budgets and activities and reached broad agreement. Near final partnership agreements were then exchanged between NWSC and SSUWC and were reviewed by USAID/Washington. The parties agreed in December 2009 that the Minister of Water Resources and Irrigation (MWRI) from Southern Sudan would travel to Kampala early in 2010 to participate in a formal signing ceremony.

Proposed for the coming period:

In the first quarter of 2010, ABRI will facilitate the travel of the Minister plus four SSUWC officers to Kampala to participate in a three day utility reform seminar and to sign the partnership or twinning agreement. This mission is currently scheduled for February 7-12, 2010. ABRI will make travel and hotel arrangements and is reviewing options for providing needed M&IE to the participants. Similar support will be offered to a SSUWC delegation to the AfWA 15th Congress in March 2010. At the same time, an agreement will be made with the NWSC reimbursing them for costs associated with the partnership.

Activity 3.4: Africa Non-Revenue Water Manual and Conference

Activity personnel: Jeremy Hagger (DAI)

During the quarter, work intensified on the production of the first Non Revenue Water (NRW) Manual specifically designed for African utilities as well as on the design of the seminar which will launch the product.

Some years ago, Eco-Asia, ABRI's sister program for Asia, sponsored a NRW Manual for Asia which was aimed at emerging water utilities. The volume was compiled by Malcolm Farley, a British expert with substantial experience in developing countries and immediately enjoyed substantial positive reviews. Early in 2009, a representative of the World Bank Institute met with USAID's Carl Mitchell and noted the success of the Asia volume and the absence of a comparable source for Africa. Mr. Mitchell later directed ABRI to investigate a similar initiative for Africa. In mid-2009, ABRI entered into a contract with Malcolm Farley for the production of a similar NRW manual for Africa.

During this period, the World Bank's Water & Sanitation Program was working with the African Water Association (AfWA), Africa's association of water utilities, on the subject of reduction of NRW and had been advocating the use of Water Operator Partnerships as a way of tackling the problem. Both the Bank and AfWA were very supportive of USAID's sponsorship of the NRW Manual. AfWA's Secretary General agreed to write the Foreword to the manual and urged USAID to launch the publication at its 15th Congress to be held in Kampala in mid-March 2010. ABRI then applied for a seminar slot at the Congress dedicated to the NRW subject and the launch of the publication.

During the quarter, Mr. Farley completed a first draft of the manual and submitted it to ABRI for preliminary review. AfWA also notified ABRI that the USAID proposed NRW seminar had been accepted for Kampala and asked ABRI to complete the program design, inform speakers etc. USAID will open the seminar and asked ABRI to contact the International Water Association (IWA) and ascertain whether they would like to co-sponsor the seminar and co-open the session IWA responded in the affirmative. This activity is consistent with the IWA-USAID Memorandum of Understanding which ABRI helped to structure earlier in 2009.

Proposed for the coming period:

During the first quarter of 2010, ABRI will assist with a limited printing of the NRW manual as well as with a limited pressing of CD versions of the manual. ABRI will support Malcolm Farley's attendance at the Kampala Congress where on March 17th, he will chair the USAID-IWA NRW session and launch the publication. Among the panelists, who have confirmed their attendance, will be Dennis Mwanza from WSP. Dennis will speak about how to use a Water Operator Partnership to pursue a NRW program.

TASK 4: OVERARCHING PROGRAM SUPPORT

Activity 4.1: Future Water Leaders Program

Activity Manager: Manar Fayyad (DAI Consultant)

ABRI invited the Future Water Leaders based in Egypt to attend the RAED climate change workshop in Cairo in keeping our promise to provide opportunities for continued learning through other ABRI activities. Four fellows attended the workshop.

Proposed for the coming period:

There are no proposed activities for the remainder of the program.

Activity 4.2: Partnership and Alliance Building

Activity Managers: Kristina Kohler (Public-Private Partnership Specialist, DAI) and Nemat Guenena (Public-Private Partnership Specialist, EQI)

A major focus of the partnership team during the reporting period was researching and compiling an inventory of potential research partners and co-funders from the Middle East, United States, Europe and United Nations to support the Middle East Center of Excellence on Water (MECEW).

ETIC

ABRI submitted a proposal to the Dutch embassy to request the support of Syrian participation in the “Young Professional Forum for Collaboration in the Euphrates Tigris Region” program. The proposal was submitted to Tarek Morad at the embassy in Cairo, Egypt, who will pass it on to his colleagues at the Dutch embassy in Syria.

ACWUA

During the reporting period, ABRI supported ACWUA’s Non-Revenue Water conference. The partnership team completed the sponsorship package, designed the sponsorship form in English and French, as well as the web pages on www.ACWUA.org for interested parties to learn more and download the forms. The materials are meant to be a standard format that can be used for future ACWUA conferences. ABRI has reached out to eleven US and European companies that specialize on non-revenue water management and might be interested in building out their business in the Middle East. Primary responsibility for sponsorship, however, rests with GTZ (via DWA) and ONEP as they are located in the region.

RAED National Climate Change Workshop in Egypt

In addition to supporting the participation of ACWUA’s Secretary General in the workshop, ABRI also secured the participation of the International Water Association (IWA), represented by Dr. Henk Van Schaik, program coordinator for the Cooperative Programme on Water and Climate (CPWC), ONEP by Engineer Mokhtar Jaait Head of Research & Development, and the Regional Information Technology and Software Engineering Center (RITSEC) by its chairman, Dr. Hisham El Sherif. All four organizations contributed presentations to the workshop as well as participated actively in the discussions on RAED’s hotspots initiative. In addition to the presentation made by its chairman, RITSEC, a non-profit regional organization based in Cairo, Egypt and founded by the UNDP and the Arab Fund for Economic and Social Development (AFESD), also contributed \$5,000 towards the workshop. ABRI partnership specialist Nemat Guenena spoke at the opening session about ABRI’s approach to partnering with regional institutions to advocate for a more efficient management of water resources and to promote the implementation of best practices across borders.

Following the conference, ABRI conducted meetings with IWA to explore ways to strengthen the partnership link between IWA and RAED, as well as with ACWUA on the topic. Specifically, ACWUA could leverage an IWA presentation series that educates utilities on the impact of climate change, and ONEP and ACWUA (via the RAED hotspots project) could provide case studies from the Middle East to the IWA climate change task force and best practice group for dissemination and knowledge sharing among regions.

Finally, ABRI’s partnership team continues to coordinate the monthly contributions to the RAED newsletter which has a circulation of over 1,500 throughout the Arab region. Each month one ABRI activity is highlighted. In this quarter, ABRI contributed articles entitled “Assessing Aquifer Opportunities for Action in Yemen”, “ABRI AND RAED: The Fourth National Workshop on Climate Change Held In Cairo”, and finally, “Microfinance for Water and Sanitation”.

Proposed for the coming period:

ETIC

Should ETIC's executive director present the partnership team with a proposal for an ETIC Regional Atlas, Nemat Guenena will reach out to the Dutch and UNDP to solicit post-ABRI support for the ETIC program.

ACWUA

ABRI's goal is to secure one sponsor for the upcoming Non-Revenue Water conference to be held in Rabat, Morocco January 20-21, 2010. (Primary responsibility for sponsorship needs to come from within the region by ONEP and GTZ). The timing has been very short (only one month) and we are testing the sponsorship levels. ABRI is encouraging ONEP, ACWUA and IWA to collaborate on sharing climate change related case studies and educational materials within the region, but this will need to be owned by ACWUA to be moved forward. ABRI has offered to support ACWUA's Secretary General in developing a proposal to the Kuwait Development Fund and the Arab Fund for Economic and Social Development (AFESD), however, ACWUA will need to be actively engaged in this process for it to be successful. ACWUA's further involvement in RAED hotspots and IWA climate change knowledge sharing will be managed by Eng. Khashman until an ACWUA Working Group member is identified to lead the effort.

RAED Climate Change Workshop

ABRI will assist RAED in developing a proposal for its "Arab Communities Adapting to Climate Change" program. The goal of the proposal support is to incorporate areas of engagement for regional partners IWA, ACWUA and RITSEC as well as to develop a proposal in English that can be used to attract additional donor funding. ABRI is also working with IWA and RAED to document the program's multi-stakeholder engagement methodology and strategic value and to present this at the African Water Association (AfWA) 15th Congress in Kampala, Uganda in March 2010.

Activity 4.3: WASH Training Sessions for USAID Missions in Africa

Activity Manager: Kathy Alison (Training Resources Group)

The ABRI team, in close collaboration with USAID technical trainers Carl Mitchell, Heather Skilling, Merri Weinger, and Sharon Murray amongst others, has designed and implemented three successful and well-received WASH trainings for Africa-based USAID mission staff over the past year (in Maputo, Mozambique, Dakar, Senegal, and Nairobi, Kenya). The purpose of this training is to better orient mission staff to the various aspects of Water, Hygiene, and Sanitation (WASH) to help them effectively program activities that respond to these important issues.

Course Objectives

By the end of the course, USAID staff is able to:

- Describe why the WASH sector is important for USAID;

- Discuss and apply institutional and legal requirements to USAID programming in the WASH sector;
- Examine proven interventions in Water, Sanitation, and Hygiene that are available to accomplish WASH objectives;
- Plan how to apply USAID resources and programming mechanisms to address challenges and comply with regulations in the WASH sector – leading to effective and responsive WASH programming.

Kenya Training Course (October 26-30, 2009)

ABRI provided logistical support and training facilitation at the third and final WASH training held in Nairobi, Kenya from October 26-30, 2009. ABRI Project Coordinator, Alison Bishop, provided support to the USAID training team in the weeks leading-up to the workshop by preparing updated training binders for participants and trainers containing all PowerPoint presentations and handouts and gathering supplies that would be used during the training. She also worked closely with Kathy Alison, the training facilitator, to ensure that all necessary preparations had been made by the hotel and that all needed supplies would be available. Ms. Bishop traveled to Nairobi ahead of the training team to review logistics with the conference coordinator assigned to the event by the Holiday Inn Nairobi (where the event was held) and purchase the remaining supplies. Ms. Bishop was later joined by ABRI Deputy Chief of Party Jeremy Hagger, who managed the site visit to an IcoTact EcoToilet in downtown Nairobi and a Water and Sanitation for the Urban Poor (WSUP) project in Naivasha, and Kathy Alison, who facilitated the 5-day training.

Throughout the week, participants were actively engaged in the various presentations and exercises designed to facilitate active learning and maximize information retention. The site visit to the EcoToilet and WSUP project in Naivasha generated interest among the participants, who appreciated the exposure to innovative programs and the opportunity to see the implementation of the concepts they had been learning.

By the end of the week, the group had formed strong relationships and supported each other in the development of new ideas and opinions. During the closing ceremony, the participants applauded the work of the WASH training team and vowed to stay in close contact with their colleagues in other missions to encourage knowledge sharing.

For the coming period:

At the request of USAID, ABRI will compile a list of all documentation generated for the training, a list of logistical needs, and instructions were the training course replicated elsewhere.

The Kenya training was the final WASH training planned under ABRI.

Activity 4.4: USAID Programming Guidelines Manual

Activity Manager: Peter Reiss (ABRI COP)

During the period, the manual's technical team worked closely to develop two additional drafts of the document. It met with those responsible at USAID to clarify the requirements. As a result, the second version of the manual was major rewriting of the document with worksheets added, the document reorganized and edited. ABRI is awaiting comments on the draft.

Proposed for the coming period:

If the draft is received positively, we expect that it will be distributed to a wider audience for comments, with USAID/Washington and to selected missions. The team is prepared to make any additional changes requested by USAID.

Activity 4.5: Building Awareness through International Outreach and Communications

Activity Managers: Kristina Kohler and Nemat Guenena

World Water Week

ABRI submitted synthesis reports to the Stockholm International Water Institute (SIWI) on the two half-day seminars it convened: "Impact of Collaboration in the Tigris-Euphrates Region" and "Unpacking the Business Case for Microfinance for Water and Sanitation". The reports can be found under their respective seminar web pages at www.worldwaterweek.org.

African Water Association (AfWA) 15th Congress

ABRI is working with IWA to incorporate RAED and possibly ONEP as panelists in IWA sponsored seminars on disaster preparedness and utilities preparedness related to climate change. ABRI and IWA have also agreed to be co-sponsors of a seminar on Non-Revenue Water. The seminar application has been submitted and we are awaiting AfWA's confirmation in the agenda. Jeremy Hagger is working with Malcolm Farley to finalize the Non-Revenue Water handbook for Africa that will be launched at the AfWA Congress to be held March 15-18, 2010 in Kampala, Uganda.

Proposed for the coming period:

African Water Association (AfWA) 15th Congress

ABRI continues to work with IWA and RAED to draft a document outlining the climate change workshop process. This paper will be presented by RAED in the IWA-convened seminar on disaster preparedness for communities. Once approved, ABRI will finalize the Non-Revenue Water seminar with IWA. ABRI will be funding the attendance of Dr. Emad Adly (RAED) and Dr. Malcolm Farley (NRW Handbook) at the AfWA Congress.

Activity 4.6: Develop a Strategy for Wastewater Reuse in Morocco

Activity Manager: Said Ouattar (DAI)

The four reports documenting this activity were submitted to the USAID Development Experience Clearinghouse to ensure their accessibility to a broad audience.

Proposed for the coming period:

This activity is complete and no further actions are planned.

Activity 4.7: Middle East Center of Excellence on Water

During period, ABRI joined a number meeting with USAID and State personnel to discuss the design of the Center. In November, it was asked to be on a small pre-assessment team to the Middle East to update partners on the U.S. government's interest in exploring a center on water in the Middle East; explain the assessment process, which involves U.S. government interagency participation through regular and repeated discussions with partners in the region; solicit ongoing partner collaboration during the design and implementation phases; begin discussing national and regional needs and opportunities in the water sector; and request their welcoming of a larger interagency group in February/March 2010 to continue the discussions and co-design. In December, the ABRI director, Peter Reiss, lead two-person pre-assessment team in Egypt, Israel, Jordan, and the United Arab Emirates, meeting with 67 people from USAID Missions, U.S. Embassies, ministries and agencies, water-related international and regional centers, foreign donors, the private sector, and an NGO. The team submitted a trip report to USAID/Middle East at the end of 2009. The trip report has been distributed within Washington and to embassies and missions visited during the trip.

Proposed for the coming period:

ABRI expects continued involved in the design of the Center, including the preparation of an action plan and identification of scenarios and possible participation on additional pre-assessment trip and on a large team trip in March.

TASK 5. PROGRAM MANAGEMENT

During the reporting period, ABRI finalized and implemented a budget tracking system to facilitate close monitoring of program finances and commitments through the end of the project.

With ABRI's coming close, the team has begun preparing for closedown and has taken steps to initiate the process within DAI, including the creation of a closedown committee. Additionally, Kristina Kohler, Partnership Development Specialist for the US and Europe, was notified that her contract would come to a close in the next period due to funding limitations.

The ABRI Program Director made a preliminary request to the project COTR for his approval of all past travel funded by ABRI. Once ABRI has prepared a list of ABRI-funded travel, it will be presented to the COTR for review and approval.

ABRI also continued work on the project budget realignment, which will be submitted to the Contracting Officer for approval in the next quarter.

Proposed for the coming period:

- ABRI will submit a project closedown plan to USAID for review and approval in accordance with the ABRI task order contract.
- ABRI will complete a list of all project-funded travel and will present it to the COTR for approval.
- ABRI will submit the realigned project budget to the COTR and CO for review and approval in the next quarter.

- Kristina Kohler will end her contract on January 22, 2010.

ANNEX: ABRI PUBLICATIONS TO DATE

1. Partner Inventory for the Middle East Center of Excellence on Water
2. Projet Pilot: Réutilisation des Eaux Usées Traitées en Agriculture à Meknès, Maroc. Rapport 1: Diagnostic et Analyse de la Situation Actuelle: Janvier/Avril, 2009. (Available in English and French)
3. Pilto Project : Reuse of Treated Wastewater in Agriculture in Meknès, Morocco. Report 2 : Soil, Land Use and Irrigation Network Mapping : January/April 2009. (Available in English and French)
4. Projet Pilot: Réutilisation des Eaux Usées Traitées en Agriculture à Meknès, Maroc. Rapport 3 : Design du System d'irrigation et Cadre Institutionnel : Jan/May 2009. (Available in English and French)
5. Projet Pilot: Réutilisation des Eaux Usées Traitées en Agriculture à Meknès, Maroc. Rapport 4 : Guidelines pour la Réutilisation des Eaux Usées Traitées : Jan/May 2009. (Available in English and French)
6. ABRI Quarterly Report: April – June, 2009
7. Training Report, Future Water Leaders Module 2. January 2009.
8. Training Report, Future Water Leaders Module 1. October 2008.
9. ABRI Quarterly Report 4: April – June 2008. August 2008
10. ABR Year Two Workplan. July 2008
11. Mapping of Alliance and Partnership Opportunities and Implementation Plan. June 2008
12. Water User Associations in the Middle East: Drivers for Commercialization and Improved Water Management? June 2008
13. Quarterly Report 3: January – March 2008. April 2008.
14. Future Water Leaders Program Announcement and Application. April 2008.
15. ABRI Co-investment Strategy. March 2008.
16. Water User Associations in the Middle East: Preliminary Findings and Next Steps. March 2008.
17. ABRI Quarterly Report 2: October – December 2007. January 2008.
18. Assessing Transboundary and Domestic Aquifer Opportunities for Joint Action in Yemen, Jordan, and Saudi Arabia. January 2008.
19. ABRI Quarterly Report 1: May – September 2007. November 2007.

20. Bujagali Dam Environmental Mitigation Assessment. August 2007.

21. ABRI Year One Workplan. June 2007.