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FURTHER ADVANCING THE BLUE REVOLUTION INITIATIVE (FABRI)

**QUARTERLY PROGRESS REPORT NO. 1:
SEPTEMBER 15-DECEMBER 14, 2011**

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Further Advancing the Blue Revolution Initiative Quarterly Report

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ACRONYMS

ACWUA	Arab Countries Water Utilities Association
AfWA	African Water Association
AMCOW	African Ministers Council on Water
COTR	Cognizant Technical Officer
CSP	Concentrated Solar Power
EC	Electrical Conductivity
EPA	Environmental Protection Agency
ETIC	Euphrates-Tigris Initiative for Cooperation
FABRI	Further Advancing the Blue Revolution
GIS	Geographical Information System
GPR	Ground Penetrating Radar
IAV	Institute of Agronomy and Veterinary Science Hassan II
ICARDA	Instituting Water Demand Management in Jordan Program (USAID)
ICBA	International Center for Biosaline Agriculture
IDA	International Desalination Association
IMU	Interim Management Unit
INGREF	National Institute for Research in Rural Engineering, Water and Forestry
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
JUST	Jordan University of Science and Technology
MEDRC	Middle East Desalination Research Center
MENA NWC	Middle East and North Africa Water Centers of Excellence
NASA	National Aeronautics and Space Administration
NCARE	National Center for Agricultural Research and Extension
NRW	Non-Revenue Water
NWRC	National Water Research Center
OMEF	Office of Middle East Programs
ONEP	National Office of Potable Water
ORSAM	Middle Eastern Center for Strategic Studies
PR&D	Policy, Research and Design
PWA	Palestinian Water Authority
QEERI	Qatar Environment and Energy Research Institute
QNFSP	Qatar National Food Security Program
R&D	Research and Development
RFA	Request for Applications
RSS	Royal Scientific Society
SIWI	Stockholm International Water Institute
SQU	Sultan Qaboos University
STC	Scientific and Technical Committee
TAMIS	Technical, Administrative and Management Information System
TAMU	Texas A&M University
TRG	Training Resources Group
UJ	University of Jordan
UNESCO-IHE	UNESCO-Institute for Water Education

USG	United States Government
USGS	United States Geological Survey
USU	Utah State University
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WESI	Water and Environmental Studies Center, An Najah University
WLI	Water Livelihood Initiative University

EXECUTIVE SUMMARY

The U. S. Agency for International Development's (USAID) Further Advancing the Blue Revolution Initiative (FABRI) will address critical issues that are driving change in the Middle East and Africa, since water plays a key role in the political, economic and social lives of nations and people. FABRI will launch and establish a new regional water network called the Middle East and North Africa Network of Water Centers of Excellence (MENA NWC) strengthen Integrated Water Resources Management programming, improve the long-term viability of water and sanitation service providers, rationalize water allocations and use, encourage collaboration among riparians in transboundary river basins, and raise USAID staff skills and Agency visibility in water and sanitation.

In June 2009, President Barack Obama delivered a speech in Cairo, Egypt, in which he stressed developing better relations with the Muslim world. He talked about the importance of developing centers of excellence in water, food security, climate change, and other disciplines. MENA NWC is a tangible outcome of that vision. Designed and launched by USAID initially through Advancing the Blue Revolution Initiative and now FABRI, the network will address longstanding water issues in the region through research, policy, and outreach efforts. Working through research partnerships, universities and research institutions in the Middle East will design and carry out research projects on water use efficiency and productivity, water and energy, non-conventional water, groundwater, and water and sanitation, in concert with governments, the private sector, and civil society organizations. Currently, 20 national research institutions and universities in Bahrain, Egypt, Israel, Jordan, Morocco, Oman, Qatar, Tunisia, and West Bank/ Gaza—and four international research centers in Oman, Sri Lanka, Syria, and the United Arab Emirates—are actively participating. In addition, five major U.S. research universities are partners: Utah State University, the University of Florida, the University of California at Davis, Texas A&M University, and the University of Nebraska.

FABRI will create innovative approaches to strengthen water resources programming in the Middle East and in Africa. Over the next three years, FABRI will build relationships with the private sector, between and among the scientific community, governments, universities, and research institutions, the private sector, and civil society. Relationship building and partnerships will be crucial to the success of the project. FABRI's emphasis on uniting a geographically dispersed group of individuals and institutions working in the water sector will support USAID's commitment to strengthen regional platforms, foster transboundary water cooperation and improve utility performance and financial viability.

This document is FABRI's first quarterly progress report. It highlights the actions since program inception in September through 14 December 2011. Major actions and achievements during this first quarter of implementation include the following:

- On October 24, 2011, FABRI submitted a ninety-day work plan to USAID. The work plan was approved by USAID. From October 24-31, 2011, FABRI management convened a start-up meeting to develop a unified approach for implementation and to prepare the first annual workplan at DAI headquarters in Bethesda, MD that included key partners from Jordan, Kenya, and the U.S. Following the meeting, FABRI finalized the Year One Work plan, that USAID approved as the blueprint for implementation.
- FABRI conducted a Member Center Survey to assess the research and communications' interests and requirements of centers in MENA NWC.
- USAID and the Middle East Desalination Research Center (MEDRC) co-hosted the second regional meeting of the Middle East and North Africa Network of Water Centers of Excellence (MENA

NWC) in Muscat, Oman from 5-8 December 2011. Over the course of the three-day meeting, the Network launched five Thematic Partnerships: groundwater; water supply and sanitation; water use efficiency and productivity; non-conventional water; and water/ energy/food security nexus.

- Member centers have identified research priorities and have begun to form multi-Center research teams and plan research activities to take place over the next three to six months.
- FABRI provided a menu of external and internal communications that will be useful in establishing an online presence for the Network as well as innovative internal methods for collaboration on research projects.
- FABRI established a nominating committee that will identify and vet candidates for the Founder Committee and recommend a slate for no objection agreement by the Centers by late February. The Founders Committee will then convene and initiate the Network's legalization process.
- In response to a request from the AFR Bureau FABRI conducted a desktop scan of countries' commitment to the water sector.
- FABRI representatives attended a meeting of the Scientific and Technical Committee (STC) of the Africa Water Association (AfWA) in Rabat to discuss FABRI's technical program with service providers on non-revenue water and corporatization.

1. INTRODUCTION

Water plays a pivotal role in the political, economic and social lives of nations and people. Many countries, including those in the Middle East and Africa, are facing common water challenges- drought, inefficient agricultural water use, groundwater management, inadequate or poor quality water supply, weak or absent mechanisms for sharing transboundary water, etc. Such challenges can lead to conflict within communities and among countries, as well as have negative health, financial and social impacts on populations.

To help respond to these regional water challenges, FABRI will provide technical support to USAID's Middle East and Africa bureaus, fulfilling all requests at the highest technical standards. In this capacity, FABRI will launch and establish a new regional water network called the Middle East and North Africa Network of Water Centers of Excellence (MENA NWC), strengthen Integrated Water Resources Management programming, improve the long-term viability of water and sanitation service providers, rationalize water allocations and use, encourage collaboration among riparians in transboundary river basins, and raise USAID staff skills and Agency visibility in water and sanitation.

Partnerships will form the foundation of all aspects of this initiative. FABRI will develop partnerships—between and among the scientific community, governments, universities and research institutions, the private sector, and civil society—to achieve the project's goals and to ensure that the water sector in the Middle East and Africa is capable of sustaining, and building on, those achievements after FABRI has closed. We will forge intellectual and financial partnerships among the water sector's major players to create an integrated process that spans the identification and design of new approaches and technologies to their production and adoption. Investments and advances in the water sector will improve economic output, agricultural returns, and public health to ease economic burdens and alleviate human suffering.

FABRI's core result will be the launch of the Middle East and North Africa Network of Water Centers (MENA NWC). This initiative is an outcome of President Obama's call to establish Centers of Excellence in the Muslim World during his June 2009 "New Beginnings" speech in Cairo. It has also been mentioned in Secretary Clinton's speeches for World Water Day in 2010 and 2011. MENA NWC will link technical institutions across the region to work together and with outside counterpart institutions on critical water challenges. The Network will strive to foster partnerships; build and exchange regional science and technology capacity to improve water resources planning and management; and develop and disseminate policy tools and technical and management interventions that expand water supply, manage demand, and dramatically increase its efficient and productive use.

A network of cooperating institutions will facilitate collaborative activities, including competitive grants programs, capacity building, institutional twinings, exchanges, fellowships and knowledge management. The Network will be the vehicle for FABRI's goal to strengthen the water sector in the Middle East and North Africa. Additionally, FABRI will support innovative WASH activities in Africa, focusing on opportunities for entrepreneurs to provide water and sanitation services where the public sector has been unsuccessful, and encourage sustainability through affordable but profitable services.

FABRI's first quarterly report outlines the initiative's achievements and plans to build regional capacity to address urgent water challenges and develop sound, coordinated actions in partnership with various actors from the water sector in the Middle East and Africa.

Program Goals

FABRI has six primary objectives

- **Establish an operational Middle East and North Africa Network of Centers of Excellence (MENA NWC).** FABRI will support the creation of the MENA NWC by acting as the Interim Management Unit until a Secretariat is established. The initiative will establish MENA NWC organization, leadership, and finances, as well as manage collaborative, technical, and capacity-building activities via Policy, Research, and Development (PR&D) Grants. Through the MENA NWC, FABRI aims to integrate research and development capacity in the member Centers with the development and dissemination of applied technologies and practices for innovative approaches, systems, and technologies to address water issues important to the region.
- **Strengthen Integrated Water Resources Management Programming.** FABRI will strengthen the legal and regulatory framework for IWRM and implement methodologies to improve and promote the efficient use of water resources through the MENA NWC IWRM Thematic Partnership.
- **Access to Clean Water and Sanitation Improved in Target African and Middle Eastern Countries.** FABRI aims to strengthen the performance of water and sanitation service providers by working with regional “platforms” and associations. The goal is to provide them with innovative and tangible support to improve financial, economic, and operating efficiency. \
- **Strengthen Research and Development Capacities in Irrigation, Groundwater Management, and Drought Risk Assessment and Mitigation.** FABRI will work with a MENA NWC Thematic Partnership to identify the most promising and regionally-relevant technologies and techniques for efficient, productive use of water in agriculture; engage the leading experts in these technologies to transfer knowledge to MENA NWC institutions; and develop and present outreach activities in target countries to encourage government engagement and private sector partnerships around the most successful approaches.
- **Strengthen Transboundary Water Cooperation in Key River Basins.** FABRI will conduct an analysis of transboundary cooperation approaches and apply study findings to the Tigris-Euphrates basin. Results will be used to identify, design and implement one or two pilot projects.
- **Enhance Technical and Outreach Capacity of USAID Staff in Water and Sanitation Programming.** FABRI will strengthen USAID staff capacity in this area by testing and amending the WASH training modules developed and utilized by the USAID Water team and testing and updating the *Programming Guidelines for Water, Sanitation and Hygiene* that has been distributed to missions worldwide.

During the First Quarter

This document is FABRI’s first quarterly progress report. It highlights the actions since program inception from September 15 through December 15, 2011. Major actions and achievements during this first quarter of implementation include the following:

- USAID and the Middle East Desalination Research Center (MEDRC) co-hosted the second regional meeting of the Middle East and North Africa Network of Water Centers of Excellence (MENA NWC) in Muscat, Oman from 5-8 December 2011. The conference convened nearly 70 water experts from 13 national research centers representing eight countries and territories in the Middle East, four international research institutes and five U.S. research universities.

- The Network launched five Thematic Partnerships at the Muscat meeting:
 - groundwater
 - water supply and sanitation
 - water use efficiency and productivity
 - non-conventional water
 - water/energy/food security nexus.
- Member centers have identified research priorities and have begun to form multi-Center research teams from more than two countries and plan research activities to take place over the next three to six months.
- FABRI established a Nominating Committee composed of Center representatives and USG officials that will identify and vet candidates for the Founders Committee.
- In response to a request from the AFR Bureau, FABRI conducted a desktop scan of countries' commitment to the water sector.

FABRI's first quarter focused on preparing for the December 2011 launch of the MENA NWC. The coming quarter will see increased field engagement as the technical team makes visits to the Middle East and Africa to develop scientific partnerships, foster regional collaborations and implement the FABRI action plan.

Founders Committee

The Founders Committee is critical to the establishment and success of MENA NWC. It will create the Network's governance and financial structures, oversee the annual budget and technical program, guide the legal registration of the Network, and provide a smooth transition to the Board of Directors. The Founders Committee will consist of 7 to 9 members with diverse skill sets, experiences and nationalities. Its composition is expected to include global/regional water experts, past or present senior government officials, private sector business entrepreneurs or executives, research institution leaders and regional association/civil society organization leaders.

In March 2011, during the first regional meeting of the Middle East and North Africa Network of Water Centers of Excellence in Doha, participants agreed to form a Nominating Committee to identify and vet candidates for the Founders Committee. The committee is composed of the following members:

Chair: Dr. Said Ouattar, Institute for Agronomy and Veterinary Science Hassan II, Morocco
 Dr. Hani Abu Qdais, Jordan University for Science and Technology
 Dr. Odeh Al-Jayyousi, Royal Scientific Society, Jordan
 Dr. Ahmed Khater, National Water Research Center, Egypt
 Dr. Rabi Mohtar, Qatar Energy and Environment Research Institute, Qatar Foundation
 Ms. Jill Shaunfield, U.S. Department of State
 Dr. John Wilson, U.S. Agency for International Development

The Nominating Committee met for the first time in November 2011 and agreed on the selection criteria and terms of reference for the Founders Committee. They began soliciting candidate names from member Centers immediately. The submission of Founders Committee nominees closes January 15, 2012 for Centers. Nominating Committee members will also request nominees from donors, the private sector, civil society, universities and the USG by February 10, 2012. With FABRI support, the Nominating Committee will collect the CVs of all candidates and interview them. The Nominating Committee will then select the members of the Founders Committee and present the nominee roster to member Centers

for approval on a no-objection basis by March 15, 2012. We expect the Founders Committee to be established by April 1, 2012.

2. PROGRESS DURING THE PERIOD

RESULT 1: MIDDLE EAST AND NORTH AFRICA NETWORK OF CENTERS OF EXCELLENCE ESTABLISHED AND OPERATING

Requirement 1.1: Support Establishment of MENA NWC

During the period, MENA NWC was launched as USAID has reached its required level of membership: at least seven centers in at least four countries. On that basis, FABRI worked closely with USAID to design the second regional meeting of Centers in Muscat, Oman from 5-8 December. The meeting focused on governance issues and the technical program. In the future, the regional meetings will be held once a year as a congress.

Planned Activities for Second Quarter:

- Contract with Digital Media Company for design of the MENA NWC website
- Logo design for MENA NWC
- Contract with Multimedia Company
- Memo on long-term communication needs assessment
- Beta Facebook page, Twitter account, YouTube Channel, LinkedIn Group

Requirement 1.2: Design a Trust Fund or Endowment to Help Ensure the Sustainability of the Network

Further work on the Endowment Fund will begin after the completion of the business plan.

Planned Activities for Second Quarter:

FABRI will continue efforts on the Endowment Fund in the next quarter after the seating of the Founders Committee and its approval of the business plan.

Requirement 1.3: Support Operations of the MENA NWC Secretariat

During the period, the FABRI COP has also served as Acting Director of the Network's Secretariat. He has been in regular and frequent communication with participating Centers. In addition, FABRI is proceeding with two key components of the Network: the five-year business plan and the selection of a venue for the Interim Management Unit. The business plan will set a course for the Network for financial sustainability by determining its anticipated expenditures and revenue stream. FABRI is preparing the scope of work for the three month assignment and determining team membership.

Planned Activities for Second Quarter:

- Initiate the MENA NWC Business plan
- Report on MENA NWC knowledge and communications strategy
- Monthly Network e-newsletters
- Social media user handbook and video guides

Requirement 1.4: MENA NWC Founders Committee Established

The Founders Committee is critical to the establishment and success of MENA NWC. It will create the Network's governance and financial structures, oversee the annual budget and technical program, guide the legal registration of the Network, and provide a smooth transition to the Board of Directors. The Founders Committee will consist of nine members with diverse skill sets, experiences and nationalities. Its composition is expected to include global/regional water experts, past or present senior government officials, private sector business entrepreneurs or executives, research institution leaders and regional association/civil society organization leaders. In March 2011, during the first regional meeting of the Middle East and North Africa Network of Water Centers of Excellence in Doha, participants agreed to form a Nominating Committee to identify and vet candidates for the Founders Committee. The committee is composed of the following members:

Chair: Dr. Said Ouattar, Institute for Agronomy and Veterinary Science Hassan II, Morocco
Dr. Hani Abu Qdais, Jordan University for Science and Technology
Dr. Odeh Al-Jayyousi, Royal Scientific Society, Jordan
Dr. Ahmed Khater, National Water Research Center, Egypt
Dr. Rabi Mohtar, Qatar Energy and Environment Research Institute, Qatar Foundation
Ms. Jill Shaunfield, U.S. Department of State
Dr. John Wilson, U.S. Agency for International Development

The Nominating Committee met for the first time in November 2011 and agreed on the selection criteria and terms of reference for the Founders Committee. They began soliciting candidate names from member Centers immediately.

Planned Activities for Second Quarter:

- Member Centers will submit nominees for Founders Committee by January 15, 2012
- Nominating committee will request names for Founders Committee from donors, the private sector, civil society, universities and the USG by February 10, 2012
- Nominating committee along with FABRI support will review nominees submitted by the Centers, donors, the private sector, civil society, universities and the USG and select members of the Founders Committee
- Nominating Committee will present nominee roster to Member Centers by March 15, 2012
- Founders Committee to be established by April 1, 2012

Requirement 1.5: Technical, Demonstration Activities of the Network Launched

To launch the Policy, Research, and Development (PR&D) Grant program at Muscat, with issuance of the first grants targeted for May 2012, FABRI prepared the following documents and presented them at Muscat:

- **Draft Seed Funds Application Guidelines** (Annex 3). FABRI will award Seed Funds to Research Teams to cover expenses associated with conceptualizing a PR&D project and developing a Concept Note. Seed Funds support target research proposal preparation capacity building. Allowable costs include travel, literature reviews, and limited procurements to conduct Research Team meetings, conceptualize a research idea, and prepare a Concept Note. The product of a Seed Fund award would be a Concept Note. The limit for an individual Seed Fund award is \$25,000. All expenditures will be made directly by the IMU. Seed Funds will be awarded on the basis of vision and innovation, demonstrated connection between Seed Fund activities and preparation of a Concept Note, scale and

likelihood of impact of a potential PR&D project, and involvement of young scientists and women scientists.

- **Draft Guidelines for Concept Notes** (Annex 4). The Concept Note is a short pre-proposal that helps screen applications for merit and allows FABRI to offer guidance to Centers preparing full applications. FABRI will assemble a small Selection Committee to evaluate Concept Notes. Criteria for evaluating a Concept Note will include: scientific merit; potential for positive impact on water resources policy; potential for positive economic impact in the region; extent of involvement of government and the private sector; and involvement by young and/or women researchers.
- **PR&D Grant Protocols** (Annex 5). The Grant Protocols describe the steps for submitting and reviewing applications and selecting grantees, as well as the people and structures involved.

FABRI also prepared a **Draft Request for Applications** (RFA), which has not been presented to the Centers. The RFA will be issued in January 2012.

To encourage the formation of Research Teams and provide technical focus for PR&D Grants, FABRI facilitated the formation of Thematic Partnerships – self-identified groups of MENA NWC Centers with common interest in a water Policy, Research, and Development *theme*. Thematic Partnerships serve as a forum for Centers to form Research Teams, apply for grants, and undertake Policy, Research, and Development projects. The Thematic Partnerships also serve as a focal point for knowledge sharing and communication tools. Prior to the Muscat meeting FABRI prepared the following documents to guide the formation and operation of Thematic Partnerships: Thematic Partnerships Terms of Reference and Thematic Partnerships Operating Procedures.

Based on the Opportunity Survey, FABRI identified five Thematic Partnerships to propose to the member Centers:

- Groundwater
- Non-conventional water
- Water/energy/food security nexus
- Water supply and sanitation
- Water use efficiency and productivity

FABRI presented these Thematic Partnerships at the Muscat meeting in December, and by discussion and consensus, the Centers agreed to form these Thematic Partnerships. The Muscat meeting included several intensive working sessions for the new Thematic Partnerships, during which the Centers identified Priority Research Areas, potential Research Teams, and next steps within each theme. Summaries of the five Thematic Partnerships are provided in Annex 2.

Over the course of the last quarter, from September 15-December 14, 2011, FABRI identified a menu of external and internal communications tools for the MENA NWCs and for Africa. In October, FABRI conducted a Member Center survey to identify the communications' needs of the participating centers. The results of the survey have proved to be a crucial part to the development and design of outreach methods and materials as well as for internal communications tools for the project writ large. In November 2011, FABRI wrote a report on Member Centers' online presence in terms of web presence and social media. This exercise was useful in obtaining information on the existing communications infrastructure in the MENA region and yielded some interesting results. At the meeting in Muscat in December of 2011, Member Centers agreed that a new MENA NWC website and the development of social media tools are critical to the sustainability of the Network. They also agreed that the success of the project, and more specifically applied research, will depend on continuous and effective

communications. At the meeting, FABRI presented different options for managing information flow, including Cloud-based options such as Drop box and Google Docs, and other tools including conference calls, webinars, and in-person meetings. Member Centers agreed to submit a formal plan for how they intend to work together on the Thematic Partnerships.

FABRI is now in a position to begin implementing a series of communications projects aimed at raising the profile of MENA NWCs and African Regional Associations.

Planned Activities for Second Quarter:

- FABRI will issue the PR&D Grants RFA in January 2012.
- FABRI is accepting Seed Fund Applications and Concept Notes, ongoing as of the December Muscat meeting.
- FABRI will evaluate Concept Notes, and invite Full Applications.
- FABRI US University Partners will develop and deliver R&D Capacity Building Modules.
- FABRI staff will visit MENA NWC Centers to discuss formation of Research Teams, preparation of proposals, capacity building at the Centers, and connecting research outcomes with policy makers, the private sector, and water managers.
- R&D training modules
- Contract with a digital media company to design Network's branding, website and multimedia materials
- Create MENA NWC brochure
- Create PowerPoint presentations for research program
- Create PowerPoint presentation for general MENA NWC marketing
- Create social media tools for external outreach
- Create communications tools handbook for Member Centers
- Travel to region to assist in the implementation of internal communications during research process
- Contract with video and photo montage
- Create portal for FABRI for internal purposes

Requirement 1.6: Network Strengthening through Private Sector Participation

Initial efforts to strengthen private sector participation include:

- **Key informant interviews and consultation:** in order to better inform the design, strategy and approach of FABRI partnership activities with the private sector, Ms. Quossous conducted several key informant interviews and consultations with entrepreneurs, some private sector representatives, and similar initiatives in the short period before the Muscat meeting in December and after completing the work planning activities in the US in November. The objective was to consult with some private sector sample of companies and entrepreneurs, learn their opinions on the MENA NWC initiative, and understand from them what will be considered attractive for partnering with the MENA NWC activities. Seven meetings were conducted and the Minutes of Meetings, findings and summary of follow up requirements and next steps are included in ANNEX xx. Most of the meetings were useful and provided good insight to success factors that FABRI need to consider and adopt throughout its work on establishing partnerships between the private sector and the MENA NWC.
- **MENA NWC Muscat Meeting:** Ms. Quossous delivered a presentation in Muscat meeting that explained FABRI overall partnership approach to member centers, explained partnership definition, reviewed benefits to MENA NWC and to the private sector, and explained different engagement methods and types of possible partnerships. Ms. Quossous highlighted key success factors for establishing partnerships with the private sector, and presented way forward in the program relevant to

partnerships. The centers initiated good discussions around the topic and Ms. Quossous responded to questions and request for clarification raised by the centers. The centers have left the meeting with a good understanding of the partnerships concepts, mechanisms that will be used, and approach.

- **WLI Coordination meeting in Jordan:** The USAID team working on the Water and Livelihood Initiative (WLI) requested that representatives from FABRI team attend the 3rd regional coordination meeting in Amman, Jordan. Ms. Quossous attended the two days WLI meeting with Mac Mckee and Sandra Russo. She networked with attendees from different regional centers in the Arab World, and raised the MENA NWC profile, exchanged information, explained what how the FABRI program will be working, and explained opportunities for collaboration, especially that the WLI and the MENA NWC has common center members. Non-member centers expressed interest in accessing the MENA NWC funds through partnering with member centers in their countries.
- **Jordan Private sector mapping and identification of donor groups:** in December, private sector mapping and identification of donor groups has been initiated for Jordan. Ms. Quossous completed the mapping exercise for private sector groups and donor agencies that have presence in Jordan and who may be interested in collaborating and partnering with the MENA NWC members on the identified thematic partnerships or in other ways. An annex includes the produced private sector and donor map for Jordan. The list includes the name of the entity, specific contact person name, contact information and position, and highlights areas of business and interest. The areas of interest specific to partnership with the MENA NWC will be refined after conducting meetings with the listed groups and individuals.

Planned Activities for Second Quarter:

- **Conduct interviews with private sector groups in Jordan:** Ms. Quossous will be conducting one-to-one interviews and consultations with identified private sector groups in Jordan to present the MENA NWC and FABRI activities, and explore interest in partnering in the MENA NWC thematic partnerships and activities. The private sector map for Jordan will be refined after completing these interviews to reflect actual response and feedback of interviewed private sector groups representatives.
- **Complete Private Sector mapping activities:** in the coming months, the mapping exercise for private sector groups and donor foundations will be completed for other countries. We plan to focus the mapping exercise to cover only Qatar, UAE, Oman and possibly Bahrain, and identify only groups that may have interest or stake in participating in the MENA NWC activities, and those that have some allocated funds like CSR budget to support similar initiatives. We plan to have a focused and targeted approach for the mapping exercise.
- **Private sector knowledge tool:** we expect that by the end of March, we will have the private sector mapping exercise completed, and therefore, can initiate the design of a knowledge tool for private sector firms. The scope of the tool, content and functions will be scoped with Ms. Quossous, and IT expert will be responsible for implementing the design. The knowledge tool will include information on business and research interests of the private firms in the different countries and potential areas of partnership with the MENA NWC.
- **Interviews with private sector firms:** interviews with identified private sector firms and groups in remaining countries will be conducted in the coming months to inform that above activity, and to identify business and research interests and potential areas for their participation with the MENA NWC.
- **Roundtable meetings:** As the research centers advance in refining and developing their proposals for grants under each thematic partnership, Ms. Quossous will be facilitating 1-2 roundtable meetings in

member countries where partnership ideas can be identified and discussed within the thematic partnerships. Private sector firms will be invited to attend these meetings and participate in the discussions around the thematic partnership projects.

RESULT 2: INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMMING STRENGTHENED

FABRI will implement Result 2, IWRM Strengthening, through the MENA NWC. FABRI completed the first step in this process at the December Muscat meeting by launching the Thematic Partnerships. Planned Activities for Second Quarter:

- FABRI will develop a draft plan for IWRM strengthening and capacity building
- FABRI staff will visit member Centers to discuss IWRM strengthening projects.
- FABRI will solicit proposals for Policy, Research, and Development (PR&D) Grants to undertake IWRM research, pilot projects, policy development, technical assistance, training, and knowledge transfer activities.

RESULT 3: ACCESS TO CLEAN WATER AND SANITATION IMPROVED IN TARGET COUNTRIES

Requirement 3.1: Strengthen the Performance of Water and Sanitation Service Providers

During the period, FABRI personnel worked to design joint programs with the two Sub-Saharan African regional organizations involved in water and sanitation provision, the African Water Association (AfWA), headquartered in Abidjan, Cote d'Ivoire, and the Secretariat of the African Ministers Council on Water (AMCOW), based in Abuja, Nigeria.

In late November 2011, FABRI Africa Program Coordinator Jeremy Hagger attended the Africa Water Association's (AfWA) Scientific and Technical Committee (STC) meeting held in Rabat, Morocco. The STC meeting was hosted by ONEP, Morocco's bulk water supplier and distributor in rural areas (concessionaires distribute water in most urban areas). ONEP has the distinction of belonging, and actively participating, in both AfWA and the Arab Countries Water Utilities Association (ACWUA). FABRI COP had earlier communicated with AfWA's General Secretary, Sylvain Usher and secured his consent in principle to work together and the agreement that the FABRI program would be coordinated with AfWA's STC. The November STC meeting was concerned with identifying the principal subject matter issues that would be the focus of FABRI-AfWA activity during the first year of the program. Hagger presented the proposed first year FABRI program in terms of "who", "what" and "how". FABRI proposed to partner with the two principal associations, i.e. AfWA and AMCOW, and he stated that FABRI work through the STC to reach out to member utilities. The "what" or subject matter proposed for the first year, was in the three areas of non revenue water, corporatization and sanitation policy and the "how" would be through partnerships, pilot programs and peer to peer approaches.

As Chair, the President of the STC, Silver Maguisha, of NWSC, Uganda, responded by stating how positively he supported these three themes and the partnership approached FABRI had outlined. The STC discussed the possibilities of converting the NRW manual into a course which could be delivered in English at the African Water Academy in Kampala and in French in an institution, such as ONEP. The STC noted how the NRW manual dealt only with technical water losses and not with commercial losses and suggested that FABRI consider funding the preparation of a manual to cover that area as well. Hagger pointed to the success those state-owned public utilities, such as ONEP and NWSC, had experienced with their "corporatization" programs and that there would be opportunities to spread these success stories. On sanitation policy, the STC agreed that more needed to be done and that this area involved both AfWA and AMCOW. The STC demonstrated strong agreement on this selection of themes

to be pursued under FABRI. In addition, the Chair requested that FABRI work with AfWA in the areas of business planning and communications support.

The STC discussed collaboration with FABRI in the area of communications at greater length in the STC Plenary meeting. Cheikh Fall from Senegal's SDE, who is also the AfWA Committee Head of Communications, led this part of the session and expressed his overall support of the concept, especially the idea of using Facebook and Twitter. Cheikh urged the AfWA Secretary General to implement quickly this component of the FABRI program, and the STC agreed. Cheikh also mentioned that updating the AfWA web site was very important. He requested that FABRI schedule a TDY to AfWA's Abidjan office during the third week of January 2012 in which FABRI and the AfWA staff might prepare a joint communications work plan.

In the summing up, both the STC President and Secretary General praised USAID for their support, the FABRI concept and program and urged the Chairs of two of their Task Forces, namely Sanitation and the Task Force on Innovation, to work closely with FABRI. The President requested that a FABRI representative be in attendance for the mid December launch of the African Water Academy in Kampala. He also spoke about the usefulness of getting a high level USAID speaker for the AfWA Congress in Marrakesh in February 2012.

In December, FABRI team member, David Kuria, Founder and CEO of Ecotact, was able to represent FABRI at the launch of the Africa Water Academy and distribute some informational materials about the program. There was a short presentation at the launch describing both FABRI and its companion USAID-funded program, SUWASA. The participation in the IWA/GIZ Conference in Uganda brought together regional utilities, practitioners and researchers to dialogue on change management within the sector. Kuria made a presentation on private sector- innovations within the sector, held discussions with several participants and follow up meeting with GIZ urban program in Kampala.

The presentation focused on the role of innovations to spur private sector engagement within the water and sanitation sector, utilizing the case of Ikotoilet in Kenya as a model for private sector intervention. Kuria brought the need for partners to explore local innovations across Africa that could impact positively and help accelerate the access of water and sanitation especially to the urban poor. He also called for partners to explore investing in an innovations kitty and mentioned a new USAID FABRI pilot to be launched early in 2012.

Kuria met with Dr. Axel Klaphake (Programme Director) and Fredrick Tumusiime (Technical Advisor) GIZ Reforms of the Urban Water and Sanitation Sector (RUWASS). The meeting focused on potential collaboration with FABRI on supporting Enabling Environment in Uganda on urban water and sanitation, and collaboration on promoting private sector engagement in the sector including support to joint roundtable with private sector and government. They were also keen on any collaboration on non-revenue water in the urban areas they are working in. Dr. Axel will be in Nairobi in February 2012 for a follow up meeting on the collaboration.

Kuria also met with Betty Aliba (Chairperson) East Africa Young Water Professionals and her team. The team hosted by IWA, has brought together young professionals in the water sector from the region. We explored potential collaboration with FABRI on innovations grants to spur young professional demonstrate interventions strategies, processes and new ideas in the water and sanitation sector. The team expressed interest in participations and inclusion of the watsan sector in the already established Young Achievers Award initiatives, which have attracted attention of the regional heads of states.

Other discussions were with Sam Parker, CEO WSUP-UK and centered on potential engagement in Ghana and collaboration on supporting viable social enterprises on WATSAN under a new social equity

fund- this offers potential taking to scale of interventions funded by the small grants program of FABRI; with Samuel Mutono, Senior Watsan Specialist, WSP-WB Uganda Country Office, whose interest was the small grant initiative of FABRI; and with Kweku Botwe of Ghana Water with discussions on collaboration on NRW if FABRI selects Ghana as an intervention country.

Planned Activities for Second Quarter:

- The COP, African Region Coordinator, and the PSD Expert – Africa will meet with the Africa Water Association and members of its Scientific and Technical Committee in Abidjan in late January to develop the technical action plan.
- The Information Management Specialist will meet with the Africa Water Association’s staff working on communication in Abidjan in early February to develop a communications and knowledge management action plan.
- FABRI team members will participate in the AfWA Congress in Marrakesh in late February.
- FABRI will design a small grants fund for private sector sanitation serviced providers.

Requirement 3.2: Improve the Operating Environment for Water and Sanitation Service Providers

In October/November 2011, FABRI Africa Program Coordinator, Jeremy Hagger, met with the AMCOW Director, Bai-Mass Taal, and/or his staff in Abuja on three separate occasions to discuss FABRI program coordination and next steps. Hagger met with one of the two AMCOW staff members paid for by USAID through an earlier program and discussed how they might participate with FABRI. The Director agreed that one staff member would become the point of contact for FABRI programs dealing with Sanitation Policy and the second with FABRI programs dealing with the private sector. The Director agreed to work with FABRI in the first quarter of 2012 to design specific FABRI activities and agreed that both priority areas (sanitation policy and private sector involvement) were already contained in the AMCOW work plan although with no specific work program yet agreed to.

During the period, FABRI meet with the Africa Bureau Activity Manager and after long discussion agreed that the focus of this requirement will be on the development of national sanitation strategies in a select number of African countries.

Planned Activities for Second Quarter:

FABRI will meet with AMCOW and AfWA to discuss joint activities related to the design of national sanitation strategy and hold a workshop in the region to develop the action plan.

Requirement 3.3: Improve the Financial Sustainability of the Water and Sanitation Sector

FABRI discussed initiating activities related to this requirement with the Africa Bureau Activity Manager during the period. The current plan is to postpone work in this area for two reasons: (1) USAID is now holding discussions with JICA about joint efforts on the financial sustainability of water and wastewater utilities and FABRI’s work in the future might support those efforts and (2) activities under this requirement might best emerge from work with utilities and national government entities on Requirements 3.1 and 3.2

Planned Activities for Second Quarter:

FABRI will meet with USAID officers working with JICA to determine if there are opportunities for joint efforts.

RESULT 4: RESEARCH AND DEVELOPMENT CAPACITIES IN IRRIGATION, GROUNDWATER MANAGEMENT, AND DROUGHT RISK ASSESSMENT AND MITIGATION STRENGTHENED

Requirement 4.1: Conduct Identification and Analysis of U.S., Regional, and International Water Programs Aimed at Promoting Efficient, Productive Use of Water in Agriculture in the MENA Region

FABRI submitted the Draft *Plan for Requirement 4.1: Conduct Analysis of U.S., Regional, and International Programs Promoting Efficient, Productive Use of Water in Agriculture* on October 14, 2011. This plan and the Draft *FABRI Year 1 Work Plan* indicated that FABRI will work with a MENA NWC Thematic Partnership to implement Result 4. The proposed activities will be supported by MENA NWC Policy Research and Development (PR&D) Grants. As stated under Requirement 1.5, MENA NWC Centers formed Thematic Partnerships at the December meeting in Muscat, including the Water Use Efficiency and Productivity Thematic Partnership. This Thematic Partnership would be the most appropriate for implementing Result 4.

FABRI intended to initiate the Result 4 work plan (conceptual plan presented below) with the Water Use Efficiency and Productivity Thematic Partnership at the Muscat meeting. However, the Thematic Partnership discussions, with limited time, focused on the overall operation and priorities of the Thematic Partnership, rather than specific technical activities. As described below (second quarter activities), FABRI will engage the Thematic Partnership to encourage formation of a Research Team to prepare a proposal and undertake the Result 4 activities.

Planned Activities for Second Quarter:

FABRI will contact the members of the Water Use Efficiency and Productivity Thematic Partnership to present the Result 4 objectives and conceptual work plan. FABRI will encourage formation of a Research Team to prepare a proposal for the Result 4 activities. FABRI US university partners will assist the Research Team in preparation of the work plan, and prepare the component of the work plan to identify water use efficiency technologies and techniques in the United States.

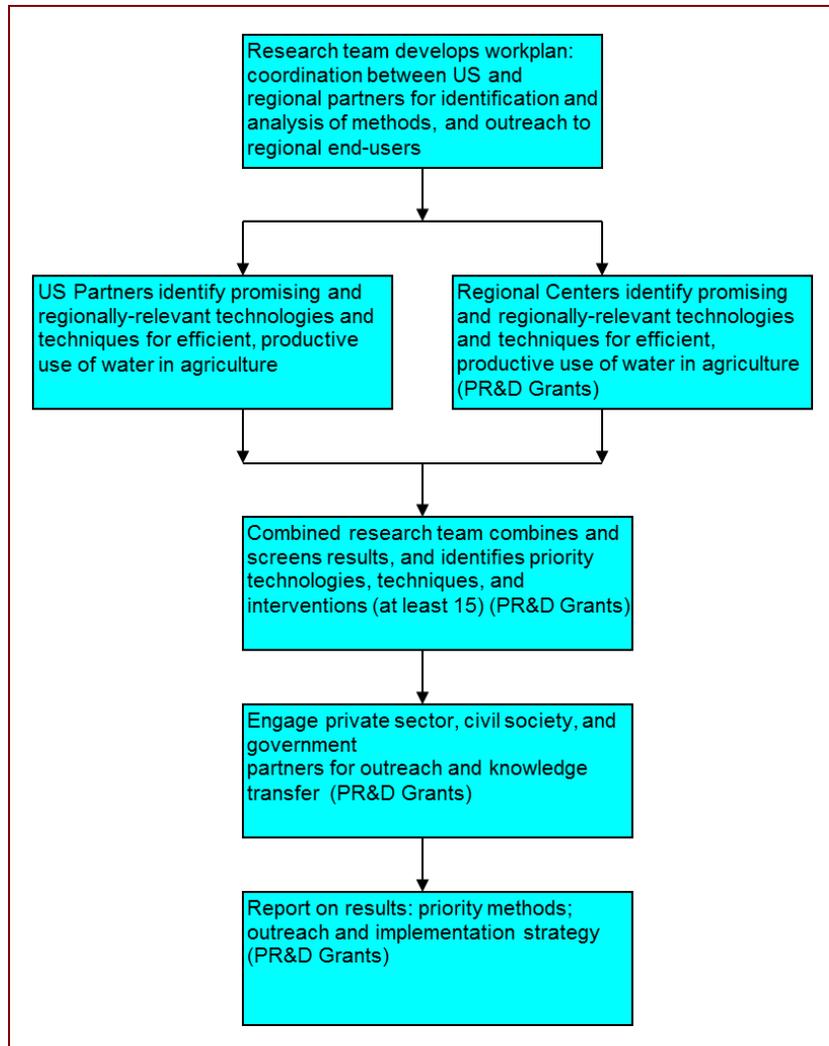
RESULT 5: TRANSBOUNDARY WATER COOPERATION STRENGTHENED IN KEY RIVER BASINS

Requirement 5.1: Conduct analysis of U.S. and regional transboundary water cooperation programs, with a focus on the Euphrates, Tigris, and Nile basins

FABRI prepared a report for USAID which defined a plan for completion of a study of efforts.

Planned Activities for Second Quarter:

FABRI will develop the report working with Oregon State University



**Conceptual process for Result 4
Strengthening Water Use Efficiency Research and Development Capacity)**

RESULT 6: TECHNICAL AND OUTREACH CAPACITY OF USAID STAFF IN WATER AND SANITATION PROGRAMMING ENHANCED

Requirement 6.2: Increase USAID’s visibility and outreach on water issues

USAID has indicated its interest in scheduling main and side session at World Water Week in August 2012. FABRI will take the lead in designing the sessions on MENA NWC and the regional water partnerships.

Planned Activities for Second Quarter:

FABRI will submit one or more designs to SIWI by the February deadline.

3. PROJECT MANAGEMENT

During this reporting period the FABRI Task Order was issued, and two modifications to the Task Order were made. The project received \$10,003,067.05 in obligated funds (\$7,998,067.05 from the ME Bureau and \$2,005,000 from the Africa Bureau). This constitutes 50% of the \$20,000,000 contract ceiling. The period of performance for the Task Order is September 15, 2011 through September 29, 2014.

The core FABRI team signed employment contracts. The team includes COP Peter Reiss, DCOP Ken Ludwa, Communications and Information Management Specialist Stacy Whittle, and Project Associate Keith Nelson. The project team secured office space and made initial IT procurements. The team set up the project accounting system and record management system.

After holding a series of consultations with USAID in order to verify technical requirements, FABRI issued independent consulting agreements to Network Governance Specialist Cindy Quezada, Africa Region Coordinator Jeremy Hagger, and Governance and Trust Fund Expert Kathleen Mikitin. FABRI then signed a 3 year time and materials contract with Ecotact, a Kenyan company which will support private sector development and the Africa Small Grants program.

Planned Activities for the Second Quarter:

In the coming period, FABRI plans to issue subcontracts to its University Partners, including Utah State University, University of Florida, UC/Davis, and University of Nebraska. The team will also issue subcontracts to ECO Consult and Planet Partnerships, two firms which support private sector development.

Also during the coming period, the FABRI team expects to be busy managing the logistics of the opening of the MENA NWC Interim Management Unit office.

4. PROBLEMS AND REMEDIES

Subcontractor Approval Delay

Although DAI requested consent to subcontract with three entities in its proposal, USAID not provide consent at the time of contract award, slowing initial progress at start-up.

Remedy: In the interim to support quick start-up, FABRI management prepared fixed price purchase orders for two of the three proposal subcontractors to begin work immediately. Since then the USAID contracts office has given consent to subcontract.

Fundraising for MENA NWC

It has quickly become apparent that fundraising for the Network is certain to be one of the most important efforts by FABRI, and much of the success of both the project and MENA NWC depends on securing pledges of external financial support. However, the team did not have sufficient dedicated labor to fulfill this requirement with the existing technical team.

Remedy: FABRI management requested the addition of a long-term, full-time Private Sector Development Expert. USAID has approved the addition to the team.

Role of Water and Sanitation in the Middle East Component

As design, Result 3 was largely to be implemented in Africa, however at start-up, it was clear that Middle East missions and the ME Bureau saw these areas as critical to that region.

Remedy: Water and sanitation is now a Thematic Partnership of the Network, something has been widely embraced by member Centers.

Reorganization of the Technical Team

The technical team was initially organized by cluster leader, but a work planning session at start-up revealed that this approach was not optimal.

Remedy: FABRI management reorganized the team, ending cluster leaders and creating activity managers instead. This approach is more responsive to project needs.

5. STANDARDS AND DELIVERABLES

Contract Reference	Standard or Deliverable	Date of Completion
Requirement 1.1	<ul style="list-style-type: none"> Acceptance letters received from a minimum of seven centers from at least four different countries 	Various dates
Requirement 1.1	<ul style="list-style-type: none"> Workshop to launch implementation of MENA NWC 	December 5-8, 2011
Requirement 1.3	<ul style="list-style-type: none"> Conference proceedings and technical reports prepared and distributed to Network members (Second meeting of MENA NWC) 	December 15, 2011
Requirement 4.1	<ul style="list-style-type: none"> Plan for conducting the identification and analysis provided within thirty 30 days after the award 	October 14, 2011
Requirement 5.1	<ul style="list-style-type: none"> Plan for conducting the analysis provided within 30 days after award 	October 19, 2011
Task Order Contract Section F.2(b) Deliverables	<ul style="list-style-type: none"> 90 day Work Plan completed within 30 days of Task Order award 	October 14, 2011
Task Order Contract Section F.2(b) Deliverables	<ul style="list-style-type: none"> First Annual Work Plan completed and delivered within 60 days of Task Order award 	November 11, 2011

ANNEX A

SUMMARY OF MUSCAT MEETING

MEETING OF THE MIDDLE EAST AND NORTH AFRICA NETWORK OF WATER CENTERS OF EXCELLENCE

5-8 DECEMBER 2011 IN MUSCAT, OMAN

A. Background

The U.S. Agency for International Development and the Middle East Desalination Research Center co-hosted the second meeting of the Middle East and North Africa Network of Water Centers of Excellence in Muscat, Oman from 5-8 December 2011. The objectives of the meeting were to:

- Launch the Thematic Partnerships by:
 - Identifying initial research priorities
 - Initiating planning research activities over the next three to six months
 - Agreeing on the role of the Interim Management Unit to support centers in launching programs
- Reach agreement on governing the Network

In all, nearly 70 water experts attended from 13 national research centers in eight countries in the Middle East and from West Bank/Gaza; four international research institutes; five U.S. major research universities; the U.S. government; and the USAID Further Advancing the Blue Revolution Initiative (FABRI) technical team.

B. Agreements

Over the course of the three day meeting, participating Centers agreed to the following:

- **Five critical technical areas as the initial focus of Thematic Partnerships:**
 - Groundwater
 - Non-conventional water
 - Water/energy/food security nexus
 - Water supply and sanitation
 - Water use efficiency and productivity

Participating Water Centers

Seventeen Centers participated in the second meeting of the Network:

- Arabian Gulf University (Bahrain)
- Institute of Agronomy and Veterinary Science Hassan II (Morocco)
- International Center for Agricultural Research in Dry Areas
- International Center for Biosaline Agriculture (United Arab Emirates)
- International Water Management Institute
- Jordan University of Science and Technology
- Middle East Desalination Research Center
- National Center for Agricultural Research and Extension (Jordan)
- National Institute for Research in Rural Engineering, Water, and Forestry (Tunisia)
- National Office for Potable Water (Morocco)
- National Water Research Center (Egypt)
- Qatar National Food Security Program
- Qatar Environmental and Energy Research Institute
- Royal Scientific Society (Jordan)
- Sultan Qaboos University (Oman)
- The University of Jordan
- Water and Environment Studies Institute, An Najah University (West Bank/Gaza)

Three were unable to attend:

- Arid Regions Institute Medenine (Tunisia)
- National Agronomic Institute (Tunisia)
- Technion – Israel Institute of Technology

Attending U.S. University Partners

- Texas A&M University
- University of California at Davis
- University of Florida
- University of Nebraska
- Utah State University

- **A research award process that includes Seed Funds and Concept Notes leading to full competitive grant applications.** FABRI will distribute Seed Fund and Concept Note guidelines by December 15, 2011 and issue the first Request for PR&D Grant Applications in January 2012.
- **Oversight of the technical program by a committee of Centers.** The Centers informally agreed to the creation of a Steering Committee composed of a representative from each Center that will develop the technical program of the Network and contribute to the annual work plan before submitting it to the Founders Committee/Board of Directors for approval.
- **USAID and FABRI visits to member Centers in the coming months.** Visits to Centers will focus on the research agenda, capacity building opportunities, and governance and communication plans, beginning with the Centers that could not attend.
- **Founders Committee to convene no later than March 2012.** The submission of Founders Committee nominees closes December 31 for Member Centers and January 31 for others. Committee members will also ask for names of nominees from donors, the private sector, civil society and the USG. The Nominating Committee will vet nominees and identify the recommended slate for no objection agreement by the Centers in February.
- **Tools to enhance communication among Thematic Partnership members.** FABRI will create Gmail accounts and Google groups to continue communication online among Thematic Partnership members and in Research Teams.

C. Policy, Research, and Development Program

At the core of the Network is an applied, responsive research program that forges a meaningful partnership among research institutions, government entities, the private sector, and civil society organizations to resolve longstanding water challenges in the Middle East through innovative policy, operational, commercial, and outreach interventions.

- **Research Goals.** The intent of the \$3.8 million PR&D Grants Program is to support applied research, aimed at informing water resources policy, improving water resources management, and implementation and commercialization of water-saving technologies and innovative system improvements.
- **Policy, Research, and Development Grants Program.** The program will award grants to Research Teams composed of at least three MENA NWC member Centers from at least two countries. We also actively encourage governments, the private sector, and civil society partners to take part. FABRI will award up to \$100,000 per Center per research project.
- **Application and Review Process.** The grant application process requires a Concept Note (a short pre-proposal) followed by a full application. FABRI will use Concept Notes to screen applications and provide guidance to applicants before they prepare the full application. The Awards Committee will assess Concept Notes and grant applications to make awards.
- **Seed Funds for Capacity Building.** Research Teams may request Seed Funds, targeted at research proposal preparation. Allowable costs include travel, literature reviews, and limited procurements to convene Research Team meetings, conceptualize a research idea, and prepare a Concept Note. The limit for an individual Seed Fund award for a Research Team is \$25,000. FABRI will cover all expenditures directly.

- **Partnering with U.S. Universities.** U.S. university partners will participate on Research Teams to provide technical support developing a research project, preparing an application, and managing technical activities and budgets.
- **Timeline.** FABRI is accepting Concept Notes and Seed Fund immediately. The first full applications are due April 2012. FABRI will award the first grants in May 2012.
- **Thematic Partnerships and Research Teams.** Centers agreed on five Thematic Partnerships that are a focal point for communications and knowledge sharing among Centers. Within each Thematic Partnership, Centers identified priority research areas. The following priority research areas are the basis for Centers to form the Network's first Research Teams and submit PR&D Grant Applications:

1. Groundwater

- Artificial and natural groundwater recharge/discharge
- Groundwater exploration and monitoring technologies
- Groundwater degradation
- Socioeconomics of groundwater , including governance, economics and policy

2. Non-Conventional Water

- Desalination: technologies, economics and finance
- Wastewater reuse and reclamation: technologies, economics and finance
- Environmental and health impacts of non-conventional water resources

3. Water/Energy/Food Security Nexus

- Optimization of the reuse of treated wastewater for periurban agriculture in dry areas
- Modeling water futures or modeling the water/food/energy nexus
- Renewable energy for water treatment

4. Water Supply and Sanitation

- Water quality standards, management and enforcement
- Rural water and sanitation challenges
- Improved service delivery
- Climate change

5. Water Use Efficiency and Productivity

- On-farm water-use efficiency and productivity
- Crop improvement and management under abiotic stress conditions
- System-wide water use management
- Harvest- and post-harvest technology and crop management

The following table indicates which participating Centers joined which Thematic Partnerships during the Muscat meeting.

Participating Center	Location	Groundwater	Water/ Energy/ Food Security Nexus	Water Supply and Sanitation	Water Use Efficiency and Productivity	Non- Conventional Water
Arabian Gulf University	Bahrain					
International Center for Agricultural Research in Dry Areas (ICARDA)	Egypt				X	
National Water Research Center (NWRC)	Egypt				X	X
Jordan University of Science and Technology (JUST)	Jordan					X
National Center for Agricultural Research and Extension (NCARE)	Jordan				X	
Royal Scientific Society (RSS)	Jordan	X		X	X	X
University of Jordan (JU)	Jordan	X	X	X	X	X
Institute of Agronomy and Veterinary Science Hassan II (IAV)	Morocco			X	X	
National Office of Potable Water (ONEP)	Morocco	X		X		X
Middle East Desalination Research Center (MEDRC)	Oman					X
Sultan Qaboos University (SQU)	Oman	X	X		X	X
Qatar Environment and Energy Research Institute (QEERI)	Qatar		X			
Qatar National Food Security Program (QNFSP)	Qatar		X		X	
International Water Management Institute (IWMI)	Sri Lanka		X			
National Institute for Research in Rural Engineering, Water and Forestry (INGREF)	Tunisia				X	X
International Center for Biosaline Agriculture (ICBA)	UAE	X				X
Water and Environmental Studies Center, An Najah University (WESI)	West Bank/Gaza					X

D. Communications

There were three main areas covered concerning communications for MENA NWC:

- **Branding.** FABRI will work with the Network to develop a logo, tagline, and website. The site will be interactive, and will be used to raise the profile of the Network and more specifically the work of the Thematic Partnerships.
- **Internal communications.** Some of the tools for consideration, in addition to physical email, include Dropbox, Gmail, Google docs, and Google calendar.
- **External communications.** Thematic Partnerships and Research Teams will use the Network's website and social media, such as Facebook and Twitter, to establish a rich online presence.

E. Next Steps

Governance

- The Nominating Committee will identify and vet candidates for the Founders Committee and recommend a slate for no objection agreement by the Centers by late February. The Founders Committee will then convene and initiate the Network's legalization process.
- FABRI will begin the development of a five-year business plan for the Network in January.
- FABRI with participation from the U.S. Government will begin an assessment to recommend the location of the Interim Management Unit in January for Founders Committee agreement. To date, Oman through the Ministry of Foreign Affairs, Jordan through RSS, and Qatar through QNFSP have offered to host the Interim Management Unit which is the precursor to the Secretariat.

Technical Program

- FABRI will release guidelines for Seed Funds and Concept Notes to the Centers by December 15. It is ready to support Research Teams to develop Concept Notes by tapping the Seed Fund.
- FABRI will issue the first RFA in January 2012. The first full applications are due in April 2012.
- Thematic Partnerships and/or Research Teams will continue organizing, research project planning, and writing Seed Fund applications or Concept Notes.

Communications and Outreach

- USG and FABRI will visit Centers in the first quarter of 2012 to discuss the PR&D Grants, links to the private and commercial sectors, and capacity building.
- FABRI will develop a handbook of user-friendly and secure communication tools for Thematic Partnerships and Research Teams.
- FABRI will meet with the responsible people at USAID in January to determine constraints on developing a website and social media for MENA NWC. Based on those consultations, it will prepare terms of reference for the design of the Network's website for a solicitation in January 2012 and develop social media for MENA NWC using Facebook page and Twitter accounts.

ANNEX B

NOTES ON THEMATIC PARTNERSHIPS FROM SECOND REGIONAL MEETING OF MENA NWC

B1. NON-CONVENTIONAL WATER THEMATIC PARTNERSHIP RESEARCH PRIORITIES AND ACTION PLAN

Priority Research Areas

The members of the Non-Conventional Water Thematic Partnership agreed on the following Priority Research Areas:

1. Desalination: technologies, economics and finance
2. Wastewater reuse and reclamation: technologies, economics and finance
3. Environmental and health impacts of non-conventional water resources

Research Teams Discussed at Muscat

Research Team(s) will form around the following topics:

Desalination: technologies, economics and finance

- Topics: Small units using low cost energy (renewables); use of membrane technologies for water quality and pretreatments; pre-treatment for desalination; cost modeling standards and benchmarks (workshop proposed by MEDRC)
- Interested Institutions: JUST, MEDRC, ONEP, RSS, NWRC, INRGREF, An Najah University, UOJ, ICBA, USU, SQU

Wastewater reuse and reclamation: technologies, economics and finance

- Topics: Small low cost units for domestic and grey water treatment: market survey, selection, design and pilot testing, possible commercialization
- Interested Institutions: JUST, MEDRC, ONEP, RSS, NWRC, INRGREF, An Najah University, UOJ

Environmental and health impacts of non-conventional water resources

- Topics: Impact of brine disposal from desalination plants; examination of best practices; environmental and health impact of using treated wastewater for agriculture; study of current and upcoming environmental regulations in MENA countries and impact on desalination
- Interested Institutions: MEDRC, ONEP, RSS, NWRC, INRGREF, An Najah University, UOJ

Other Research Interests

Participants identified other regionally-important research interests, including:

- wastewater re-use not limited to agriculture
- desalination for applications other than inland desalination of brackish water
- health as a component of impact assessments
- determining water demand and which technology can secure the demand
- reducing cost of desalination
- use of treated wastewater for agriculture in order to save fresh water resources for municipal purposes

Each institution identified current research, expertise, and interests within each Priority Research Area.

JUST: wastewater reuse, environmental and health impacts of wastewater reuse. Have done some training in desalination, but not much experience. Interested in developing experience in applied research.

RSS: monitoring experience in water quality assessment, in grey water they design low-cost units of grey water treatment, experience in wind and solar energy but not directed to desalination, environmental impact studies with small studies on health impacts. Interested in working on desalination using renewable energy.

NWRC: use of drainage water, low quality water in irrigation, environmental impact studies. Interested in applied research in desalination and low cost technologies.

INRGREF: use of saline water for irrigation, waste water use in agriculture, soil quality in ground water, artificial aquifer recharge, sea water intrusion, wastewater treatment and energy nexus. Interested in further developing use of saline water in agriculture, non-conventional water resources, and low cost technologies for wastewater reuse.

ONEP: desalination technologies, surface water treatment using membrane technologies. Technologies to remove nitrate and fluoride with membranes. Interest in these topics.

Sultan Qaboos university: solar energy, nanotech for desalination and water treatment, use of membrane technologies (making them iron free), wastewater reclamation in wetlands and low cost technologies to make bacteria free water from waste water. Interested in non-conventional water technologies.

Al Najah University: water analysis for private sector and government, wastewater reuse and reclamation, test hydrology systems, hydroponic system testing, modeling hydrology and environment, catchment and basin analysis, piloted desalination system for brackish water, studying impacts on society and community. Interest in how desalination impacts people after implementation, use of environmental and health impacts.

MEDRC: supporting and coordinating research and training in desalination. Thermal, membrane, alternative hybrid systems, energy issues, operation and maintenance, assessment studies and certification programs, coordinating research.

UOJ: groundwater, nonconventional water, water economics, greywater, desalination, training programs.

Action Plan

Teams under each Priority Research Area will proceed as follows:

<u>Activity</u>	<u>Date</u>	<u>Lead</u>
1. Circulate list of contacts	Done	All
2. Google Group	Dec. 8	Dutta
3. Background info on greywater	Dec. 31	Mushtaq
4. Background info on desalination and solar cells	Dec. 15	Dutta
5. Background info on wastewater	Dec. 31	Olfa
6. Background info on disinfection of by-products	Dec. 31	Marwan
7. Background info on cost modeling of desalination systems	Dec. 31	Shannon
8. Apply for seed funds	Jan. 15	Facilitators
9. Prepare research ideas after sharing information with Organizations. Thematic leaders will facilitate follow up to comment	Jan 31	Facilitators
10. Develop concept ideas	Feb. 28	Project leaders

Participants also discussed a side event at the upcoming conference of International Desalination Association (IDA).

Participants agreed that it is preferable to first have 3-4 partners and a U.S. university and then start drafting a concept note. Bringing in others outside of each group will be useful. Refine research questions and do not replicate previous research efforts.

Meetings are needed to vote on which ideas to develop further, and to prepare research plans and proposals.

Some institutions need subscriptions to journals. Many journals aren't available to universities here. Can MENA NWC help institutions access U.S. university journal subscriptions for 6 months or more (at least during proposal development period)?

Participants identified preferred communicate tools and document-sharing tools: website with team bios, ideas, bibliographies, Google groups.

Interested Institutions Present at Muscat

Name	Institution	Country	Contact Info
Ahmed Al-Salaymeh	UOJ WEEC	Jordan	[REDACTED]
Rafat Assi	RSS	Jordan	[REDACTED]
Jamal Abu-Ashour	JUST	Jordan	[REDACTED]
Shada El-Rafau	NWRC	Egypt	[REDACTED]
Mahmoud Hafsi	ONEP	Morocco	[REDACTED]
Mustapha Mahi	ONEP	Morocco	[REDACTED]
Olfa Mahjoub	INRGREF	Tunisia	[REDACTED]
Joydeep Dutta	SQU	Oman	[REDACTED]
Ahmed Mushtaque	SQU	Oman	[REDACTED]
Abdullah Al-Zakwami	Industrial Innovation Centre	Oman	[REDACTED]
Yaseen Al-Mulla	SQU	Oman	[REDACTED]
Marwan Haddad	An Najah	Palestine	[REDACTED]
Rachel McDonell	ICBA	UAE	[REDACTED]

Name	Institution	Country	Contact Info
Shannon McCarthy	MEDRC	Oman	[REDACTED]
Ronald Mollinger	MEDRC	Oman	[REDACTED]
Mac McKee	USU	USA	[REDACTED]
Cindy Quezada	FABRI	USA	[REDACTED]

B2. GROUNDWATER THEMATIC PARTNERSHIP RESEARCH PRIORITIES AND ACTION PLAN

Priority Research Areas

The members of the Groundwater Thematic Partnership agreed on the following Priority Research Areas:

1. Artificial and Natural Groundwater Recharge/Discharge
2. Groundwater Exploration & Monitoring Technologies (including data collection)
3. Groundwater Degradation (intrusion, etc.)
4. Socioeconomics of groundwater (governance, economics and policy)

Research Teams Discussed at Muscat

Research Team(s) will submit 2 or more seed funding proposals based on the following research questions and techniques:

Artificial Recharge

- Chemical evolution of water with time and distance (surface deformation)
 - Conventional chemistry
 - Isotopes
 - Tracers
 - Microbiological
- Physical storage of aquifer water
 - Injection sites
 - Capability of sites to accept water
 - Location
 - Hydrologic modeling
- Soil and rock (hydrogeologic) profiles in infiltration areas.
 - Properties of vadose zone
 - Water chemistry
- Impact of infiltration
 - INSAR
 - Ground Penetrating Radar (GPR)
- Spatial variability of infiltration.
 - Doubling infiltrometer.
 - Temperature
 - Electrical Conductivity (EC) loggers
 - Soil moisture probe
- Capacity Building

Natural Recharge and Discharge

- Urban and rural
- How much is natural recharge
- Sustainability of recharge
- Compile hydrologic characterization
- Learning from / site-capacity building
- Heterogeneous aquifer – arid areas
-

Other Research Interests

SQU interested in using treated wastewater for artificial recharge. Assessing natural groundwater recharge/discharge using analytical and numerical modeling (isotope analysis). Concept to combine both into a single proposal in order to overlap with interests of multiple centers. SQU has practical projects implemented already.

RSS has one of biggest wastewater treatment plants. Have artificial recharging and ability to study wells. Have case study of this.

ONEP has experience for recharging aquifer using freshwater (river source). Propose making model using Jordanian and Moroccan example to apply to a new site in Morocco.

JPL. Theme 2 is complementary to many of the others. Need to monitor depth of water table on large scale over many km. When you inject water, surface can deform. Oman/Morocco would be good places to study this. Geo-electrical properties of rocks facilitate the study of this. JPL has the systems and ability to train in this. Idea: select site in Oman to implement project. Opportunity to use recent NASA data.

UNL – comparison of isotope and remote sensing studies would be interesting.

ONEP – can supply second site for this type of study.

SQU – Petroleum companies in Oman have studies surface deformation on mm scale for extraction and injection. Can work with them. Use east of Oman to develop case study. Difficult region to assess, but can have significant resources, some of which are discharged to ocean naturally. Would like to know natural cycles. Can use isotopes (UNL) and remote sensing (JPL) to do this. JPL can potentially offer training/capacity building to do this.

Other general interests were identified during the Thematic Partnership discussions:

- Surveillance systems
- Effect of illegal wells
- Enforcement of regulations
- Preventing over-pumping
- Role of water tariffs (pump regulation via electricity pricing)
- Water costing (of recovery)
- Valuation vs. pricing (e.g., different crops)
- Virtual water concept (water exports via crops)
- Elasticity of water
- Degradation from saline intrusion following extraction for irrigation
- Pushback of saline groundwater
- Assessment of recharge/discharge (natural vs. artificial)
- Using state of the art tools
- Mapping of surface water vs. groundwater

Action Plan

A team consisting of Jordan, Oman, and Morocco will submit 2 or more seed funding proposals based on research questions and techniques identified below.

The teams will communicate to determine tasks for each Center, and how to use seed funding.

A follow-up meeting is proposed for these two teams.

- Location: Jordan
- Mid to end of January 2012
- Logistics of meeting will be convened by RSS (Dr. Othman Almashaqbeh)
- Scientific communications will be communicated by SQU (Project 1 – Dr. Ali Al Maktoumi; Project 2 – Dr. Osman Abdalla)
- JPL, UNL, USGS will determine technical resources they can contribute and will help in development of concept note(s)

Interested Institutions Present at Muscat

Name	Institution	Country	Contact Info	1 Recharge- Discharge	2 Explore- Monitor	3 Degrad- ation	4 Socio- Econ
Dave Clark	USGS	USA	[REDACTED]	X	X	X	
Othman Almashakbeh	RSS	Jordan	[REDACTED]	X	X		X
Osman Abdalla	SQU	Oman	[REDACTED]	X	X		X
Ali Al Maktoumi	SQU	Oman	[REDACTED]	X	X		X
Mustapha Mahi	ONEP	Morocco	[REDACTED]	X	X		
John Gates	U of Nebraska	USA	[REDACTED]	X	X		
Abd Al Aziz Mushaiqi	Water Ministry	Oman	[REDACTED]				
Anvar Kacimov	SQU	Oman	[REDACTED]	X	X		X
Amer Salman	U of Jordan	Jordan	[REDACTED]	X	X	X	X
Essam Heggy	JPL	USA	[REDACTED]	X	X	X	
Rachel McDonnell	ICBA	UAE	[REDACTED]		X	X	X

B3. WATER USE EFFICIENCY AND PRODUCTIVITY THEMATIC PARTNERSHIP RESEARCH PRIORITIES AND ACTION PLAN

Priority Research Areas

The members of the Water Use Efficiency and Productivity Thematic Partnership agreed on the following Priority Research Areas:

1. On-farm water-use efficiency and productivity
2. Crop improvement and management under abiotic stress conditions
3. System-wide water use management
4. Harvest- and post-harvest technology and crop management

Research Teams Discussed at Muscat

Members of this Thematic Partnership identified potential project topics within each Priority Research Area, described below. Centers indicated general interest in each of these topics, but no specific research teams were formed. Rather, the representatives from each Center will return to their institutions to consult with colleagues. Centers with specific interest in these topics will connect through the point of contact identified for each topic. If multiple Centers aggregate around a topic, a research team may be formed.

On-farm water-use efficiency and productivity

- Protected agriculture, soil-less, hydroponics, fertigation
Interested Institutions: SQU, ICARDA, UOJ, NCARE
Point of Contact: Ahmed Al-Basaidi, SQU, Oman
- Water use in salinity-impacted areas
Interested Institutions: ICARDA, NCARE, RSS, INGRES, NWRC, SQU, UOJ
Point of Contact: Ahmed Al-Basaidi, SQU, Oman
- Irrigation scheduling and monitoring
Interested Institutions: IAV, UOJ, NCARE, NWRC, SQU
Point of Contact: Mohammed Jitan, NCARE, Jordan
- New technologies for water use efficiency
Interested Institutions: ICARDA, NCARE, INGRES, NWRC, UOJ
Point of Contact: Said Ouattar, IAV, Morocco

Crop improvement and management under abiotic stress conditions

- Crop improvement/management under saline conditions
Interested Institutions: UOJ, SQU, NCARE, NWRC, ICARDA
Point of Contact: Rida Shibli, UOJ
- Crop improvement/management under drought conditions
Interested Institutions: UOJ, SQU, NCARE, NWRC, ICARDA
Point of Contact: Fawzi Karajeh, ICARDA, Egypt

System-wide water use management

- Decision support systems
Interested Institutions: IAV, ICARDA, NCARE, RSS, INGRES, UOJ, IWMI
Point of Contact: Tharwa Qotaish, RSS, Jordan
- Water valuation, allocation, and planning
Interested Institutions: UOJ, RSS, INGRES, IAV
Point of Contact: Amer Salman, UOJ
- Community management of water; participatory
Interested Institutions: NWRC, ICARDA, RSS, INGRES, UOJ
Point of Contact: Tharwa Qotaish, RSS, Jordan

Harvest and post-harvest technology and crop management

- (No specific topics were proposed; future topics may be identified)

Other Research Interests

In addition to the initial research project topics proposed above, Centers identified several general interests during the Thematic Partnership discussions:

- Demand management, specifically agriculture
- Soil-less agriculture/hydroponics
- Crop improvement. The time and funds are not sufficient to develop germplasm. However, in the shorter-term, lines could be screened and evaluated.
- On-farm, real-time irrigation monitoring, management, and scheduling tools are needed. There are new technologies that use remote sensing to inform irrigation scheduling.
- Plant-water requirements (minimum water for optimum growth of priority crops) are not well-documented, and there is much demand for such information. This subject is also very location-specific.
- Optimized protected agriculture is also not well-documented, and there is much potential for this subject.
- Water sources other than irrigation – rain-fed, etc.
- Tools for water allocation, distribution, at larger scale... irrigated perimeter (many farms).
- Deficit irrigation – relates to salinity.
- Crop improvement other than salt and drought. High-yield crops would reduce water demand.
- Post-harvest is important. Post-harvest losses can be as high as 40. Reducing post-harvest loss would reduce the gross yield needed to meet demand, and thus reduce inputs, including water.

Action Plan

Representatives from each Center at Muscat will return home and confer with colleagues at their institutions to determine interest in the list of research project topics identified above (as well as the lists from the other Thematic Partnerships). Scientists will then contact each other through a point of contact for each potential project topic (identified for each topic above). The point of contact will “direct traffic” and help make connections between scientists.

If there are centers ready to move ahead with a project, they will start right away, rather than wait. They may use the seed fund to meet, refine their research idea, and develop a Concept Note. This is not to

leave out other groups; rather, the intent is for Centers to start work as soon as they have a project idea, and not compel others to participate until they are ready. Centers needing more time to decide may form additional research teams later.

Participants agreed that research teams should have no more than 4-5 Centers per group.

Each group will use its own communication method, either Google communications tools (Gmail, Google Documents, Google Video Chat) or other methods.

Some participants asked about opportunities to build capacity in a specific subject, so they can potentially participate on a research team. A US University “Technical Resource” would be an ideal resource. Starting contact point to seek US University resources will be FABRI R&D Lead Mac McKee, Mac.McKee@usu.edu, and FABRI Grants Manager Ken Ludwa, Ken_Ludwa@dai.com.

Where appropriate, Research Teams are encouraged to include private sector participation. Razan Quossous, FABRI Private Sector Investment Specialist, reported to the Thematic Partnership that she is available to assist in identifying potential private sector partners.

Participants agreed that projects should have a final workshop – open to other interested institutions.

Special Project for Water Use and Efficiency

USAID has proposed a special project for the Water Use and Efficiency Thematic Partnership, to identify and transfer technologies and techniques for efficient, productive use of water in agriculture. The goals of this project are to:

- Identify the most promising and regionally-relevant technologies and techniques (US, MENA, and elsewhere) for efficient, productive use of water in agriculture
- Engage the leading experts in these technologies to transfer knowledge to MENA NWC institutions
- Develop and present outreach activities in target countries to encourage government engagement and private sector partnerships around the most successful approaches.

Ideally, member Centers will form Research Team(s) with US Institutions to match available technologies and techniques with regional needs. The proposed activities will be supported by MENA NWC Policy Research and Development (PR&D) Grants. Research Teams are encouraged to submit Seed Fund applications and Concept Notes around this project concept.

Interested Institutions Present at Muscat

Name	Institution	Country	Contact Info	1 On- Farm Water Use	2 Improve/ Manage Crops	3 System Mgmt	4 Harv/ Post- Harv
Tharwa Qotaish	RSS	Jordan	[REDACTED]	X	X	X	
Mohamed Ettarid	IAV	Morocco	[REDACTED]	X	X	X	X
Alaa Abdel Motaleb	NWRC	Egypt	[REDACTED]	X	X	X	
Mohammed Jitan	NCARE	Jordan	[REDACTED]	X	X	X	
Said Ouattar	IAV	Morocco	[REDACTED]	X	X	X	X
Rida Shibli	UJ	Jordan	[REDACTED]	X	X	X	
Jim Hill	UC Davis	USA	[REDACTED]	X	X	X	X
Fawzi Karajeh	ICARDA	Egypt	[REDACTED]	X	X	X	
Shari Fritz	U of Nebraska	USA	[REDACTED]	X	X	X	X
Godwin Balasingham	QNFSP	Qatar	[REDACTED]	X		X	

Name	Institution	Country	Contact Info	1 On- Farm Water Use	2 Improve/ Manage Crops	3 System Mgmt	4 Harv/ Post- Harv
			[REDACTED]				
M.T. Chaibi	INGREF	Tunisia	[REDACTED]	X		X	
Ahmed Al-Basaidi	SQU	Oman	[REDACTED]	X	X		
Bill Payne	TAMU	USA	[REDACTED]	X	X	X	X
Amer Salman	U of Jordan	Jordan	[REDACTED]	X	X	X	

B5. WATER SUPPLY AND SANITATION THEMATIC PARTNERSHIP RESEARCH PRIORITIES AND ACTION PLAN

Priority Research Areas

The members of the Water Supply and Sanitation Thematic Partnership agreed on the following Priority Research Areas:

1. Water quality standards, management and enforcement
2. Rural water and sanitation challenges
3. Improved service delivery
4. Climate change

Research Teams Discussed at Muscat

Participants agreed on topics for six potential research teams:

Climate change:

- Using GIS and modeling to predict climate change impacts and provide input on area-specific responses to climate change (identifying specific new resources), done on a utility basis.
- Point of Contact: Samir Bensaid, ONEP, Morocco

Step disinfection process

- Improving dosing efficiency and reducing harmful byproducts.
- Point of Contact: Manar Fayyad, UOJ, Jordan

Low cost decentralized sanitation systems

- Decision tree for local sanitation service providers. Low cost sanitation, focus on community led total sanitation (elimination of open defecation as behavior change dependent, not infrastructure driven). How these best practices can be applied in the region (culturally acceptability).
- Point of Contact: Maha Halasheh, UOJ, Jordan

Water safety plans

- Pollutant identification, priority ranking, and action plan.
- Point of Contact: ONEP, Morocco (Samir Bensaid will provide a name) and Abbass al Omary, UOJ, Jordan

Locally appropriate risk analysis of water quality parameters

- Verifying or adapting WHO standards for local conditions. Developing standards based on actual health risks, and enforcement and treatment costs.
- Point of Contact: Manar Fayyad, UOJ, Jordan

Economic benefits of sanitation

- Regional study comparing sanitation and economic conditions.
- Point of Contact: TBD

Other Research Interests

In addition to the initial research project topics proposed above, members of this Thematic Partnership identified potential project topics within each Priority Research Area.

Water quality standards, management and enforcement

- Water safety plans
- Intermittent water supply
- Disinfection technologies
- WHO standards – local adaptability
- Enforcement of standards and affordability of compliance
- Developing standards based on actual health risks, and enforcement and treatment costs
- Water management plans
- Grey water separation

Rural water and sanitation challenges

- Low cost technologies for small rural decentralized sanitation systems
- Reducing water transport
- On-site water reuse
- Anaerobic treatment for black water
- Economic benefit of sanitation (regional study)

Improved service delivery

- Non-Revenue water
- Improved utility management
- Social research on why we have non-revenue water
- Governance structures to address non-revenue water and improved service delivery (sector structure)
- Mobilization of funding through private companies, public/private model, or Oman model (fully private, well regulated, Omani private market ownership - strong government regulation)

Climate change

- Risk management approach – infrastructure assessment and mobilizing specific water resources to meet demands
- Adaptive management – using GIS tools to manage overall resources, balance quantity and quality
- Short-term balancing between agriculture and other uses, and long-term planning to develop resources and manage scarcity
- Validation of ongoing regional models with local data and country specific modeling to better understand risks

Action Plan

The Thematic Partnership decided to form Research Teams to develop project ideas and proposals around the six topics identified above. The Thematic Partnership identified a process to develop proposals for each potential project.

Proposed process:

1. Identify initial partners
2. Nominate the tentative leader
3. Create Google Docs account
4. Develop 2-3 line concept
5. Build the team, including US Universities, and end users
6. Refine the ideas into specific research topics
7. Do literature review
8. Revisit team composition and leadership
9. Evaluate need for seed funding
10. Develop and submit Concept Note (possibly travel to the same place)
11. Receive feedback
12. Jointly prepare proposal (possibly travel to the same place)

Interested Centers should reach out to the point of contact identified for each Research Team above.

The Thematic Partnership agreed on a schedule for each Research Team:

Climate Change

- Steps 1-4 by January 1, 2012
- Steps 5, 6 and 7 by January 21, 2012
- Steps 8 and 9 by January 28, 2012
- Step 10 by February 21, 2012
- Step 11 by March 7
- Step 12 by April 7

Disinfection

- Steps 1-4 by January 1, 2012
- Steps 5, 6 and 7 by January 21, 2012
- Steps 8 and 9 by January 28, 2012
- Step 10 by February 21, 2012
- Step 11 by March 7
- Step 12 by April 7

Low cost decentralized wastewater

- Steps 1-4 by January 1, 2012
- Steps 5, 6 and 7 by January 21, 2012
- Steps 8 and 9 by January 28, 2012
- Step 10 by February 21, 2012
- Step 11 by March 7

- Step 12 by April 7

Water Safety Plans

- Steps 1-4 by January 1, 2012
- Steps 5, 6 and 7 by January 21, 2012
- Steps 8 and 9 by January 28, 2012
- Step 10 by February 21, 2012
- Step 11 by March 7
- Step 12 by April 7

Locally appropriate risk analysis of water quality parameters

- Steps 1-4 by January 1, 2012
- Steps 5, 6 and 7 by January 21, 2012
- Steps 8 and 9 by January 28, 2012
- Step 10 by February 21, 2012
- Step 11 by March 7
- Step 12 by April 7

Economic benefits of sanitation

- Timeframe depends on interest

Interested Institutions Present at Muscat

Name	Institution	Country	Contact Info
Zuhair Saud Al-Salmi	Public authority for electricity and water	Oman	[REDACTED]
Zaher Al Sulimani	Public authority for electricity and water	Oman	[REDACTED]
Manar Fayyad	University of Jordan	Jordan	[REDACTED]
Mustafa Nassereddin	ACWUA	Jordan	[REDACTED]
Rafat Assi	RSS	Jordan	[REDACTED]
Said Ouattar	IAV	Morocco	[REDACTED]
Samir Bensaid	ONEP	Morocco	[REDACTED]
Jim Hill	UC Davis	USA	[REDACTED]
Sandra Russo	U of Florida	USA	[REDACTED]
John Wilson	USAID	USA	[REDACTED]
Mark Peters	USAID	USA	[REDACTED]

B6. FOOD/ENERGY/WATER NEXUS THEMATIC PARTNERSHIP RESEARCH PRIORITIES AND ACTION PLAN

Priority Research Areas

The members of the Food/Energy/Water Nexus Thematic Partnership agreed on the following Priority Research Areas:

1. Optimization of the reuse of treated wastewater for peri-urban agriculture in dry areas
2. Modeling water futures (or modeling the water/food/energy nexus)
3. Renewable energy for water treatment

Research Teams Discussed at Muscat

Rather than establishing Research Teams around specific topics/questions at the Muscat meeting, participants in the Food/Energy/Water Nexus Thematic Partnership agreed on action plans to form Research Teams within each Priority Research Area. Institutions interested in each Priority Research Area, and team leads are identified below:

Optimization of the reuse of treated wastewater for peri-urban agriculture in dry areas

- Interested Institutions: UF, Univ. of Neb, TAMU, USU, SQU, IWMI, PWA, and UJ WEEC
- Team leads: Slim Zekri, SQU, Oman, and Colin Chartres, IWMI, Sri Lanka

Modeling water futures (or modeling the water/food/energy nexus)

- Interested Institutions: IWMI, QEERI, PWA, UJ WEEC, MEDRC (info sharing only), QNFSP (info sharing only), UF, UNeb, TRC (info sharing only)
- Team leads: Colin Chartres, IWMI, Sri Lanka, and Mokhlesa Al-Zaeim, QEERI, Qatar

Renewable energy for water treatment

- Interested Institutions: QEERI, UJ WEEC, SQU and UC Davis. QEERI will confirm they want to participate.
- Team leads: Mokhlesa Al-Zaeim, QEERI, Qatar, and Ahmed Al-Salaymeh, UJ WEEC, Jordan

Other Research Interests

Each institution identified current research, expertise, and interests within each Priority Research Area.
Optimization of the reuse of treated wastewater for peri-urban agriculture in dry areas

- PWA is looking at the use of treated wastewater in agriculture and analyzing effects of wastewater on soil and crop quality. They are looking at water/soil balance to make sure that the systems are sustainable. PWA also prepares strategic plans for management of existing water sources and discovery of new water resources.
- SQU is interested in the link between urban water and urban agriculture.
- QEERI is investigating sustainable building and water- and energy-efficient buildings.
- IWMI has a lot of experience in peri-urban agriculture, simple water treatment systems, business models to encourage population movement to targeted areas, and health issues.
- UJ WEEC has experience in wastewater treatment and management as well as grey water. Also

- looking at water harvesting in urban areas.
- U of Florida, TAMU, and USU have experience in reuse of treated wastewater.
- U of Nebraska has experience in this area and is interested in recharge.

Modeling water futures

- PWA does water futures modeling and is interested in collaborating. They have a database of information and researchers doing this kind of modeling in the West Bank and Gaza. They have a lot of data, and they can provide experience on policies.
- IWMI can provide modeling skills for demand for water in food production, water use if there are dietary changes, scenario modeling skills, and info for authorities on decision making. They have models of water demand and water economics.
- UOJ WEEC has experts in IWRM, and considerable experience with water governance.
- Qatar Foundation (QEERI) has a concept for a model of the food/water/energy nexus. Graduate students are working on developing the model. The model will inform decisions such as grow or import. They want to design a model for dry environments and not use one that is imported. This model will provide data for policy makers.
- MEDRC has case studies and data to share on this issue.
- QNFSP is forming the Global Drylands Alliance to address dryland challenges. They can help share research and knowledge.
- TRC in Oman works with policy making.
- U of Florida and U of Nebraska offer strength in decision support models.

Renewable energy for water treatment

- QEERI has a project for desalination using solar energy. They will be building CSP (concentrated solar power) for energy formation and linking it to desalination. The CSP will be a pilot station. Qatar can share their experience and be a test for the research. The scientists are willing to share data. QEERI also has a pilot project for dust problems on solar collectors.
- SQU has data and experts on this topic.
- UJ WEEC (Water, Energy and Environment Center) has experience in solar water pumping. Many case studies on solar pumping and human resources.
- UC Davis has experience on this topic.

Action Plan

Teams under each Priority Research Area will proceed as follows:

Optimization of the reuse of treated wastewater for peri-urban agriculture in dry areas

1. SQU will draft the research topic (less than 1 page) for circulation for comments and examination. Topic would be sent to focal points at each institution who would then share with relevant researchers. (Jan 2012)
2. Identify research team and leader. (SQU, IWMI, WEEC, PWA, UF, UNeb, TAMU, USU)
3. Determine a budget – each center would determine this. (SQU, IWMI, WEEC, PWA)
4. Apply for seed funds. (SQU, Jan 2012)
5. Hold a planning meeting and identify detailed research questions. (SQU, IWMI, WEEC, PWA, US Universities, Feb 2012)
6. Develop a Concept Note with a budget from each center. (SQU, IWMI, WEEC, PWA, US Universities, Feb 2012)
7. Submit the Concept Note. (SQU, IWMI, WEEC, PWA, US Universities, Mar 2012)

8. Identify expertise needed.
9. Prepare and submit Full Application. (SQU, IWMI, WEEC, PWA, US Universities, April 2012)

Modeling water futures (or modeling the water/food/energy nexus)

1. Define research question. (IWMI)
2. Request seed funds. (IWMI, Jan 2012)
3. Define outputs and outcomes. (IWMI, QEERI, PWA, WEEC)
4. Define stakeholders, partners and project locations (may require site visits). This will be to gather key data. (IWMI, QEERI, PWA, WEEC)
5. Hold research team meeting. (IWMI, QEERI, PWA, WEEC, end of Feb. 2012)
6. Prepare Research Plan. (IWMI, QEERI, PWA, WEEC)
7. Prepare Budget. (IWMI, QEERI, PWA, WEEC)
8. Submit Concept Note. (IWMI, QEERI, PWA, WEEC, Mar 2012)
9. If accepted, submit a Full Application. (IWMI, QEERI, PWA, WEEC, May 2012)

Renewable energy for water treatment

1. Define research question. (QEERI and WEEC, Jan 2012)
2. Request seed funds. (QEERI, Jan 2012)
3. Hold a partners meeting to develop a research plan, pick locations, finalize methodology, and develop a budget. (Feb 2012)
4. Finalize and submit the Concept Note. (QEERI, WEEC and SQU, March 2012)
5. If accepted, submit a Full Application. (QEERI, WEEC and SQU, May 2012)

For all projects, teams need help identifying the best US University partners. Potential partners are listed above. Teams may also contact Mac McKee, Grant Program R&D Lead, at Mac.McKee@usu.edu, or Ken Ludwa, PR&D Grants Manager, at ken_ludwa@dai.com.

The Teams decided to use Google communications tools (Gmail, Google Documents, Google Chat, etc.).

Teams will have in-person meetings to develop and finalize Concept Notes. There will be a conference in Doha on the Water/Food/Energy nexus April 2012 and this could be a good opportunity for teams to meet. There is also a water meeting in Jordan Jan/Feb 2012 and this might be a good time for the Renewable Energy for Water Treatment Team to meet.

Interested Institutions Present at Muscat

Name	Institution	Country	Contact Info
Talal Al-Balushi	The Research Council	Oman	[REDACTED]
Ahmed Al-Salaymeh	UOJ	Jordan	[REDACTED]
Karthik Gopalan	QNFSP	Qatar	[REDACTED]
Slim Zekri	SQU	Oman	[REDACTED]
Mokhlesa Al-Zaeim	QEERI	Qatar	[REDACTED]
Zahir Kahlid Suleiman Al-Suleimani	Public Authority for Electricity and Water	Oman	[REDACTED]
Rebhy El Sheikh	PWA	Palestine	[REDACTED]
Colin Chartres	IWMI	Sri Lanka	[REDACTED]
Tom Farrell	U of Nebraska	USA	[REDACTED]
Sandra Russo	U of Florida	USA	[REDACTED]
Sarah Tully	USAID	USA	[REDACTED]

ANNEX C

SEED FUND GUIDELINES

MENA NWC will foster high-quality research on longstanding water issues in the Middle East and North Africa, beginning with competitive research proposals. To that end, the PR&D Grants Program will support Research Teams by providing internationally-recognized experts in high-priority research areas. The Grants Program also has a Seed Fund to build Research Teams and help them develop research ideas. Research Teams may use Seed Fund support to prepare Concept Notes as the first step toward applying for MENA NWC Policy, Research, and Development (PR&D) Grants.

The PR&D Grants Program will use Seed Funds to cover Research Team costs for travel, literature reviews, and limited procurements to conduct meetings, conceptualize a research idea, and prepare a Concept Note.

Seed Funds are intended to support capacity building in R&D project design and proposal preparation. Seed Funds will not cover salaries or significant procurements needed to implement a research and development project.

The product of a Seed Fund award is a Concept Note. The limit for an individual Seed Fund award will be \$25,000. Rather than providing monetary awards, the PR&D Grants Program will make all expenditures directly to provide the requested support.

Seed Fund Applications will be accepted at any time during the year. There is no specific deadline.

Seed Fund Applications must involve personnel from at least three Centers in two countries to be eligible for consideration.

Applications will contain a narrative (items 1-5 below, two pages), budget and schedule (one page), and personnel:

1. **Research Question:** Describe the research problem to be addressed (no more than 250 words).
2. **Background:** Provide a brief background of the problem and key citations (no more than 500 words).
3. **Seed Fund Activities:** Specifically describe how the Seed Fund activities will help the Research Team design a R&D project and develop a Concept Note. Describe proposed Seed Fund activities such as meetings, procurements, travel, literature reviews, etc.
4. **Partners:** List the member Centers and key roles of each.
5. **Technical Resources:** List any additional external technical expertise needed (for example, from U.S. Universities).
6. **Budget and Schedule:** Provide a brief budget corresponding to the proposed activities (if US Universities are involved, do not include their costs).
7. **Personnel:** As an appendix, include one-page vitae of the lead scientist from each institution.

The review process will be no more than two weeks. Applications for Planning Grants will be assessed for:

- Overall vision and innovation
- Demonstrated connection between Seed Fund activities and preparation of a Concept Note
- Scale and likelihood of impact of a potential PR&D project
- Involvement of young scientists and women scientists

Planning grant applications should be submitted by the Research Team Leader to Ken Ludwa, PR&D Grants Manager, at ken_ludwa@dai.com.

ANNEX D

CONCEPT PAPER GUIDELINES

As the first required stage in applying for a MENA NWC Policy Research and Development (PR&D) Grant, Research Teams will submit a Concept Note, as a short preliminary proposal. The Concept Note will identify the research Centers, the issue to be addressed, major activities, and approximate budget. Before submitting a Concept Note, applicants are encouraged to review the PR&D Grants Request for Applications (RFA) for eligibility criteria (the RFA will be issued in January 2012).

The Concept Note shall be a maximum of five pages, plus the budget. Concept Notes should include each of the following elements:

1. **Project Title:** The title should be descriptive and brief.
2. **Research Problem:** Describe the research problem to be addressed.
3. **Objectives:** Describe what the project will achieve. See “objectives versus outcomes” clarification below¹.
4. **Background:** Provide a brief summary of earlier studies, the technical basis, and starting point for the proposed project. Cite key literature references, as appropriate.
5. **Implementation Steps and Timeline:** Describe the research and development methodology. Provide a short description and schedule of the activities proposed for this project, step-by-step.
6. **Expected Outcomes:** Describe the expected results of the project, how they will be used, and by whom (for example, by government or private sector). See “objectives versus outcomes” clarification below.
7. **The Investigators:** List the investigators, their roles on the Research Project, and their institutional affiliations. Also include potential or committed government, private sector, and civil society partners. Include telephone and e-mail addresses for all investigators and partners. Identify the Research Team Leader to whom correspondence should be addressed.
8. **Budget:** Provide an estimated budget for each institution involved in the project, in U.S. dollars. Include an estimate of in-kind contributions or matching funds, which may include waiver of indirect costs, contribution of funding from government or the private sector, coverage of salaries or other project expenses through member center funding, etc. A budget template will be provided to itemize the following:

¹ **Objectives versus Outcomes:** *Objectives* describe the high-level goal of the project, such as “increased agricultural output per volume of water used.” *Outcomes* are tangible results that support the objective, such as a specific policy, management method, or technology (or innovative application of an existing technology), such as “model credit program for farmers to implement improved irrigation techniques.”

- wages for technicians, students, field labor
- equipment
- materials
- travel
- training
- other costs

Criteria

Criteria for evaluating a Concept Note will include: scientific merit; potential for positive impact on water resources policy; potential for positive economic impact in the region; extent of involvement of government and the private sector; and involvement by young and/or women researchers. The Research Team must involve at least two Centers to be eligible for consideration; ideally the Research Team will include personnel from at least three Centers in two or more countries.

Response

The Selection Committee will invite Full Applications for PR&D Grants from Concept Notes rating favorably against the evaluation criteria described above. All Research Teams submitting Concept Notes will receive a response – either inviting a Full Application for a PR&D Grant, or explaining why the Concept Note was not accepted. Applicants will be allowed to re-submit Concept Notes with revisions.

Questions

Questions may be directed to Ken Ludwa, Grants Manager, at ken_ludwa@dai.com.

ANNEX E

POLICY, RESEARCH, AND DEVELOPMENT

GRANT PROTOCOLS

These Policy, Research, and Development (PR&D) Grant Protocols describe the process for submitting applications, selecting grantees, and monitoring progress. The application and award process is illustrated in Figure 1.

Key Individuals and Structures in the PR&D Grant Process

- **Grants Manager:** Ken Ludwa, the PR&D Grants Manager, will chair the Selection Committee, oversee the RFA and grant awards, and perform monitoring and oversight of PR&D projects. Email: ken_ludwa@dai.com
- **Director of Research:** The Director of Research will be a full-time position located in the IMU/Secretariat. The Director of Research will coordinate with the Grants Manager on grant applications, awards, and oversight.
- **R&D Lead:** Mac McKee, the R&D Lead, is a representative of a US university partner retained to support the PR&D Grants Program. The R&D Lead will assemble the Technical Reviewers and lead the development of R&D capacity building activities. Email: mac.mckee@usu.edu
- **IMU Director:** Peter Reiss, the acting IMU Director, will actively participate in grant decisions. Email: peter_reiss@dai.com
- **Selection Committee:** The Selection Committee will decide awards for Seed Funds, evaluate Concept Notes, and invite Full Applications. The Selection committee will include the Grants Manager, IMU Director, R&D Lead, Director of Research, and representatives of USAID and the US Department of State.
- **Technical Reviewers:** Technical Reviewers will be independent, qualified scientists with backgrounds relevant to the proposals. The Technical Reviewers will evaluate Full PR&D Grant Applications for technical merit, and make award recommendations to the Awards Committee.
- **Awards Committee:** The Awards Committee will make final decisions on PR&D Grant awards. The Awards Committee will include the Grants Manager, IMU Director, Director of Research, and representatives of USAID and the US Department of State. Members of the Founders Committee may be added to the Awards Committee in the future.

Types of Awards

- **Seed Funds:** Research Teams may use Seed Funds to cover expenses associated with conceptualizing a PR&D project and developing a Concept Note. Seed Funds support target research proposal preparation capacity building. Allowable costs include travel, literature reviews, and limited procurements to conduct Research Team meetings, conceptualize a research idea, and prepare a Concept Note. The product of a Seed Fund award would be a Concept Note. The limit for an individual Seed Fund award is \$25,000. All expenditures will be made directly by the IMU.

- **Policy, Research, and Development (PR&D) Grants:** PR&D Grants support applied research, aimed at informing water resources policy, improving water resources management, and implementation and commercialization of water-saving technologies. PR&D Grants will cover legitimate project costs. Grants will be awarded directly to each Center in a Research Team for justified costs up to \$100,000 per Center per project.

Grant Application and Award Process

The Application and Award Process is summarized below in chronological order.

Request for Application (see RFA under separate cover)

- The Grants Manager will develop and update the Request for Application (RFA) three to four times per year. RFAs will identify priority research areas.

Research Teams

- Institutions within a Thematic Partnership will form Research Teams to develop a proposal and undertake a specific collaborative project. There may be several Research Teams working on different proposals and carrying out discrete research projects under a single Thematic Partnership, each managed by a Research Team Leader.

Seed Funds (see Seed Fund Application Guidelines under separate cover)

- A Research Team may request Seed Fund support at any time by submitting a short application to the Grants Manager, Ken Ludwa, at ken_ludwa@dai.com. *Note: The Seed Fund is optional. Research Teams may skip the Seed Fund process and submit a Concept Note directly.*
- The Selection Committee will evaluate Seed Fund applications and make Seed Fund awards.
- The Research Team will undertake Seed Fund activities (convene meetings of the Thematic Partnerships, make site visits, obtain special training, bring in special resources, make small procurements, etc.).

Concept Notes (see Concept Note Guidelines under separate cover)

- The Research Team will develop and submit a Concept Note to the Grants Manager, Ken Ludwa, at ken_ludwa@dai.com. This is a required step before submitting a Full Application for a PR&D Grant. The Concept Note is a short (approximately 5-page) description of the nature of the research problem, its importance, the research approach, and time frame. It will also identify the research Centers, personnel, other collaborators involved, and the approximate total budget that each Center will receive.
- The Selection Committee will review and rate Concept Notes. The Selection Committee will invite Full Applications for PR&D Grants from Concept Notes rating favorably against the evaluation criteria described below. Reviews of all Concept Notes will be returned to the authors.

Full Application and Awards

- The Research Team will develop a Full Application for a PR&D Grant and submit it to the Grants Manager, Ken Ludwa, at ken_ludwa@dai.com. Full Applications will be accepted on deadlines three to four times per year. The Lead Center will be responsible for submitting all Concept Notes and Full Applications.
- The Grants Manager will advise the R&D Lead to assemble the Technical Reviewers. The Technical Reviewers will evaluate the Full Applications against the selection criteria, rank them, and report their

- rankings to the Grants Manager, along with supporting comments.
- The Awards Committee will review the Applications and the Technical Reviewers' recommendations and decide on grant awards. Grant applications with the highest rankings will be recommended for funding.
 - The Grants Manager and Director of Research will administrate the award of PR&D Grants.

Responses and Follow-Up

- At the discretion of the Selection Committee, declined Concept Notes or Full Applications may be returned to applicants with guidance and invitation for resubmission.
- The Grants Manager or Director of Research will report evaluation comments back to authors of Concept Notes or Full Grant Applications.
- Deficiencies in the Concept Notes and grant applications that are turned down will be evaluated by the relevant committee. The R&D Lead will use the results of these evaluations to assess the need for additional training in research capacity and develop training activities.

Criteria

Criteria for evaluating a Concept Note or Full Grant Application will include: technical merit and innovation; relevance and likely impact; partnerships with government and the private sector; appropriate budget; project management; past performance; cost sharing; and involvement by young and women researchers.

Both Concept Notes and research grant applications must involve personnel from two or more Centers to be eligible for consideration. Ideally, Research Teams will include at least three Centers from two or more countries.

Monitoring

Monitoring of progress on research grants will be necessary to assure timely completion of research and proper attention to budgetary constraints. Each Research Team will provide brief quarterly progress updates to the IMU. These updates will include a description of the progress of research activities against the original timeline and a summary of budget status. In addition, a final report will be required of each grant as evidence of completion.

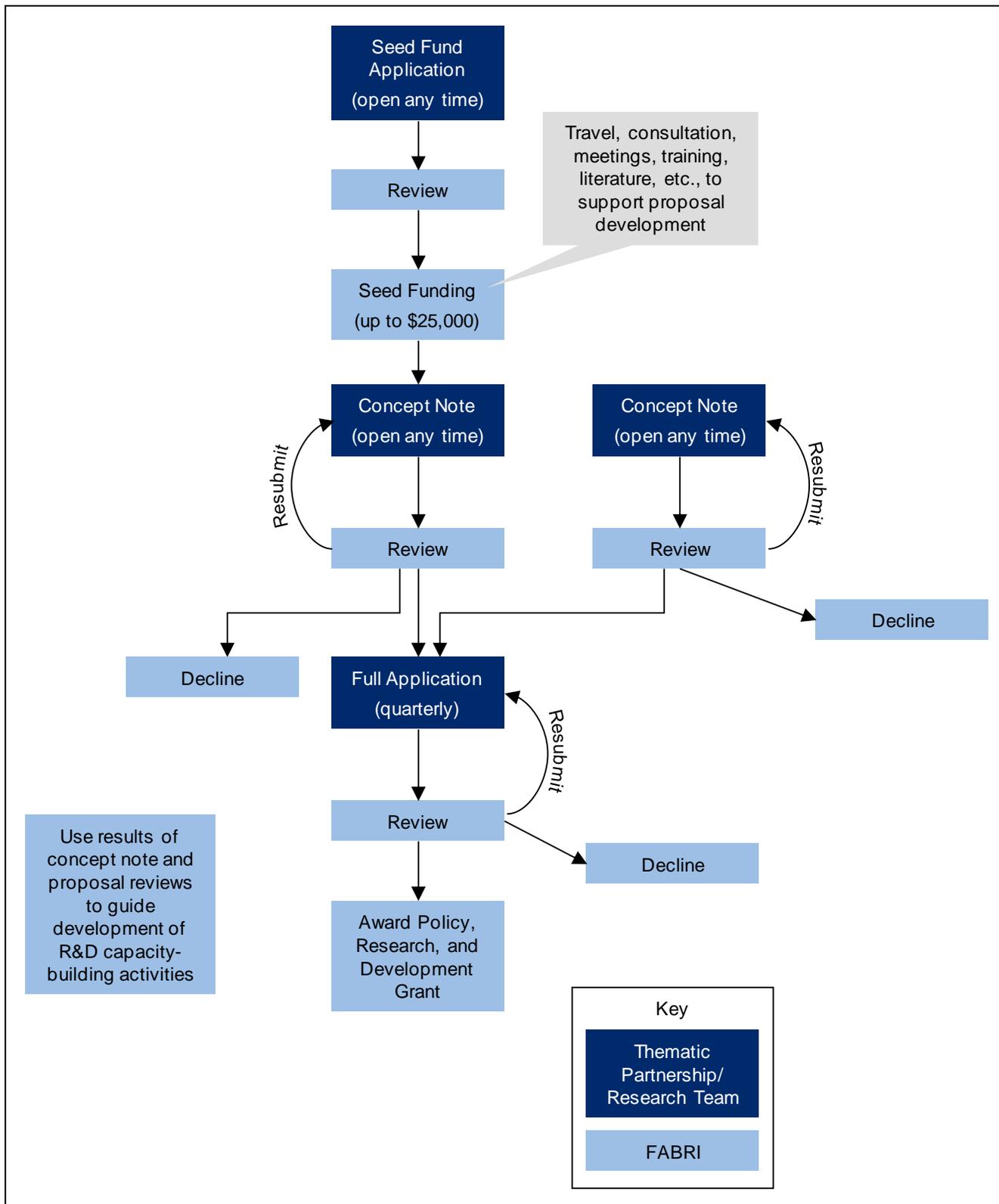


Figure 1. PR&D Grant Process.

ANNEX F

SECOND MENA NWC REGIONAL MEETING

EVALUATION RESULTS

MUSCAT, DECEMBER 5 - 8, 2011

Forty-one participants completed the evaluation form. These responses will provide ideas for future MENA NWC meetings

A. Objectives were stated at the beginning of the meeting. Participants ranked the degree to which the meeting helped meet each of these objectives: 1 = the objective was not met, 5 = the objective was met successfully.

By the end of the meeting, MENA NWC member center representatives will:

1. Develop MENA NWC research agenda

4.41

Comments:

- There was not enough emphasis on defining the key problems that could be addressed by innovative R&D; too many came to the meeting to find their existing agendas
- On track but still definitely a work in progress
- Scientific / technological competencies of individual partners in advance would have been useful to prepare projects
- Some flux, some additions
- The point was completely finalized

2. Define and launch Thematic Partnerships

4.41

Comments:

- Not enough clarity about what some centers were offering
- Good progress here although there may be issues with centers who did not get to participate in certain groups wanting to redefine priorities
- Useful preliminary strategic groups
- Centers have to go back and consult with their colleagues
- Bring more US Universities
- The 5 Thematic Partnerships were defined from the beginning

3. Begin planning Thematic Partnership activities over the next three to six months

4.40

Comments:

- Good explanation of process to develop projects
- Concerned that research topics are still v. broad and teams will have trouble defining discreet projects.
- Was good to meet project partners to form interest groups

4. Review and reach agreement on outstanding governance issues

3.47

Comments:

- We would like to have the committee based on CENTER REPRESENTATIVES
- There still seem to be questions on the criteria for joining the NWC and for what happens if centers do not live up to their obligations
- Not touched much
- Still some uncertainties re representation but these are not critical
- Not sure if all issues have been addressed fully
- Include more operators & public utilities

B. Participants provided comments on the following (numbers in parenthesis refer to similar comments)

1. Which Thematic Partnership group(s) did you join during the meeting? (See separate compiled list).

a. What was most useful about the discussion?

- Knowing the other areas of expertise
- Sharing research ideas
- Policy – Centre Research
- It was useful to know about the activities of other centers
- Knowing the experience of different organizations (centres, universities)
- Getting to know the work of other centers and the knowledge available in the region
- Identifying research priorities
- New ideas
- Get to know each other and center capacities
- Networking, research collaboration, research grant knowledge
- Formulation of the topics
- Exchange of point of views, identification of new partners
- Identify potential partners, take note of thematics that could be developed with some of them
- Identify the partners, determine the research topics, build the research team
- Learning about center perspectives and research priorities
- Discussion was too basic because this was the first time we had met and we did not get down to details
- We defined key water use efficiency research priorities
- First step towards identifying potential collaboration
- Well organized, action oriented, next steps and deadlines
- We learned the capacity of our partners in Jordan & Morocco; we obtained commitment on specific research contributions from VONL, NASA, USGS
- Experience of each participant
- Agreeing on regional research topics
- The collaboration between the countries, centres, and universities
- Cooperation, thematic groups were launched
- Having the main topics identified
- Know partner institutions interests and capabilities
- Reaching agreement at the end
- Explore ideas among colleagues and know each other
- Getting to know many good people, researchers

- Sharing of information & experience
- Learning what other centers are doing in the same area
- Networking
- Learning the strengths and interests of each center
- Identified a group and have already started agreeing on steps to go forward
- Finding how people think in different countries
- Closer understanding of research needs
- Developing teams/ team building; also consensus on important areas for development toward proposals
- Small scale desalination
- Sharing ideas and learned about new technologies

b. What still needs to be discussed and agreed within your Thematic Partnership?

- Research areas for the last priority
- Research + Policy =>interviews with decision makers
- More subareas and research ideas under each Thematic Partnership
- Project Management
- Define group members
- Identify in each centre the scientists interested; get the scientific teams formed
- The research topics
- Everyone would like to go home and discuss topics
- Identification of official partners and definition of the projects
- Identification of project
- Asking the research questions, developing the concept notes, submitting the concept notes
- Collaboration / team work not clearly appreciated by some of the research leads
- Stakeholder and policy involvement
- Define specific topic; identify interested scientists / form teams
- The strengths of each center to participate effectively in the projects
- Specifications (hydrogeological details) of the recharge sites in Jordan & Morocco
- Concept notes, methodology & visits
- Who will lead, for sure, each of the 3 research proposals
- Scope of the research topics and distribution of tasks
- Prepare everything and bring it to work
- There must be other meetings to identify the projects clearly
- Identify more specific topics
- Forming specific research teams
- Brainstorming discussed ideas in order to come up with a proposal
- How to get teams to work together
- Project priorities
- Proposals, templates and budgets
- Exact research projects
- Finalize technical details
- Hard core technical facts – what can be done & what should be done
- Precisely define roles and responsibilities
- Nothing more at this stage
- Governance
- Sites – availability for pilot studies

c. What other institutions, organizations, and entities do you think should be included in this thematic partnership?

- Water Supply & Sanitation Thematic Partnership member recommendations
 - ONEP, RSS, Najah University, American University
 - Water Use Efficiency / Productivity Thematic Partnership member recommendations
 - Centers / private sector who work with agriculture aspects
 - Agr Research Centers , i.e. Egypt
 - NGOs
 - All Gulf Centers
 - More universities from the region
 - Groundwater Thematic Partnership member recommendations
 - Maybe we need someone from Water Ministry from groundwater department who can help us link our research ideas to the needs of government which will help later to adapt a policy from these proposed projects
 - EPA may be of help on policy making in groundwater contamination / quality
 - Public utilities and operators
 - Egypt NWRC, Tunisia
 - UNESCO, Haya Company in Oman
 - Codi Ayad University in Morocco; Institute for Water and Energy
 - Need to link to private sector on groundwater monitoring
 - Non-Conventional Water Thematic Partnership member recommendations
 - Other Universities and Research Institutions dealing with Non-conventional water
 - To be defined, such as University of California
 - Specialized institution working directly on industrial projects
 - Codi Ayad University in Morocco; Institute for Water and Energy
 - Jordan University; ONEP, Morocco; Tunisia
 - Policy makers; public authorities; more US Institutions
 - Water, Energy, Food Relationships Thematic Partnership member recommendations
 - NWC – Israel
 - We have QEERI, WEEC, SQU, IWMI, and PWA. If we can have one center from North Arica (Tunisia or Morocco) that would be great
 - Other US Universities might be good partners depending on specialist areas
 - MEDRC
 - Energy and agriculture centers in the Palestinian Authority
 - General comments
 - All components were present (government, center, university)
 - Institutions from countries which were not represented
 - Maybe look into that after writing proposal or concept paper
 - Most institutions at this meeting could probably be included in one way or another
 - Research theme leaders to set the tone of discussion
2. Which other Thematic Partnerships would your center be interested in joining? (See separate compiled list).

3. What is your next step – what is one thing you *personally* plan to do as a result of this meeting?

- Spread the information
- Contact experts in water ministry and discuss with them about their needs to develop policy in water field, specifically in groundwater
- Coordinate with relevant research groups in Qatar
- Inform my colleagues about the meeting outcomes and encourage them to deliver ideas and develop concept ideas
- Discuss the results of this meeting with the president of NWRC and the Minister
- Develop an outline of two subproject (sub topics)
- Explain to my colleagues back home what happened in the meeting and to have them involved in the projects
- Start new proposal with Morocco & Tunisia; ask other researchers at NCARE-Jordan to participate in other groups
- Initiate a meeting at the IAV to inform scientists working in water related areas
- Develop a research question and proposal
- Check the best topics and look for partners
- Dissemination of the outcomes of the meeting among researchers and stakeholders in Tunisia
- Communicate on the meeting, and invite other partners (appropriate ones) to be involved in the project
- Meet with the full-time researchers & present the Thematic Partnership; start to develop concept notes; arrange for research team meeting after Seed Fund request
- Discuss w/ colleagues at home; assess priority investments with them
- Write up a proposal or two with potential partners; explore whether we can afford to contribute from a financial point of view
- Assist in developing links within the region and participate in initiating 1 to 2 teams
- To gather more information on each of the Centre's capabilities to understand research and guide policy
- Follow-up with outstanding action items
- To draft concept note; meet our partners in Jordan with preliminary (email) discussions on details of the 2 future proposals (Groundwater)
- Meetings in my country and prepare data
- Contact colleagues
- Probably review the initial write-ups from the GW group for technical and scope
- Share information, expertise with colleagues
- I will contact the partners to work on the concept note and to finalize the research proposal
- Start forming research teams and work on concept notes soon
- Convey the identified topics to my center to discuss with other colleagues who might be interested
- Summarize the meeting activities and spread the word around at the NWRC Institutes
- Will share with the other group members re: virtual meetings. through Google groups will share info and further develop ideas
- Work on preparing concept note with partners
- Coordinate a project proposal on cost modeling and environmental impacts
- Contact relevant colleagues and start connecting them with relevant centres under the agreed thematic partnership
- Advertise for my center
- Learn more about the institutions in my thematic partnership
- Write concept note and disseminate to team by Dec. 18th
- Continue with the group and form projects
- Publish the network information among other related research centers who are not connected so far
- Meet with my USA faculty members to describe the project and develop interests / potential

- partnerships
 - Set up contacts with SQU
 - To draft ideas related to the themes
4. What are your specific expectations for follow-up from the Interim Management Unit and FABRI team to help you develop the proposal and carry out the actions you are planning over the next three to six months?
- Private data base
 - Follow-up with teams
 - Keep us updated for the progress of all activities of MENA-NWC
 - Research proposal in next 3 months
 - Follow-up on the output of the meeting, provide documents and preparation clarification to our organization
 - A summary document presenting the different, relevant programs in each university
 - Send the results of the meeting to every center so as to be able to form the teams
 - Keep us updated by e-mail; establish more detailed website (page)
 - Jelling the groups and initiate research project
 - To get feedback from them that will support our proposals
 - Availability to respond to our questions
 - Support candidate for their specific needs in terms of assistance on legal aspects
 - To be close from the research teams; to circulate the presentations, outcomes, applications forms; to facilitate the meetings for research teams
 - More communications
 - They will be instrumental in participatory interaction and assisting with logistics
 - Get all needed documents; have the communication tools ready and operational
 - Clarify further processes for implementation
 - Technicalities on procurement policies / regulations (marketing SQU rules / regulations)
 - Help and assistance in preparing proposal
 - Templates for budgets & reporting; procurement guidelines
 - Approve the proposal and start work
 - Further preparation to continue working on research proposals
 - Have the forms (application forms) ready and clear to be filled out accordingly
 - Frequent update of titles of submitted ideas to prevent duplication
 - Active follow-up
 - Continued support
 - Clear communications about budget, support in Admin matters which relate to administering see fund and review process
 - Keep a good eye on progress and advise
 - Our team seemed interested in the seed grants and linking with experts to help develop projects
 - Links to universities in the US
 - Fix deadlines
 - Facilitate an easy start
 - Not duplicate MEDRC activities
5. Do you have any final suggestions or comments on the meeting design, facilitation or logistics?

SPECIFIC SUGGESTIONS

- It would have been great to have a list of names before or at the beginning of the meeting. Peter knows everyone but I needed a “cheat sheet” to notate players as we went through the discussions. Even if the

list was incomplete at the beginning it would have been immensely helpful.

- The meeting should be designed to have Centers Directors who can decide; to have some free time
- Not enough emphasis on socio-economics and policy issues
- Background materials should be supplied before meeting
- Adjust the food “plan” to have light lunches and dinners
 - Please less food
 - Less food please
- A follow-up in each country / center. Thank you very much
- Send info to other centers and countries to have a better network