



**LIFE Integrated Water Resource Management
Task Order No. 802
EPIQ II: Contract No. EPP-T-802-03-00013-00**

Stakeholder Engagement in Water Resources Management

Task #4: Improved Maintenance and Upgrading of Water Management Equipment

*Updated Assessment of Egyptian Farmers' Need for Improved Maintenance
of Irrigation Equipment and Training to Manage
Water Users' Associations*

Report No. 30

October 2006

**This publication was produced for review by United States Agency for International
Development. It was prepared by:**



**International Resources Group
In association with EPIQ II Consortium**

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Equipment:**

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Abbreviations and Acronyms

AED	Academy for Educational Development (a US-based entity providing USAID-funded assistance regarding environmental education and awareness)
AERI	Agricultural Exports & Rural Incomes Project
APRP	Agricultural Policy Reform Program
BCWUA	Branch Canal Water User Association
CDA	Community Development Agency
CDIAS	Central Directorate for Irrigation Advisory Service
CTO	Cognizant Technical Officer. The USAID person responsible for supervising a technical assistance contractor
DAI	Development Alternatives, Inc. (a Washington DC-based consulting firm providing USAID-funded assistance regarding water management)
EEAA	Egyptian Environmental Affairs Agency
EEPP	Egyptian Environmental Policy Program (a USAID-funded program aimed at achieving environmental policy reform)
EPADP	(MWRI) Egyptian Public Authority for Drainage Projects
EPIQ	Environmental Policy and Institutional Strengthening Indefinite Quantity Contract
GIS	Geographic Information System
GOE	Government of Egypt
GPS	Global Positioning System
GW	Groundwater
GWS	Groundwater Sector
HD	(Aswan) High Dam
IAS	Irrigation Advisory Service (CD: Central Directorate)
IBRD	International Bank for Reconstruction and Development or World Bank
ID	Irrigation Department
IIIMP	Integrated Irrigation Improvement and Management Project
IIP	Irrigation Improvement Project
IRG	International Resources Group (a Washington DC-based consulting firm that is prime contractor for USAID's support the Water Component)
IS	Irrigation Sector of the MWRI
IT	Information Technology
IWMD	Integrated Water Management District
IWMU	MWRI Integrated Water Management Unit
IWRM	Integrated Water Resources Management
LAN	Local Area Network
LIFE	Livelihood and Income from the Environment (project)
LOE	Level of Effort
M&E	Monitoring and Evaluation
MALR	Ministry of Agriculture and Land Reclamation
MED	(MWRI) Mechanical & Electrical Department
MIC	MWRI Ministry Information Center
MISD	Matching Irrigation Supply and Demand
MOE	Ministry of Education
MOH	Ministry of Health
MOU	Memorandum of Understanding
MSEA	Ministry of State for Environmental Affairs

MSW	Maintenance service workshop
MWRI	Ministry of Water Resources and Irrigation
NGO	Non governmental Organization
NWRC	(MWRI) National Water Research Center
O&M	Operation and Maintenance
OJT	On-the-Job Training
PM&E	Performance Monitoring and Evaluation
RSC/WP	Red Sea Coastal/Water Project, short name for USAID Red Sea Coastal and Improved Water Resource Management Project
STTA	Short-term Technical Assistance
TA	Technical assistance
TOR	Terms of reference
USAID	United States Agency for International Development
WCU	Water Communication Unit
WDC	MWRI Central Water Distribution Center
WPRP	Water Resources Results Package
WQU	MWRI Water Quality Unit
WUA	Water User Association
WA	Water Advisory Team

Acknowledgements

This study report was undertaken as a joint activity of the Ministry of Water Resources and Irrigation (MWRI), MWRI Integrated Water Management Unit (IWMU), and Livelihood and Income from the Environment (LIFE)–Integrated Water Resources Management (IWRM) Team. Members of the group assigned to complete this activity were Dr. Wadie Fahim Mankarious, Task 4 Manager, Ms. Dahlia Hamdy, LIFE–IWRM Training Coordinator, Ms. Mona Bittar, LIFE–IWRM Consultant and Dr. Medhat El-Helepi, Consultant, LIFE–IWRM.

The LIFE–IWRM is a joint activity of the MWRI and the United States Agency for International Development (USAID). It is carried out under the auspices of the LIFE–IWRM. The Project is the responsibility of International Resources Group, Ltd. (IRG).

Dr. Jeffery Fredericks, LIFE–IWRM Chief of Party, the LIFE–IWRM team, and working group members would especially like to acknowledge the contributions and support of the many senior officials of the MWRI. The technical guidance provided by the following individuals was significant and is greatly appreciated: Eng. Gamil El-Sayed Mahmoud, Chairman of the MWRI Steering Committee and the MWRI IWMU; and Engineer Wafaa Faltaous, USAID CTO.

Executive Summary

Objectives

The objective of Task #4 was multi-faceted. Foremost, the aim was to determine whether Egyptian farmers, particularly those in the Integrated Water Management Districts (IWMDs), were in need of improved service for the maintenance and repair of their irrigation equipment, especially the diesel pumps. Secondly, the aim was to determine whether Egyptian farmers from these areas where Branch Canal Water Users Associations (BCWUAs) are being established, were in need of basic business training to appropriately manage the associations. The third aim was to determine whether or not the governorate technical schools administered by the Ministry of Education (MOE) have the capacity to provide either the training for mechanics of irrigation equipment, and/or the basic management skills training for the BCWUA board members.

To address these objectives, during the first year of the project the LIFE-IWRM Team conducted a Rapid Assessment consisting of focus group meetings with farmers, as well as meetings with vocational and technical school staff and tours of those facilities in the project priority governorates. Results of the first assessment were published in Report No. 9, “Task 4: Assessment of Egyptian Farmers’ Need for Improved Maintenance of Irrigation Equipment and Training to Manage Water Users’ Associations.”

USAID requested that during the 2nd year the project increase the size of the sample of interviewed BCWUAs and the number of repair workshops assessed, since the project has established more than 270 BCWUAs. This report focuses on the findings of the assessment conducted with the larger number of BCWUAs that has been formed under Task #2 during Years 1 and 2 of LIFE-IWRM and includes more repair workshops from additional IWMDs than were investigated during the initial assessment.

Activities

Task #4 activities to complete this updated Rapid Assessment included:

- Conducting focus group meetings with BCWUA members from target governorates to determine the need for qualified mechanics, as well as self-perceived need for training to manage the BCWUAs.
- Investigating the capacity of mechanical workshops at the level of IWMDs to provide proper repairs and maintenance for pumps.

Key Findings

The findings of this updated assessment are complementary to those of the original assessment conducted and published in LIFE-IWRM Report No. 9.

In summary, the findings of this recent assessment are:

Access to Improved Repair/Maintenance of Irrigation Equipment

1. Access to reliable, affordable spare parts and skilled mechanics is not a problem for farmers in Lower Egypt, as reported in Report # 9. However, this assessment found that farmers in Upper Egypt lack high quality spare parts and suffer from the unavailability of skilled mechanics.

2. Farmers do complain about the quality and cost of repairs, but they attribute this to poor quality spare parts rather than the capability or training of mechanics.
3. Farmers are highly suspicious of the training quality of graduates of secondary technical schools.

Business Management Skills and Training of BCWUA Members

1. The majority of BCWUA board members do not perceive a need for basic business training. As leaders in their communities, they learned basic business management skills by serving on local councils, and working with NGOs or Community Development Agencies (CDAs), where tasks require similar skills.
2. Farmers have their own experience and familiarity with managing money and handling accounts.
3. Farmers in Upper Egypt perceive themselves as lacking required management skills, but this is not true in Lower Egypt.

Maintenance Services Workshops

1. Mechanics show mastery over maintenance and repair of irrigation tools and equipment, though they have not had any formal training.
2. Graduates of technical schools are totally out of the scene.

Recommendations

In summary, as a result of the recent assessment, the team recommends:

Improve Repair/Maintenance of Irrigation Equipment:

1. Conditional on availability of funds, the project could develop public awareness materials to encourage farmers to select pumps based on efficiency criteria rather than initial costs and spare parts costs. The wide spread use of these more efficient machines would eventually reduce initial cost and price of spare parts. In addition, an educational booklet on simple pump repairs and preventive maintenance could be produced.
2. Improving the training sessions offered by technical and vocational schools as presented under Report No. 9 would definitely improve the overall quality of maintenance and repair services available in rural areas. Technical, rather than financial, support from USAID would be highly beneficial as the majority of these schools do not lack financial resources; rather they lack vision, administrative capacity, initiative, and so many other related capabilities.
3. Help BCWUAs in Upper Egypt, particularly in remote areas, to establish affiliated workshops that employ well-trained graduates of technical schools. The aim of this affiliated unit would be primary to provide quality maintenance and repair services at minimal cost, whereby self-sustainability rather than profit is the financial target.

Business Management Skills and Training

1. Enacting Law #12 may help BCWUAs generate funds that would enable them to provide different forms of training programs, including maintenance and repair of irrigation equipment and business management. Efforts to speed up approval of this law would be highly valuable.
2. Produce educational booklet on business management and farm bookkeeping.

3. If funds were available, provide specific on-the-job training covering business planning and management, leadership skills, and bookkeeping and accounting, giving priority to Upper Egyptian BCWUAs.
4. If possible, the MOE could encourage commercial schools to develop short courses in business management. These courses would have dual benefits: first, by providing severely needed sustainable non-governmental income for schools. Second, by keeping trainees—the BCWUA board members—aquainted with market forces and changes.

Maintenance/Repair Services Workshops

1. To prepare better qualified mechanics specializing in the repair and maintenance of irrigation equipment, the project recommends that donors or USAID encourage the MOE and the Central Department of Technical Education to develop specific programs that provides licensed career tracks for young persons in rural areas interested in providing this service.
2. The Government of Egypt (GOE) should enforce the implementation of the Ministry of Manpower's instruction that all mechanics pass an annual test. Moreover, the ministry should dictate that all mechanics have to successfully attend short courses of training periodically.
3. The project suggests that technical schools provide short evening courses at the lowest possible cost for mechanics and interested farmers.

Introduction

Authorization

International Resource Group (IRG) under the USAID–Egypt funded Livelihood and Income from the Environment (LIFE) Integrated Water Resources Management Project (Contract No. EPP-I-802-03-00013-00 Task Order 802) is responsible for assisting the Government of Egypt (GOE) to promote integrated water resources management. The period of performance is October 1, 2004–September 30, 2008.

Purpose of Report

The purpose of this report is to update the findings of a previous assessment conducted during the 1st year of LIFE–IWRM and published in Report # 9, “Assessment of Egyptian Farmers’ Need for Improved Maintenance of Irrigation Equipment and Training to Manage Water Users’ Associations” (LIFE–IWRM Report #9, September 2005). USAID reviewed the original report and recommended that the activity should be expanded to include input from additional BCWUAs and pump repair workshops. For this purpose, three additional focus group meetings were conducted in three governorates. A total of 63 BCWUA Board members, representing 18 BCWUAs, participated in these meetings. Another 5 pump repair workshops were visited and 12 mechanics interviewed. This report expands the original assessment by including:

- Farmers and BCWUAs access to trained persons qualified to repair and maintain irrigation tools and equipment.
- Board members’ perceived need for training to manage the BCWUAs.
- Maintenance/Repair workshop capacity for providing proper maintenance and repair services for irrigation tools and equipment.

Background

The objective of LIFE–IWRM is to provide technical assistance, training, commodities, and small grants in support of the decentralization of water management decision-making and an increased participation of all rural inhabitants in such decision-making in two priority geographical areas and five Irrigation Directorates: New Zifta and West Sharkiya in the Middle Delta; and East Qena, West Qena, and Aswan in Upper Egypt, covering 1.2 million feddans (15 percent of Egypt’s irrigated land) and benefiting more than 8 million people (see figure 1).

With decentralization and participation, USAID expects greater civic responsibility in maintaining the water conveyance infrastructure and improvements in the quality of local water resources through better management of locally generated liquid and solid wastes. The objectives are expected to be achieved through the formation and development of functional and sustainable BCWUAs involving more than 1,000 branch canals, 27 IWMDs, and developing the capacity of stakeholders to manage solid and liquid wastes in the targeted directorates.

Seven tasks under three performance requirement categories are to be implemented under the LIFE–IWRM Program:



Figure 1 Project Location Map

A.1 Performance Requirement I: Decentralized Management of Water Resources

1. Formation of Integrated Water Management Districts
2. Formation of Branch Canal Water Users' Associations
3. Equitable Allocation of Water Resources

A.2 Performance Requirement II: Stakeholder Engagement in Water Resources Management

4. Improved Maintenance and Upgrading of Water Management Equipment
5. Environmental Services for Improving Water Quality Management
6. Improved Wastewater Reuse Practices

A.3 Performance Requirement III: Capacity Building of MWRI Staff

7. Graduate Degree Training for MWRI Staff

Task #4, “Improved Maintenance and Upgrading of Water Management Equipment,” falls within Performance Requirement II: Stakeholder Engagement in Water Resources Management, and contributes to improved water use efficiency.

Pumping water is a main factor in the cost of crop production in Egypt. Ensuring efficient performance of diesel irrigation pumps through maintenance and operation could reduce the item cost of water lifting and increase water use efficiency. At the time the USAID LIFE–IWRM project contract was written, the understanding was that “IWMDs, Water Boards, BCWUAs, and farmers currently do not have access to low-cost, small shop repair and maintenance facilities for water management equipment.” Subsequently, a USAID-funded study carried out by Michael Ross from Sandia National Labs, USA, found that farmers have no problem finding mechanics to service their pumps. This indicated that pump repair may be a non-issue.

Task 4 activities were therefore designed to verify this finding by focusing on whether Egyptian farmers, particularly those in the IWMDs, were in need of improved service for the maintenance and repair of their irrigation equipment. If a shortage of qualified mechanics was identified, the idea was to explore possible ways to strengthen or improve existing training to

create new job opportunities for rural young people, and thereby increase farmers' access to quality service. This goal, according to the contract, was also in line with the strategic objectives of the Agricultural Exports & Rural Income (AERI) project, with which the LIFE-IWRM project is to cooperate. Toward these ends, the Task #4 team was to conduct focus groups with farmers to learn if qualified mechanics were needed and whether farmers had any concerns regarding pump repair and maintenance.

During the USAID Red Sea Coastal and Improved Water Resource Management (shortened to Red Sea Coastal/Water Project, or RSC/WP) project, whose scope of work consisted of four districts, the Central Directorate for Irrigation Advisory Service (CDIAS) provided extensive training for both BCWUA representatives and IWMD staff. However, as the project began addressing the challenge of implementing the integrated water management concept in 27 IWMDs, and considered how the model would eventually be implemented by the MWRI nationally, it became apparent that the CDIAS would be stretched beyond capacity if they were to attempt to implement all the training inherent to the establishment and operation of IWMDs and BCWUAs. It would therefore be ideal, and in keeping with the concepts of integration, and decentralization, if appropriate local training opportunities could be found or adapted to meet the needs of BCWUAs, and even potentially to meet some training needs of the newly appointed IWMD staff. A rapid assessment of technical schools was therefore conducted to determine whether training of either type, could be provided through these existing institutions.

Task 4 Objectives

The overall objective of this task was to assist the BCWUAs to improve water use efficiency through improving efficiency of irrigation management devices, specifically pumps. This could be achieved through assessing availability and quality of skills and services locally. For decentralization of water management to be successful, farmers and BCWUAs require access to trained persons qualified to repair and maintain irrigation tools and equipment. In addition, both BCWUA representatives and IWMD staff require particular skill sets for which individuals may need training to fulfill their respective roles and responsibilities.

To ensure sustainability, it is also necessary for local training for both pump repair and maintenance and for business skills be available. Task #4's assessment focused on the needs of the BCWUAs being formed under Task #2: "Formation of BCWUAs," for efficient pump repairs in their districts. It also considers the needs of training for BCWUA members in computer use, basic business management, and basic personnel management. Focused as well is the quality of repair and maintenance of irrigation equipment provided by local maintenance services workshops.

The current assessment has been conducted primarily to extend the size of the surveyed area included in the first assessment (report No.9, 2005). The first assessment included three focus meetings with only nine BCWUAs, and three interviews with seven technical schools. These were conducted at East Edfu, Luxor, and Ibrahimiya IWMDs during August 2005. The current assessment extends to include as many as 18 BCWUAs, in addition to 5 maintenance service workshops (MSW) through 3 focusing meetings, and 12 workshop workers interviewed, respectively. These focus meetings and interviews were conducted at Zagazig and South Zifta in Lower Egypt and Esna in Upper Egypt during July and August 2006.

During these focus meetings and interviews, discussions centered on:

- Repair and maintenance of irrigation tools and equipment
- Water management
- Business management skills
- Needed training to enhance Board Members' management skills
- Capacity of maintenance service workshop to provide proper services.

Approach and Methodology

The LIFE-IWRM Project Task #4 team relied on focus group meetings with BCWUA members in order to assess their needs. The team then investigated the capacity of local maintenance service workshops to provide proper maintenance of irrigation tools and equipment to newly established BCWUA. The following activities were carried out to update the original assessment:

Activity 1: Verify Findings on Pump Maintenance

- Develop questions for inclusion on farmer surveys conducted as part of BCWUA formation
- Conduct focus groups drawn from BCWUA members in target governorates
- Analyze findings
- Recommend next steps.

Activity 2: Determine Training Needs for BCWUAs

- Develop questions for inclusion on Focus Group Discussion Guidelines.

Activity 3: Conduct Rapid Assessment of Maintenance Service Workshops

- Develop questions for inclusion in interview with owners of maintenance service workshops (MSW)
- Conduct interviews with owners of and workers at MSWs
- Analyze findings
- Recommend next steps.

Focus Group Discussions

Site Selection and Composition

This assessment study covered a sample of seven districts in addition to those selected in the original assessment. As irrigation conditions and techniques vary considerably within Lower and Upper Egypt, the research team selected five districts in the project area of the Nile Delta along with two other districts in Lower Egypt.

The sample consisted of 18 BCWUAs—from the 275 BCWUAs formed in 11 IWMDs in 5 Directorates: West Sharkiya, New Zifta, West Qena, East Qena, and Aswan—expanded from the 9 BCWUAs selected in the original assessment study. The 27 BCWUAs interviewed during the original and updated assessment represent 10 percent of the total number of BCWUAs formed at the time of the update (April 2006). The sample was selected based on

consultation with LIFE Project Staff and the Districts Managers, to choose a sample from active BCWUAs that have an effective working relationship with the IWMDs.

Discussion Content Areas

1. Assess BCWUA members' need for improved maintenance and repair of water management equipment, specifically irrigation pumps and canal maintenance equipment, including:
 - a. Frequency and need for maintenance and repair
 - b. Availability of repair and maintenance services
 - c. Satisfaction with mechanics' level of training/performance
 - d. Availability of spare-parts in the local market
 - e. Ability or training needs for BCWUA members in operation, maintenance, and repair of their own equipment
 - f. Commonly used equipment.

2. Assess BCWUA board members' business skills and training needs related to management of the association, including:
 - a. Relevant education or training
 - b. Previous or related experience
 - c. Meeting management and documentation
 - d. Financial planning and account management
 - e. Legal status and laws governing BCWUAs
 - f. Community participation mobilization.

3. Assess maintenance service workshop capacity to provide proper maintenance and repair for irrigation tools and equipment, including:
 - a. Type of training received
 - b. Access to spare parts
 - c. Availability.



Figure 2 Focus Group Meeting in W. Sharkya Directorate for Zagazig & Abo Kebeer districts on July 30, 2006

Data Collection

This assessment was conducted in selected BCWUAs and maintenance service workshops in three directorates: two located in Lower Egypt, W. Sharkiya and Zifta, and one in Upper Egypt, Qena. Information on locations of events and number of participants is detailed in table 1.

Table 1 Number of Events and Participants/Respondents

No.	Event	Location	Director-ate	Districts	Date of Events	No. of BCWUAs Represented	Total No. of Respondents
1	Focus Group Meetings	Lower Egypt	W. Sharkiya	Zagazig & Abo Kebeer	July 30, 2006	5	17
2	Focus Group Meetings	Upper Egypt	W. Qena	Esna & Arment	August 5, 2006	6	33
3	Focus Group Meetings	Lower Egypt	Zifta	S. Zifta, Berket El Sabaa & Qesna	August 12, 2006	7	27
4	Interview MSW	L. Egypt	W. Sharkiya	Zagazig	7/30/2006	N/A	4 Workers in one workshop
5	Interview MSW	U. Egypt	W. Qena	Esna	8/5/2006	N/A	4 Workers in one workshop
6	Interview MSW	L. Egypt	Zifta	S. Zifta	8/12/2006	N/A	4 Workers in three workshop
	Total		3	7		18	89

Findings

Findings based on focus groups and meetings at maintenance service workshops were:

Pump Repair and Maintenance Issues

Irrigation Equipments/Machines Used by Farmers

- Pumps are more intensively used in all Lower Egypt directorates than in Upper Egypt.
- Water cooling types of diesel pumps are commonly used in Upper Egypt.
- Electric pumps are used only in a few districts in Upper Egypt, where there is access to power lines.

Types of Diesel Pumps Commonly Used

There are two commonly used types of diesel pumps:

1. The Indian Peter Pump, which is assembled locally, with a water cooling processor, is most frequently used by farmers in Upper Egypt (Qena and Aswan) directorates and W. Sharkiya in Lower Egypt. The following factors justify the common use of this pump in these directorates:
 - Low initial cost

- Cost of maintenance, spare parts, and operation is lower than the air cooled pumps
 - Availability of spare parts
 - Transportable.
2. The German Dweits pump, also locally assembled with an air cooling processor, is only used in Zifta Directorate. The advantage of this machine is that it is much more effective as it has an air cooling processor in case of a water shortage. It reduces the time of irrigation (5 feddans/day), pumps water efficiently, and has a long life span. Farmers in Upper Egypt prefer not to use the Dweits machine as its air cooling processor is adversely affected by the dominating high temperatures.

Common Irrigation Pumps Problems

Garbage clogging the pump is the most common problem in both Lower and Upper Egypt, which means the machine cannot pump water efficiently. In addition, it takes a full day for pump repair at the mechanics workshop.

Farmers in Zifta Directorate considered the high price of Dweits machine (LE9,000) as a problem, complaining as well from the high cost of spare parts and accessories, which are not available at their districts.

In Qena Directorate, farmers highlighted the problem of unskilled mechanics, fake spare parts, and shortages of original spare parts in the Armant District.

Maintenance and Repair of Water Management Equipment

1. Farmers in both Lower and Upper Egypt usually do not perform regular maintenance through mechanics; they carry out basic maintenance themselves, including cleaning filters, fixing wheels, adjusting screws, and changing oil. This basic work is carried out relative to the number of daily working hours. When they need to repair the motor they seek the assistance of available mechanics. In some districts such as Esna and Armant in Upper Egypt, they seek mechanics within a fixed time intervals (6 month) to maintain their pumps.
2. In Upper and Lower Egypt, the mechanics perform maintenance on-site or at the work shop.
3. Lower Egypt BCWUAs are pleased with the quality of service provided by the mechanics, contrary to Upper Egypt BCWUAs, which complained about unskilled labor and low quality services for pump repairs. After a few days of use, according to their statement, pumps break down and require additional repairs.
4. Spare parts are available at the local market in both Lower and Upper Egypt. For W. Sharkiya, spare parts are available within the districts, at cities such as Zagazig, Abo Kebeer, and Ibrahimiya. In New Zifta Directorate, spares are only available at some distance in cities such as Tanta, Mansoura, and Cairo. In Upper Egypt, farmers complain about the bad quality of spare parts, saying that many are fake. Farmers in the Armant District complained of the lack of availability of any spare parts.
5. Maintenance service training is not a main issue to the BCWUAs. In New Zifta directorate, most BCWUA members would like know how to perform these chores themselves, while in the West Sharkiya and Upper Egypt directorates they prefer to use mechanics, even if they would receive preliminarily maintenance service training.
6. None of the BCWUAs in Lower or Upper Egypt yet provide any kind of maintenance services to farmers. However, some of the BCWUAs in South Zifta suggested

establishing pump repair workshops close to the BCWUAs to ensure that high quality, fast, reasonably priced service were available; however, following discussions, the majority of attendees did not favor this approach.

7. One of the obstacles that prevent associations from providing maintenance services to farmers is the delay in implementing Law 12, giving authority to associations. That law provides for communicating with public authorities, for collecting user service fees, and for funding services that would create credibility among farmers.
8. Some participants thought the idea of training and employing new graduates of secondary technical schools was good. Others expressed a clear lack of confidence in the quality of any training provided by these schools.

BCWUA Recommendations

In New Zifta and Esna directorates, farmers suggested initiating the use of electric motors for irrigation instead of using irrigation pumps. The electric motors cost less to operate and have a high irrigation efficiency, irrigating more land in less time.

Business Management Skills and Training

Boards of associations in Upper and Lower Egypt consist of five to nine members, all elected. Findings of BCWUAs' needs for business management training were:

1. Some BCWUA board members are also members of local councils, NGOs, and CDAs.
2. Some BCWUA board members are university graduates and a few have engineering degrees.
3. Concerning the administrative management of BCWUAs, some board members stated that they need training on financial and administrative management and preparing annual plans. However, in Upper Egypt, most of the members—even those belonging to newly established BCWUAs—stated that they have the experience to conduct meetings and prepare plans.
4. Most farmers stated that they do keep their own farm records or accounts, although in a simple way. Some of them keep books, others rely on their memory or notes.
5. The Water Advisory Team and the Districts engineers play a successful advisory role in finding solutions to farmers' common problems.
6. The majority of BCWUAs do not possess any facilities in which to conduct training programs, as they do not have a fixed meeting place or sufficient funds. Some of the BCWUAs suggested holding training courses at the IWMD premises.

BCWUA Recommendations

Farmers expressed the need to be trained in:

1. Association management
2. Board member roles
3. Business and financial management
4. Conflict management and internal regulation
5. Drainage and irrigation law
6. Maintenance services for irrigation equipment
7. Exchange field trips.

Maintenance Workshops for Pump Repair

1. Maintenance workshops are available in most districts in Upper and Lower Egypt.
2. Farmers have access to maintenance services, which is mostly performed on-site. The farmers consider the quality of service and labor to be good.
3. Most of the owner's of workshops have many years of experience. The majority of mechanics are experienced laborers, but they have not graduated from any technical school but got experience by practicing since childhood. In Upper Egypt, some of them have been students in the industrial schools/Azhar primary schools, and they received training each summer in a workshop.
4. Some industrial school students believe that getting training/experiences at the workshop is more effective than school. They believe their performance is more efficient than that of educated engineers.
5. The only problems that irrigation pumps have in common are those involving the motor. The Peter (water cooled) pumps need to have the processors changed periodically.
6. Mechanics in West Sharkiya Directorate suggested using water cooled pumps (Peter pumps), while in Zifta Directorate the mechanics recommend using air cooled pumps (Dweits pumps). However, Upper Egypt labors believe that Dweits air cooled pumps are much better than Peter water cooled pumps; but Dweits does not function well due to the high temperatures in this region.
7. Mechanics complain that recently farmers are not performing regular maintenance on their pumps. This, according to the mechanics, will cost farmers a lot as the rate of replacing parts will be high because of lack of maintenance. The mechanics also point out that gas consumption will be higher as well.
8. Some mechanics undergo periodic testing and certification by the Ministry of Manpower.

Key Findings

Access to Improved Repair/Maintenance of Irrigation Equipment

1. Access to reliable, reasonably priced spare parts and skilled mechanics is not a problem for farmers in Lower Egypt, as reported first by report # 9; however, this assessment observed that Upper Egyptian farmers lack access to high quality spare parts and availability of skilled mechanics.
2. Availability and high costs of less common pump machines, such as Dweits, might be a problem, though these machines are likely to be more efficient.
3. Farmers do complain about the quality and cost of repair, but attribute this to poor quality spare parts rather than the capability or training of mechanics.
4. Farmers are highly suspicious of the quality of graduates of secondary technical school.

Business Management Skills and Training

1. A majority of BCWUA board members do not perceive a need for basic business training. As leaders in their communities, the majority self-report basic business management skills by virtue of their experience serving on local councils, NGOs, or CDAs. With these organizations, they have had to undertake tasks requiring similar skills. All farmers self-report familiarity with managing money and handling accounts.
2. Lack of required management skills is perceived more acutely in Upper Egypt as compared with Lower Egypt.

Maintenance Services Workshops

1. Mechanics show mastery over maintenance and repair of irrigation tools and equipment, though they have not had any formal training.
2. Graduates of technical schools are not being employed in workshops that provide these services to farmers in either Upper or Lower Egypt. Farmers voice lack of confidence in the abilities of these graduates to perform needed work.

Recommendations

This up-dated assessment recommends:

Access and Improved Repair/Maintenance of Irrigation Equipment

1. Conditional on availability of funds, the project could develop public awareness materials to encourage farmers to select pumps based on efficiency criteria rather than initial costs and spare parts costs. The wide spread adoption of these efficient machines would eventually reduce initial cost and prices of spare parts. In addition, an educational booklet on simple pump repairs and preventive maintenance could be produced.
2. Improving the training component offered by the technical and vocational schools would definitely improve the overall quality of maintenance and repair services available in rural areas. Technical, rather than financial, support from USAID would be highly beneficial as the majority of these schools do not lack financial resources; rather they lack vision, administrative capacity, initiative, and so many other related capabilities.

3. Help BCWUAs in Upper Egypt, particularly in remote areas, to establish affiliated workshops that employ well-trained graduates of technical schools. The aim of this affiliated unit is primarily to provide quality maintenance and repair services at minimal cost, where self-sufficiency rather than profit is the financial target.

Business Management Skills and Training

1. Enacting Law #12 may help BCWUAs secure funds that would enable them to provide different kinds of training programs, including maintenance and repair of irrigation machines and business management. Efforts to speed up the approval of this law would be extremely valuable.
2. Produce an educational booklet on business management and farm bookkeeping.
3. If funds are available, provide specific on-the-job training that covers business planning and management, leadership skills, bookkeeping and accounting, and drainage and irrigation law, giving priority to Upper Egyptian BCWUAs.
4. Encourage commercial schools to develop short courses in business management. These courses would have dual benefits: first, to provide severely needed, sustainable, non-governmental income for schools; second, keep trainees—BCWUA board members—acquainted with market forces and changes.

Maintenance Services Workshops

1. To prepare better qualified mechanics for the future, with specialized skills in the repair and maintenance of irrigation equipment; it is recommended that USAID encourage the MOE and the Central Department of Technical Education to develop specific programs that provide licensed career track for young persons in rural areas interested in providing this service.
2. Enforcing the implementation of the Ministry of Manpower's instruction that all mechanics must pass an annual test. Moreover, the ministry should dictate that all mechanics have to pass short training courses periodically.
3. Qualify technical schools to provide short evening courses at the lowest possible cost for mechanics and interested farmers.

ANNEXES

Annexes

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ANNEX A

Scope of Work

**Services for
Conducting Follow-up Farmers' Assessment on Pumps
Repairs
Task#4**

SCOPE OF WORK

1. Description of Work

A. General

Under this purchase order, the consultant will provide the LIFE/IWRM Project with local technical assistance to support the implementation of Task # 4 “Improved Maintenance and Upgrading of Water Management Equipment”. The consultant will work with the LIFE-IWRM TA Team, USAID, IWMU, and involved stakeholders to conduct an assessment focused on the needs of the BCWUAs being formed under Task #2: “Formation of BCWUAs” for efficient pump repair in their districts. It also considers the needs of training for BCWUA members in computer use, basic business management, and basic personnel management.

B. Specific

Specifically, the consultant with guidance and input from the IWRM team, will carry out the following activities.

- 1) Review the previous study conducted by the project during the first year.
- 2) Review the questionnaire used during the previous study and may suggest modifications which requires an approval by LIFE and USAID.
- 3) In consultation with LIFE staff develops a criteria for selection of sample of about 18 BCWUAs out of 275 BCWUAs already formed in 11 IWMDs to represent the 5 Directorates: West Sharkia, New Zefta, West Qena, East Qena, and Aswan. In addition the consultant will select at least 4 workshops on pump repairs in each directorate to interview the technical staff. The criteria for selection of the number and representative BCWUAs will be developed and shared with USAID for approval.
- 4) Conduct focus group meetings with representatives of BCWUAs to ensure representatives from a minimum of 10% of the BCWUAs have been included in the original and follow-up assessments. A focus group meeting will be held in each Directorate with representatives from 6 BCWUAs represent 2 -3 IWMDs. The focus group meeting with the existing BCWUAs for Aswan Directorate was conducted during the original assessment. It was found that 70% of the area is gravity fed and therefore it is not necessary to extend the survey.

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

- 5) Work with the Project Admin staff, two Regional Coordinators and Cairo Office Training Coordinator to arrange for all logistics to conduct three focus group meetings in New Zefta, West Shrakia, and East and West Qena Directorates.
- 6) Conduct interviews with the selected samples of workshops
- 7) Analysis the findings of the focus group meetings and interviews with the workshops technical workers.
- 8) Incorporate the results of the meetings with the 18 BCWUAs with the previous results of the meetings with 9 BCWUAs during the previous assessment.
- 9) Present findings and results as draft to USAID, LIFE and MWRI before finalizing the report.
- 10) Submit the final report contains data collected, the process followed, approach, analysis, results and recommendations.

2. Work Schedule

All work performed under this purchase order is to be completed no later than August 10, 2006. The tentative schedule of work is shown below and will be finalized at the time the work is performed.

Date	Activities
June 25, 2006	1
June 29, 2006	2,3
July 9, 2006	4,5,6
July 23, 2006	7,8
July 30, 2006	9
August 10, 2006	10

3. Deliverables

The deliverables for this project will be according to request as follows:-

- a- Criteria for selection of BCWUAs sample.
- b- Preliminary findings analysis
- c- Final Report of the assignment including the system construction issues and recommendations for further improvement.

4. Costs

This is a fixed-price purchase order for the amount of **LE xx,xxx** inclusive of all consultant costs, expenses and fees to supply products and/or services.

5. Payment

Payment will be made upon submission and acceptance of progress reports and deliverables as stated in the below payment schedule

Payment	Deliverables	Payment
1 st Payment	a	10 %
2 nd Payment	B	40 %
3 rd Payment	C	50 %
	Total	100 %

LIFE Project will pay cost of outside Cairo travel, per diem for over night staying and other logistics.

6. Supervisor

The supervisor for the work performed under this purchase order is Dr. Jeffrey Fredericks or his designee.

7. Terms and Conditions

1. This Purchase Order will be carried out between June 25, 2006 and August 10, 2006 and could be extended as both parties agree.
2. The Consultant will be responsible to the Life IWRM Chief of Party, designated under this TO as Dr. Jeffrey Fredericks or his designee.
3. LIFE-IWRM will approve payment after the COP is satisfied with the quality of the Consultant's work and approves the progress reports and other deliverables.
4. The COP reserves the right to ask questions about the Consultant's work, and to request the consultant to make presentations to chosen audiences.
5. Complete copies of all reports (including Arabic documents, figures and annexes) will be delivered in electronic format, MS Word and/or MS Excel. The consultant's written report(s) must conform to USAID and IRG report standards.

8. Terms of Termination

This PO could be terminated by the consultant notification or the project COP or his designee notification one month advance in case of the consultant does not meet the deliverable requirements or with 15 days notification in case of funds are not available or the project is terminated by USAID.

ANNEX B

Guidlines for Focus Group Meeting with BCWUAs Board Members

GUIDED DISCUSSION

1. Opening

- Welcome
كلمة ترحيب للحاضرين
- Introduction/Getting to Know Each Other
مقدمة وتقديم كل واحد للتعرف
- Expectations/Clarifying what this meeting is aboutand what this meeting is not about

الغرض من اللقاء:

معرفة مدى احتياج روابط مستخدمي المياه للتدريب على صيانة وسائل ادارة المياه وادارة شؤون الرابطة وكل مزارع في مزرعته
هذا الاجتماع تمهيدي وسوف يتبعه لقاءات اخرى ومن الصعب الآن تقديم وعود بما سوف يتم في المستقبل.

- Explanation of meeting protocol & objectives
هدفنا ان نسمع اليكم اولا وسوف نكون صرحاء معكم ونرجوا ايضا ان نتعرف منكم على بعض الحقائق دون تضخيم

2. Maintenance and repair of water management equipment

- **What are the equipment / machines / tools you use for irrigating you fields? (Create list of machines and tools as a group)**

ماهي المعدات والآلات المستخدمة (في المزارع؟) التي تستخدمها في رى ارضك؟

.....
.....
.....

- **What are the types (diesel, electric) most frequently used?**
ماهي انواعها؟ (ديزل – كهرباء)

Why? (List as a group)

لماذا تفضل هذه الأنواع؟

.....
.....
.....

- **What are the most common BRANDS used by farmers? (List as a group)**
ماهي الماركات الغالب استخدامها في المنطقة؟

.....
.....

- **What farmers do regarding maintenance? How much of them apply maintenance? How often they do it? Who do it?**

هل يقوم المزارعون بصيانة معدات الري من حين لآخر؟ (كم تبلغ نسبة من يقوم بالصيانة)؟ و ما هي فترات الصيانة الدورية؟ و من يقوم بها؟

.....
.....
.....

- **What are the most common problems or complaints with pumps? Other equipment?**

ما هي المشاكل الشائعة او الشكاوى من الطلمبات المستخدمة؟

.....
.....
.....

- **What do farmers do regarding repair and maintenance if needed?**

كيف يتصرف المزارعون في حالة حاجتهم لإصلاح المعدات الخاصة بالري او حاجتها للصيانة؟

.....
.....
.....

Do they do some/all themselves?

هل يقومون بأنفسهم بإصلاح بعض الأعطال او كل الأعطال؟ (كام واحد تقريبا من كل المزارعين؟)

.....
.....
.....

- **If not how do farmers get equipment repaired?**

إذا كانوا لا يستطيعون الإصلاح بأنفسهم فكيف يتم اصلاح معداتهم؟

.....
.....
.....

- **By whom? Where? (List available shops and addresses so we can follow-up with visits if necessary)**

من يقوم بالإصلاح (هنا معروف)؟ اين الورشة الخاصة به؟

.....
.....
.....

- **What is the quality of service?**

ما هو مستوى جودة خدمة الإصلاح او الصيانة؟

.....
.....
.....

- Is s/he trained? Well trained?

هل الذى يقوم بالإصلاح مدرب؟ هل تدريبه جيد بحيث يتقن عمله؟

.....
.....
.....

- How or where are service providers trained?

كيف تم تدريبه؟ هل فى المدرسة او فى ورشة او مركز تدريب؟

.....
.....
.....

- Are spare parts / accessories / repairing and maintenance facilities available?

هل قطع الغيار متوفرة؟

.....
.....
.....

Where do you usually find the spare- parts?

اين تجد قطع الغيار؟

In the local market:

- In the district? فى المركز
- We have to go to the governorate capital (القازيق عاصمة الشرقية) فى المحافظة
- We have to send somebody to Cairo? او فى القاهرة
- Other (اي بلد آخر) مكان اخر

- How do you find them? Easily/ with difficulty?

هل بتلاقى قطع الغيار بسهولة والا بصعوبة؟

.....
.....
.....

- If there are difficulties in fixing/ maintaining the pumps and/or other machinery...

What are they? What do you usually do to address that?

ما هى (هذه الصعوبات) مشاكل معدة الرى التى تواجهها عادة من حين لآخر؟ فى العادة بتعمل ايه علشان تحددوها؟ هل تنتظر الميكانيكى؟ او تحاول تحلها بنفسك؟

.....
.....
.....

- Do you prefer to conduct the repairs or maintenance by yourself if you have opportunity for training?

هل تفضل انك تقوم بالإصلاح او الصيانة بنفسك لو توفر لك التدريب؟

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

.....
.....
.....

- **Whether the BCWUA provide any maintenance or repair service? Or does it plan to?!**

هل تقدم الرابطة خدمات صيانة او اصلاح؟ أو تنوى تقديمها مستقبلا؟

.....
.....
.....

- **If yes, what are these services? How these services are carried out? How these are charged?**

لو نعم، ما هي هذه الخدمات؟ و كيف تتم؟ و ما هو نظام المحاسبة؟

.....
.....
.....

- **If no, what prevents associations from providing these services?**

لو لا؟ ما الذى يعيق الرابطة دون تقديم هذه النوعية من الخدمات؟

.....
.....
.....

هذا الجزء ممكن ان يتم بلقاءات منفردة مع كل رابطة
**This discussion could be conducted on a separate bases with
each BCWUA**

3. Business management skills and training needs of BCWUA board members

نتكلم شوية عن الرابطة بتاعتنا

- **How long has your BCWUA been operational?**

منذ متى وهى متكونة؟

.....
.....
.....

- **What are your roles & responsibilities as board members?**

طبعا كلكم اعضاء مجلس ادارة؟ هل مسؤوليتكم معروفة ومحددة والا لسة محتاجة توضيح؟

.....
.....
.....

- **What are you currently doing as a board? As an individual board member?**

ما هى مسئولياتكم الحالية كمجلس؟ و كعضو مجلس؟

.....
.....
.....

- **How comfortable are you with your role and responsibilities?**

كون انك عضو فى مجلس الرابطة هل انت بتشعر بيان الدور والمسؤولية التى تقوم بهما كبيران عليك؟

.....
.....
.....

- **What skills are or will be required? (List as a group)**

ماهى الخبرات التى يحتاجها اى عضو فى مجلس الرابط ؟

- **To organize meetings** تنظيم اجتماعات

.....
.....

- **To document meetings** تسجيل اجتماعات

.....
.....

- **To ensure membership is participating** متابعة حضور الأعضاء

.....
.....

- **To determine priorities** تحديد اولويات

.....
.....

- **To manage conflicts** حل المشكلات

-
.....
- **To understand & manage within legal framework**
فهم وإدارة المشاكل في سياق الإطار القانوني
.....
.....
 - **To prepare work plans** (يعرض النموذج ويتم شرحه)
اعداد خطة للعمل
.....
.....
 - **To present work plans to representative committee & IWMD**
عرض خطة العمل على اللجنة او هندسة الموارد المائية والرئ
.....
.....
 - **To raise money/ plan expenditures/ keep accounts**
شئون مالية مثل (جمع نقود) تجميع تمويل/ مصاريف ونفقات الخطة / مسك الدفاتر
.....
.....
- **If records are not yet needed for the BCWUA,**
في حالة ان الرابطة لم تبدأ مسك حسابات منظمة
 - **How farmers keep records of their business? (no record, block note, with assistance of son/daughter/wife)**
كيف يقوم المزارعون بتسجيل شغلهم اليومي: لا يوجد تسجيل – نوتة صغيرة – ابني او ابنتي او الست بتاعتني هي التي تقوم بالتسجيل
 -
.....
 - **Do farmers need accounts to manage their business?**
هل تعتقد أن بعض المزارعين يحتاجون لهذه الحسابات لإدارة أعمالهم
.....
.....
 - **Do farmers use monthly / seasonal or annual financial balances?**
هل كل مزارع يقوم بعمل ميزانية لنفسه كل شهر مثلا أو في نهاية المحصول أو في نهاية السنة
.....
.....
Who does it? من يقوم بعمل هذه الحسابات؟
.....
.....
What is s/he experience? ما مدى خبرته أو خبرتها؟
.....
.....

- To mobilize members

إعداد الأعضاء للرابطة

.....
.....

- To organize & manage records

تنظيم وترتيب المستندات الخاصة بالرابطة

- Do you have the required skills?

هل ياترى المهارات موجودة؟

.....
.....
.....

- If not what do you do? ...or what will you do to meet your obligations?

أحيانا الواحد مش لازم يعرف كل حاجة .. ياترى فى حالة انا مش عارف اعمل المطلوب الجأ لمين؟

.....
.....
.....

- Is assistance available? Where? How? Who assists?

هل الواحد يلاقى اللى يساعده؟ فين؟ ازاي؟ مين عنده الخبرة علشان يساعد؟

.....
.....
.....

- Is any training needed? If so, what kind of training would be useful? For whom?

هل احنا محتاجين لتدريب؟ تدريب مثل: ياترى مين اللى ها يتدرب؟

.....
.....
.....

- If so, how or where would you go about getting the training?

هل فرص التدريب متاحة هنا؟ وفيين؟

.....
.....
.....

- **What are the practical considerations that would impact your ability to receive training?**

ماذا تقترح ان يؤخذ في الاعتبار عند الترتيب لعقد هذا التدريب؟

.....
.....
.....

This part could be conducted with the Maintenance Workshops

- **How or where have you been trained? Do you think that you need further training? If so, in what field? Who could provide this training?**
كيف تم تدريبك؟ هل فى مدرسة صناعية (او أى مركز تدريب) او فى ورشة؟ هل تحتاج تدريب زيادة؟ لو نعم، فى اى مجال؟ و من يستطيع ان يقدمه لك؟

.....
.....
.....

- **What are the most common problems or complaints with pumps used by the farmers? Have these problems something to do with pumps commonly used in the area? Or type (diesel, electric)? Would you suggest other types or kinds of pumps or any other suggestions?**

ما هى المشاكل الشائعة او الشكاوى من الطلمبات التى يستخدمها المزارعين؟ هل تتعلق تلك المشاكل بنوعية الطلمبات الشائع استخدامها فى المنطقة؟ او نوعها (ديزل - كهرباء)؟ هل تقترح نوعية او انواع اخرى او اى اقتراحات اخرى؟

.....
.....
.....

- **Are the most common problems or complaints with pumps easily repaired? What is the duration of maintenance?**

هل يتم اصلاحها بسهولة وفى مدة قصيرة أم لا؟

.....
.....

- **Are you well paid?**

هل تتقاضى اجر جيد فى مقابل ذلك؟

.....

- **Do you provide maintenance? Is it frequently? How often? How much those who request maintenance services (in percentage)? Explain! Is it costly? Does maintenance worth?**

هل يقدم الكثير من المزارعين على طلب خدمة الصيانة؟ ما هى نسبتهم؟ فسر (تدنى) هذه النسبة. و هل يتكلف الأمر الكثير؟ هل تفيد الصيانة؟

.....
.....
.....

- **Have you ever dealt with BCWUA directly? If yes, how was your experience?**

هل حدث ان تعاملت مع الروابط بصورة مباشرة؟ لو نعم، ما هي تجربتك؟

.....
.....

- **Are spare parts / accessories / repairing and maintenance facilities available?**
هل قطع الغيار متوفرة؟

- **How do you find them? Easily/ with difficulty?**

هل بتلاقي قطع الغيار بسهولة وإلا بصعوبة؟

.....
.....
.....

- **Where do you usually find the spare- parts?**

أين تجد قطع الغيار؟

In the local market:

- **In the district?**

فى المركز

- **We have to go to the governorate capital**
المحافظة

فى

(الزقازيق عاصمة الشرقية)

- **We have to send somebody to Cairo?**

او فى القاهرة

Other(اى بلد آخر) مكان آخر

- **Are spare parts / accessories' prices seems reasonable to the farmers?**

هل أسعارها بتكون مناسبة للمزارعين؟

.....
.....

ANNEX C

*Focus Group Meeting & Interviews
with BCWUAs Board Members
&
Workshops Maintenance
at Zagazig & Abo Kebeer Disriicts*

**Minutes of Focus Group Meeting
For Conducting Follow-up Farmers' Assessment on Pumps
Repairs
in W.Sharkya Directorate
(Zagazig & Abo Kebeer Districts)**

Task#4

Date: July 30, 2006

Location: Zagazig IWMD Building

Attendees:

LIFE IWRM Project

Dr. Wadie Fahim	Senior Technical Advisor
Eng. Maher El Khodary	Regional Advisor
Ms. Dahlia Hamdy	Workshop/Training Coordinator
Ms. Mona Bittar	STTA Consultant

IWMU

Eng. Mohamed El Hamrawy Lower Egypt Regional Office

MWRI in W.Sharkya Directorate

Eng. Reda Mahdy	Zagazig District Manager
Eng. Abdel Hakeem El Baz	Abo Kebeer District Manager
Eng. Amany Kafafy	W. Sharkya General Director
Eng. Essam Abdel Hay	WA Team
Eng. Galal Eid Rawas	WA Team

Abo Kebeer BCWUAs

3 Representatives	Dail El Mosalamia BCWUAs
3 Representatives	TrandFilo BCWUAs

Zagazig BCWUAs

3 Representatives	Ahmed Borham BCWUAs
3 Representatives	EL Adwia BCWUAs
3 Representatives	El Nkhas BCWUAs

Purpose of the Meeting:

At the beginning of the meeting, the attendees were briefed by Eng. Maher El Khodary and Dr. Wadie Fahim about the purpose of the meeting. It was to investigate the situation in the district on pump repairs and water management equipment. Also assess needs of BCWUAs for any type of training to enhance their skills to conduct repairs for water management equipment and the BCWUAs business management.

D) MAINTENANCE AND REPAIR OF WATER MANAGEMENT EQUIPMENT

5 BCWUAs attended this meeting, 3 from Zagazig & 2 from Abo Kebeer Districts, 3 representatives from each association; the following points are discussed during the meeting:

- Irrigation Pumps consist of 2 types; Diesel & Electrical Pumps. The Diesel Pumps are more extensively used in those districts than the electrical pumps.
- The diesel pumps consist of 2 types: Air Cooling type, brand Dweits-German, which cost 7000 – 10.000 L.E. Water cooling type; brand Peter, Indian assembled locally, which cost 2000 L.E.
- The most frequently owned / used pumps are Water Cooling type, and it is imported from India but it is locally assembled, as the cost of the maintenance, spare parts and operating cost is cheaper than the Air Cooling Pumps.
- The farmers don't do a regular maintenance through the mechanics; however, they used to do some of the maintenance by themselves, such as filter cleaning, fixing wheels and screwing nails, changing oil which is related to the number of daily working hours.
- The majority of them didn't face a common problems or complaints concerning their pumps, except 2 main problems:
 1. The garbage congregate by the village habitants in the canal, is avoiding machine to pump water efficiently and consequently affect the water quality.
 2. The factor of time, during the repair of the motor, they have to wait for one day till it is being repaired by the mechanics.
In case the repair took more than one day, some of them rent another pump from another source.
- Workshops for pump repairs are available in each district and each village, Farmers have access to services, and for most of them, mechanics do maintenance on site, with a good quality of service, most of the farmers have a good knowledge about their pumps, which facilitate to determine the problem before calling the mechanics.
- Mechanics are experienced labors, they are not graduated from any technical schools and they got their experiences from practicing since childhood.
- Regarding spare parts, there is shortage in some villages, especially for (bastem) for the Air Cooling machinery, despite, in other village there is no shortage at all for the Water Cooling machinery, which is commonly used by most of the farmers. Most of its are available in the districts.
- The farmers preferred to call the mechanics instead of conducting the maintenance by themselves, even if they will provide by training.
- Till now, BCWUAs didn't provide any maintenance services to the farmer; they only help him in delivering water and solving farmers' conflicts / canals problems.
- One of the obstacles which prevent associations from providing services to the farmers is the delayed for a legislative power/authority of the association to communicate with the public authorities.

II) BUSINESS MANAGEMENT & TRAINING SKILLS

The following discussions were conducted on a separate meeting with each BCWUA.

1- Interview with Ahmed Borhan BCWUAs – Zagazig District

Mr. Abdalla El Sadek Mohamed, Chairman

Mr. Ashref Mohamed El Sayed El Gamal, Secretary

Mr. Mohamed El Shahat, Board Member

- Established October 2005.
- It consists of 5 members.
- The location of the board is the Chairman's place.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The Chairman of the board plays a big role in managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
- The Association's Secretary, has a good administrative skills in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, beside helping the farmers in solving their problems related to the canals cleaning by informing the districts' Manager & Engineers.
- There is a female member in the board, working as an Environmental Awareness Specialist.
- BCWUAs doesn't have a financial management, keep accounts, or plan expenditures due to the delay of legislative power, they depends on their individual's efforts.
- They held a meeting every 3 months with the water advisory team to determine the needs of the farmers and informed the district managers by their problems.
- The members have good administrative skills, but when it comes to the irrigation inquiries, they asked the districts' engineers.
- The association is not yet in need for any booking records, as they newly established, even so the majority of the farmers don't keep any records of their business, except the farmers who owns a big area of lands.
- There are no training programs needed, except public awareness workshops by the Water Advisory Team, regarding the irrigation issues to all the association's members and it could be conducted at the chairman's place.

2- Interview with Dal El Moselmia BCWUAs – Abo Kebeer District

Mr. Khairy Abdel Sameea Aly Youssef, Chairman

Mr. Hasan Mohamed Mohamed, Deputy of the Association

Mr. Abdel Wahab Shehata Abdel Wahab, Treasury

- Established since 1997.
- It is one f the first BCWUAs who established in W.Sharkya Directorate.
- It consists of 7 members.

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The BCWUAs plays a big role in managing the conflicts between the farmers, inform the districts' engineer by the irrigation problems occurs.
- The association conducts an environmental awareness workshop for females.
- The members have a good administrative skills in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, and presented to the district manager.
- They do have a financial management, and keep accounts.
- The Deputy of the association is responsible for keeping the documentation and organizes it.
- Before formally established, they got a grant from the Dutch Project, which help them to begin as an association, but they do now face a problem of finance and they depend on their individual's efforts.
- The members have good administrative skills, but when it comes to a technical or a severe problem, they ask the districts' engineers' advices.
- They mentioned that the ordinary farmer doesn't keep any records of his business, and that he really doesn't need to keep records, except the farmers who own a big area of lands.
- Concerning training programs, they already attended many training courses such as: Establishment of BCWUAs, Conflict Management & Internal Regulation.
- They don't mind to get more training courses, however they don't have any training facilities.
- They provide some services to the farmers, especially public awareness.

3- Interview with Trdfilo Canal BCWUAs – Abo Kebeer District

Mr. Osman Said Bakr, Chairman

Mr. Magdy Ahmed Aly Abdel Raheem, Secretary

Mr. Mohamed Abdel Khalek, Treasury

- Established since 7 months.
- It consists of 5 members.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The Association's Secretary, has good administrative skills in organizing meetings, minutes of meeting, documentation, ensure that memberships are participating, and determine priorities.
- Work Plan is not prepared yet as the association is newly established.
- The association doesn't have a financial management, and the delay of legislative power and authority is one of the obstacle facing them to implement different activities to fund raise in order to achieve the association's objectives such as; providing services to the wide range of farmers.

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

- From their point of view, the members of the board must have some skills, such as; irrigation knowledge, solving canal problems and conflict between the farmers, public relation to play the role of advisor and determine priorities.
- They don't see any need for the ordinary farmer to keep any records of his business, except the farmers who owns a big area of lands.
- Concerning training programs, they do need to attend several training courses such as: Business Management, Financial Management & Internal Regulation.
- The training facilities are only available at the district building.

4- Interview with El Nakhas BCWUAs – Zagazig District

Mr. Fawzy Saad Abdel Aziz Mohamed, Chairman

Mr. Mohamed Mohamed Aly El Shamy, Board Member

Mr. Sabry El Sayed Abdel Aziz, Board Member

- Established sine one year.
- It consists of 5 members.
- The location of the board is the Chairman's place.
- All the members has been elected, everyone has its own roles & specific responsibility as a board member, as everyone is responsible or a specific part of the canal.
- The Chairman of the board plays a big role in managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
- The members have a good knowledge on how to work and manage through a legal framework.
- The association prepares the work plan and presented to the district manager to get his advice.
- BCWUA doesn't have any financial records, keep accounts, or plan expenditures.
- They held a monthly meeting to determine the needs and the problems of the farmers, the water advisories team plus the district engineers help them to manage the administrative skills, organize meeting, prepare the minutes of meeting and documentation.
- The board members do ask the help & advice of the WA Team and the Irrigation Engineers in any problems related to irrigation inquiries, but in manage conflict and farmers relations, they prefer to be between the board members only and the beneficiaries.
- They determine that the farmers don't need to keep any records of his small business, especially that he used to bring the fertilizers from the Agriculture Association or the Agriculture Credit & Development Bank by credit.
- They do need training programs in many fields such as; how to manage the association, financial & business management.

5- Interview with Eladweia BCWUAs – Zagazig District

Mr. Mohamed Mohamed Ahmed Osman ,Chairman

Mr. Ramadan Aly Ibrahim El Akhras, Secretary

- Established since 7 months.
- It consists of 7 members.
- The location of the board is the Chairman’s place.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The Chairman of the board plays a big role in managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
- There is a female member in the board, working as an Environmental Awareness Specialist.
- The Association’s do have a very good administrative skills, in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, aware of the legal framework.
- BCWUA doesn’t have a financial management or records yet as it’s newly established.
- They held a monthly meeting, and during these meetings, they discuss the work plan with the water advisory team to determine the needs / requirements of the farmers and informed the district managers.
- The association is not yet needed booking records, as they newly established.
- They don’t need any kind of training, as the whole members are aware of the administrative, management skills.

III) INTERVIEW WITH MAINTENANCE WORKSHOPS

- 4 Interviews has been done with 4 mechanics from different ages, at El Ashraf village – Zagazig District, with one of the maintenance workshop, which deal with farmers.
- Maintenance /Repair Workshops for pumps are available in each district and each village, farmers have access to services and for most of them, mechanics do maintenance on-site, with a good quality of service.
- All Mechanics are experienced labors, they are not graduated from any technical schools and they got their experiences from doing practical job since childhood.
- The main common problem with the pumps used by farmers is the heavy damaged one (the motor’s pump), but it’s only took one day to repair it.
- Spare parts, repairing, maintenance facilities are always available and could be find easily in the local market, which facilitate their work.
- Spare parts, accessories’ prices seems reasonable to the farmers, especially for the Water Conditioning equipment, which is frequently used by most of the farmers.
- Mechanics complaints that recently farmers don’t do a regular maintenance for their pumps, due to the price’s increase of some of the spare parts, besides the

- increase of the gas, as the price has been increased from 8 L.E to 15L.E in the current year.
- The operation cost is 30 L.E for the locally assembled Pumps and 50L.E for the German Pumps.
 - Mechanics don't believe in getting training / or by the Industrial School, as he believes in getting more and more experiences by practicing at the workshop.
 - Labor didn't hear about BCWUAs, he only deals with the ordinary farmer.
 - The majority of the mechanics are very young workers, one of them is 20 years old, and he starts working since he was 13 years old.
 - The others are 11 & 12 years old and they start working since 4 years, after finishing the primary school.
 - The owner of the workshop is 30 years old, and he get trained since childhood by his elder brother, and he is not convinced by the Industrial School, as he believes that his performance is more efficient than any educated engineer.

IV) OTHER ISSUES RELATED TO BCWUAs (Success Stories)

Ahmed Borhan BCWUAs – Zagazig District

One of the habitants decided to plant a number of trees on one side of the canal as a part of his land natural fence.

He didn't notice that he planted them on the edge of the canal were most of the pipelines intakes and outlets are, which cause a lot of problems after this trees grow up larger and thicker.

Mechanics were facing the impossible to solve any related problems to this pipelines efficiency. And they didn't know how and who to communicate with to solve this major problem, which getting more impossible by time.

The existence of the BCWUA played the role of negotiating with the landlord to agree to remove his plants from one place to another to make it easier for the mechanics to perform their job more successful.

The role of the BCWUA was sensed in such a situation and proven its efficiency and capability to solve such issues.

Kafr Sakr District

A farmer called Gamal El Doshny, living in Kafr Sakr district became an expert in repairing and maintains all types of pumps and now he provides a maintenance services to all the farmers in the surrounded areas, after being famous in that field.

ANNEX D

Focus Group Meeting & Interviews with BCWUAs Board Members & Workshops Maintenance at Esna & Armant Disricts

**Minutes of Focus Group Meeting
For Conducting Follow-up Farmers' Assessment on Pumps
Repairs
in Qena Directorate
(Esna & Arment Districts)**

Task#4

Date: August 5, 2006

Location: Esna IWMD Building

Attendees:

LIFE IWRM Project

Ms. Mona Bittar	STTA Consultant
Ms. Dahlia Hamdy	Workshop/Training Coordinator

IWMU

Eng. Yehia Youssef	Upper Egypt Regional Office
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MWRI in Qena Directorate

Eng. Helmy Abbas	Qena Undersecretary
Eng. Magdy Boshra	East Qena General Directorate
Eng. Ramadan Hassan	Acting Esna District Manager
Eng. Doaa Dahy Shabaan	WA Team Leader
Mr. Mostafa Ahmed	WA Team
Mr. Abdel Hameed Mahmoud	WA Team
Mr. Hussein Fathy	WA Team
Eng. Bakry Hafny Makky	Acting Arment District Manager
Eng. Mohamed Ahmed Elnouby	WA Team Leader
Eng. Ahmed Ibrahim A.Baset	WA Team

Esna BCWUAs

5 Representatives	Sahel 2 & El Hala Elmostagda BCWUAs
5 Representatives	Ganabyet El Teraa BCWUAs
5 Representatives	East Esna Canal BCWUAs

Arment BCWUAs

4 Representatives	Teraat El Gabal (2) BCWUAs
4 Representatives	Teraat El Gabal BCWUAs
4 Representatives	Teraat El Sherka (Elmahamid) BCWUAs

Purpose of the Meeting:

At the beginning of the meeting, the attendees were briefed by Eng. Helmy Abbas – Qena Undersecretary and Eng. Magdy Boshra – East Qena G.D about the purpose of the meeting. Then Mrs. Mona Bittar, started by welcomes the attendees and explaining the main outline of the focus meeting discussions. It was to investigate the situation in the district on pump repairs and water management equipment. Also assess needs of BCWUAs for any type of training to enhance their skills in conducting repairs for water management equipment and the BCWUAs business management.

D) MAINTENANCE AND REPAIR OF WATER MANAGEMENT EQUIPMENT

6 BCWUAs attended this meeting, 3 from Esna & 3 from Arment Districts, 4-5 representatives from each association, the following points are discussed during the meeting:

- Diesel Pumps are more extensively used in those districts than the electrical pumps.
- The diesel pumps consist of 2 types:
 1. Air Cooling type; brand Dweits-German, which cost 10.000 L.E. Farmers prefer to used Dweits, as it reduces the time of irrigation (5 feddans/day) but it is not used by them due to its high cost, and it is also a heavy machine to be moved from place to another.
 2. Water cooling type; brand Peter, Indian assembled locally, which cost 4000 L.E. The most frequently owned / used pumps are Water Cooling type, and it is imported from India but it is locally assembled, as the cost of the maintenance, spare parts and operating cost is cheaper than the Air Cooling Pumps. It is not as heavy as the Dweits but it has a short life span. It takes one day to irrigate just 1 feddan.
- The farmers doesn't do a regular maintenance through the mechanics; however, they used to do some of the maintenance by themselves, such as filter cleaning, fixing wheels and screwing nails, changing oil which is related to the number of daily working hours.
- They used to do maintenance every six months to fix/change the pump motor. Mechanics do maintenance on site, or at the workshop, due to the machine status.
- Farmers' complaint about the price of maintenance services & the bad quality of service, as it cost 30 L.E just for check-up and extra fees for car rental.
- The majority of them face a common problems or complaints concerning their pumps, as follows;
 1. The garbage congregate by the village habitants in the canal, is avoiding machine to pump water efficiently and consequently affect the water quality.
 2. The factor of time, during the repair of the motor, they have to wait for more than one day till it is being repaired by the mechanics.
 3. The unskilled labor.
 4. Forged spare parts brought by some of the mechanics.

5. Unoriginal and cheaper spare parts and machine's accessories.
 6. In some village at Arment district, there is a shortage in spare parts.
 7. Some of the village at Arment faces a problem in bringing gas, due to the long distance.
- Mechanics are not experienced labors from the farmer's point of view, they are not graduated from any technical schools and they got their experiences just from practicing since childhood.
 - The farmers preferred to call the mechanics instead of conducting the maintenance by themselves, however, they accept to be provided by maintenance training.
 - Till now, BCWUAs didn't provide any maintenance services to the farmer; they only help him in delivering water and solving farmers' conflicts / canals problems.
 - One of the obstacles which prevent associations from providing services to the farmers is the delayed for a legislative power/authority of the association to communicate with the public authorities and to create credibility among the farmers.

BCWUAs RECOMMENDATION:

They prefer to implement electrical motors instead of using irrigation pumps, due to its low operation cost, reducing irrigation time, and irrigate a wide land of areas. To implement this idea, the government has to extend electrical pipelines to the villages, which it cost about 100.000 L.E.

II) BUSINESS MANAGEMENT & TRAINING SKILLS

The following discussions were conducted on a separate meeting with each BCWUA.

1- Interview with Sahel 2 & El Hala Elmostagda BCWUAs – Esna District

Mr. Mohamed Ahmed Hussein, Chairman
Mr. Abdalla Amer Hamed, Secretary
Mr. Ahmed Mohamed Amin, Board Member
Mr. Khaled Hasan Mohamed, Board Member
Mr. Gaber Dessouki Ibrahim, Board Member

- Established 2002.
- It is one of the first BCWUAs who established in Qena Directorate.
- It consists of 9 board members.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- They got a grant (6.000 L.E) from the Dutch Project-Water Board, which help them to begin as an association, and provide good services to the farmers.

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

- BCWUAs success in collecting money from farmers after creating credibility and after providing them with the following services:
 - Delivering water to the farmers.
 - With the cooperating of the government they rebuilt two old bridges.
 - Managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
 - Two females' members in the board, working as an Environmental Awareness Specialist .they implement many campaigns concerning canal cleaning.
- The Association's Secretary, has a good administrative skills in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, beside helping the farmers in solving their problems related to the canals cleaning by informing the districts' Manager & Engineers.
- They do have a financial management, and keep accounts.
- The Deputy of the association is responsible for keeping the documentation and organizes it.
- They held a regular monthly meeting with the water advisory team to determine the needs of the farmers and informed the district managers by their problems.
- The members have good administrative skills, but when it comes to the irrigation inquiries, they asked the districts' engineers.
- They attend several training programs with Water Board project in establishment of BCWAUs.
- They need training program in maintenance services and they do have a location to conduct the training.

2- Interview with Teraat El Gabal (2) BCWUAs – Arment District

Mr. Mahmoud Aly Nosseir, Chairman

Mr. Abdel Hameed Abdel Raheem Mahmoud, Deputy of the Association

Mr. Mohamed Abdel Kareem Hamad, Board Member

Mr. Ahmed Abbas Metwally, Board Member

- Established since 2 years.
- It consists of 9 members, including 2 ladies.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The BCWUAs Chairman plays a big role in managing the conflicts between the farmers (due to his employment history in the ministry of irrigation) by conducting 2 monthly meeting at the chairman's place, and inform the districts' engineers by the irrigation problems occurs.
- The board members have a good administrative skills in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, and presented to the district manager.
- They do have a financial management, and a proper book accounting.

- They mentioned that the ordinary farmer doesn't keep any records of his business, and he really doesn't need to keep records, except the farmers who own a big area of lands.
- Concerning training programs, they already attended many training courses through CARE.
- They don't need any kind of business management training, as the whole members are aware of the administrative, management skills, and the legal framework. But they requested an exchange field trip with Lower Egypt to exchange experiences.

3- Interview with Teraat El Sherka (Elmahamid) BCWUAs – Arment District

Mr. Abdel Raheem Elamir, Chairman

Mr. Ahmed Hamad Ismail, Board Member

Mr. Abdel Wahed Aly Mahmoud, Board Member

Mr. Alaa Abdel Hameed, Board Member

Mr. Mohamed Rashwan Ahmed, Board Member

- Established since 2004.
- It consists of 9 members, including 2 ladies.
- All the members has been elected, everyone has its own roles & responsibilities as a board member.
- The Board Members play a big role in managing the conflicts between the farmers.
- They held a monthly meeting at the chairman's place, and inform the districts' engineers by any irrigation problems occur.
- The board members have a good administrative skills in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan, and presented to the district manager.
- They do have a financial management, and keep accounts.
- They mentioned that the ordinary farmer doesn't keep any records of his business, and that he really doesn't need to keep records, except the farmers who own a big area of lands.
- The same as the previous association, they attended many training courses through CARE and they only need some of the field trip with other districts or with Lower Egypt to exchange experiences.

4- Interview with East Esna Canal BCWUAs – Esna District

Mr. Mohamed Abdel Wahab Mostafa, Chairman

Ms. Ismaa Elnouby El Taher, Treasury

Mr. Abdel Motelab Abdel Lateef Mohamed, Secretary

Mr. Mohamed Galal Abo Elqasem, Board Member

Mr. Ragheb Ibrahim Abdel Mowela, Board Member

- Established since eight months ago.
- It consists of 5 members.

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- They don't have a location but they meet in the village club. They attend a monthly meeting to discuss the farmers' issues to determine the needs and the problems of the farmers, the water advisories team plus the district engineers help them to manage the administrative skills, organize meeting, prepare the minutes of meeting and documentation.
- All the members has been elected, everyone has his own roles & specific responsibility as a board member,
- The Chairman of the board plays a big role in managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
- The board members include one lady working as a treasury, and as an environmental awareness specialist.
- The association doesn't have a work plan still.
- BCWUA doesn't have any financial records, keep accounts, or cost plan.
- The board members do ask the help & advice of the WA Team and the Irrigation Engineers in any problems related to irrigation inquiries.
- They determine that the farmers don't need to keep any records of their small business.
- One of the obstacles which prevent associations from providing services to the farmers is the delayed for a legislative authority of the association to create reliability among the farmers.
- They do need training programs in many fields such as; how to manage the association, financial & business management, board members roles.
- They do not have any training facilities.

5- Interview with Teraat El Gabal BCWUAs – Arment District

Mr. Waleed Abel Monieam Youssef, Chairman

Mr. Mohamed Abou Elhagag Gad, Secretary

Mr. Mohamed Kamel Ahmed, Board Member

Mr. Elhusseiny Youssef Abdel Raheem, Board Member

Mr. Ibrahim El Sayed Hagazy, Board Member

- Established since 2 years.
- It consists of 5 members.
- The location of the board is the Chairman's place.
- All the members have been elected, they acting as a team player in managing the conflicts between the farmers.
- There is a female member in the board, working as an Environmental Awareness Specialist.
- The Association's doesn't have an administrative skills, in organizing meetings, documentation, or preparing a work plan,
- They only conduct a meeting for solving farmers' problems with the help of the WA Engineers.
- BCWUAs doesn't have a financial management, they depends on their individual's efforts.

- The main services provided to the farmers is helping them in cleaning the canals to avoid machinery disorder in pumping water efficiently and consequently affect the water quality, and in case they failed in solving this issue, they inform the district engineers to get involved.
- They collected money from the BCWUAs members to buy a machine to collect the congregate garbage.
- They do need training programs in many fields such as; how to manage the association, financial & business management, board members roles, field trips with Lower Egypt to exchange experiences and environmental awareness campaigns.

6- Interview with Teraat El Dair BCWUAs – Esna District

Mr. Hussein Abo El Wafa, Chairman
Mr. Nouby Mohamed Nouby, Secretary
Mr. Khamis Mohamed Eid, Board Member
Mr. Sayed Ahmed Taha, Board Member
Mr. Gad Mahmoud Abdalla, Board Member

- Established since one year
- It consists of 5 members.
- They do not have a location and they met in the IWMD each month.
- All the members has been elected.
- From their point of view, one of the main obstacles, which prevents them to play their role as a board members in organizing meetings, documentation, ensure that memberships is participating, determine priorities & prepare the work plan and to be aware of the legal framework is lacking to a location.
- BCWUA doesn't have a financial management or booking records yet as it's newly established.
- Their only role as board members is to solve the farmer' problems.
- They don't need to be provided with any kind of training, as they are satisfied with the project's brochures.

N.B: It was noticed that this BCWUA doesn't have a specified role or responsibility to each member, they don't have skills in business management to organize meeting. They need to strengthen their awareness regarding the role of the BCWUAs establishment towards the farmers.

III) INTERVIEW WITH MAINTENANCE WORKSHOPS

- 4 Interviews has been done with 3 mechanics from different ages and one of the owner workshops, at Esna district.
- Maintenance /Repair Workshops for pumps are available in each district and each village, farmers have access to services and for most of them, mechanics do maintenance on-site, with a good quality of service from the labor point of view.

Task #4 Improved Maintenance And Upgrading Of Water Management Equipment

- The owner of the workshop has 30 years of experience, and he became the owner of one of the biggest maintenance workshop in Esna and he get trained since childhood
- From his point of view the farmer don't need to do a regular maintenance for Peter pump, but for Dweits he should go to the mechanics.
- Dweits do not function well due to the high temperature, Peter requires changing many processors periodically according to the load of work.
- Spare parts & accessories' prices seems reasonable to the farmers, especially for the Water Conditioning equipment, which is frequently used by most of the farmers.
- The good qualities of the spare parts are mostly available in Cairo.
- It takes just one day to repair the motor, and it cost L.E 50/time.
- Mechanics complaints that recently farmers don't do a regular maintenance for their pumps, due to the price's increase of some of the spare parts, besides the increase of the gas, as the price has been increased from 8 L.E to 15L.E in the current year.
- The majority of the Mechanics are experienced labors, they are not graduated from any technical schools and they got their experiences from doing practical job since childhood. Some of them are students in the industrial school/ Azhar primary school and they used to get training each summer at the workshop.
- One of the industrial school's students believes that getting training / experiences at the workshop is more effective than the school.
- Labor didn't hear about BCWUAs, he only deals with the ordinary farmer.

IV) OTHER ISSUES RELATED TO BCWUAs (Success Stories)

East Esna Canal BCWUAs – Esna District

One of the farmer was facing a severe problem in irrigating his land, as one of the canal pipelines was blocked due to the congregate garbage by the village habitants and he couldn't afford to rent a tractor to collect the garbage or to clear the pipeline, but with the BCWUA's efforts, his problem was solved in a short time due to the achievement of the BCWUA members by bringing a big tractor to collect all the garbage. (Problem resolved in a proper time manner).

ANNEX E

*Focus Group Meeting & Interviews
with BCWUAs Board Members
&
Workshops Maintenance
at Quesna , Berket El Sabaa & S.Zifta Disriects*

**Minutes of Focus Group Meeting
For Conducting Follow-up Farmers' Assessment on Pumps
Repairs
in Zifta Directorate
(S.Zifta – Berket El Sabaa & Quesna Districts)**

Task#4

Date: August 12, 2006

Location: S.Zifta IWMD Building

Attendees:

LIFE IWRM Project

Ms. Mona Bittar	STTA Consultant
Ms. Dahlia Hamdy	Workshop/Training Coordinator

IWMU

Eng. Mohamed El Hamrawy Lower Egypt Regional Office

MWRI in Zifta Directorate

Eng. Eng. Mosaad Mohamed	Attya-G.D. New Zifta
Eng. Fatma El Behiry	S.Zifta District Manager
Eng. Essam Abdel Aziz	Berket El Sabaa District Manager
Mr. El Sabaaee Bayoumi	WA Team
Mr. Khaled Haroun	WA Team
Mr. Mohamed Farouk	WA Team
Mrs. Hala Abo Goueila	WA Team

Berket El Sabaa BCWUAs

3 Representatives	Dia El Kom BCWUAs
3 Representatives	Maqta Shama BCWUAs

Quesna BCWUAs

3 Representatives	Quesna BCWUAs
3 Representatives	Om Ahmed BCWUAs

S.Zifta BCWUAs

3 Representatives	El Ghorayeb BCWUAs
3 Representatives	El Damanhourya BCWUAs
3 Representatives	Shala BCWUAs

Purpose of the Meeting:

At the beginning of the meeting, the attendees were briefed by Eng. Mosaad Attya – New Zifta General Directorate about the purpose of the meeting. Then Mrs. Mona Bittar, started by welcomes the attendees and explaining the main outline of the focus meeting discussions.

It was to investigate the situation in the district on pump repairs and water management equipment. Also assess needs of BCWUAs for any type of training to enhance their skills in conducting repairs for water management equipment and the BCWUAs business management.

D) MAINTENANCE AND REPAIR OF WATER MANAGEMENT EQUIPMENT

7 BCWUAs attended this meeting, 2 from Berket El Sabaa, and 2 from Quesna & 3 from S.Zifta Districts, 3 representatives from each association, the following points are discussed during this meeting:

- According to their words, Air cooling type pumps, brand (Dweits) German, locally assembled is an expensive machine (L.E 9000), with a relative high cost spare parts, which are not available at their districts (available only in Tanta, Mansoura & Cairo) and also it's a heavy machine to be moved from place to another, but all the farmers in those districts prefer to use it instead of the Water Cooling Type (Peter) Pumps for the following reasons:
 - o The Dweits machine has a cooling processor in case of shortage of water.
 - o It reduces the time of irrigation (5 feddans/day).
 - o It pumps water efficiently.
 - o It has a long life span.
 - o The motor of Dweits took a long time to be repaired (each 10 years).
- On the other hand, Water cooling type; brand Peter, Indian assembled locally, cheaper in its spare parts and maintenance but is not used for the following reasons:
 - o Peter has a water cooling processor which doesn't function well during the shortage of water.
 - o It has a short life span.
 - o It takes one day to irrigate just 1 feddan.
 - o Every 1-2 years, the motor has to be repaired.
- The farmers doesn't do a regular maintenance through the mechanics; however, they used to do some of the maintenance by themselves, such as filter cleaning, fixing wheels and screwing nails, changing oil which is related to the number of daily working hours.
- They used to do maintenance only in heavy damaged case. Mechanics do maintenance on site, or at the workshop, due to the machine status.
- Farmers' complaint about the price of maintenance services and extra fees for car rental.
- The majority of them face a common problem concerning their pumps, which is the garbage congregate by the village habitants in the canal, avoiding machine to pump water efficiently and consequently affect the water quality.
- Mechanics are experienced labors from the farmer' point of view, however they are not graduated from any technical schools and they got their experiences just from practicing since childhood.
- The farmers preferred to call the mechanics instead of conducting the maintenance by themselves, however, they accept to be provided by maintenance training.
- Till now, BCWUAs didn't provide any maintenance services to the farmer; they only help him in delivering water, solving farmers' conflicts / canals & mesqa problems and to rebuild bridges.

- Some of the obstacles which prevent associations from providing services to the farmers are; the delayed for a legislative power/authority of the association to communicate with the public authorities, create credibility among the farmers, as the majority are newly established without fund.
- The farmers' complaint from the Agricultural Cooperation, as its performance towards canal / mesqa's cleaning is very weak.

BCWUAs RECOMMENDATIONS:

- Implementation of electrical motors instead of using irrigation pumps, due to its low operation cost, reducing irrigation time, and irrigates a wide land of areas.
- Every BCWUA suggest providing maintenance services by collecting 5-10 L.E from each farmer.

District Managers' Recommendations:

Eng. Essam Abdel Aziz – Berket El Sabaa District Manager suggested that each BCWUAs should use their relation with the public/official authority to solve farmers' problem instead of depending only on the government. (As an example; one of the BCWUAs board members has a People Assembly Member's brother).

II) BUSINESS MANAGEMENT & TRAINING SKILLS

The following discussions were conducted on a separate meeting with each BCWUAs.

7- Interview with Dia El Kom BCWUAs – Berket El Sabaa District

Mr. Hamdy Mohamed Amer Khadr, Chairman

Mr. Faisal Ahmed El Garawany, Treasury

Mr. Aly Abdel Maksoud El Baramawy, Board Member

- Established 2005.
- All the members has been elected, everyone has roles & responsibilities as a board member only in create awareness among people and solving problems, managing conflicts between the farmers.
- It consists of 11 board members (including 2 ladies). One of them working as a rural leader at the social affairs. She has a big role in spread the environmental awareness among the secondary schools and the village habitants (female).
- BCWUAs success in convinced farmers through the religious by distributed awareness brochures concerning the importance of water and efficient water usage and anti pollution.
- They do have administrative skills and the ability of acting as a real board member but still, due to lack of funds and location.
- BCWUA doesn't have any financial records, keep accounts, or cost plan.
- They held a regular monthly meeting at IWMD building with the water advisory team to determine the needs and the priorities of the farmers and informed the district managers by their problems.
- When it comes to the irrigation inquiries, they asked the districts' engineers.

- They mentioned that the ordinary farmer doesn't keep any records of his business, and that he really doesn't need to keep records, except the farmers who own a big area of lands.
- They do need training program in maintenance services for irrigation equipment and they suggest to be implemented through the districts to conduct the training.

8- Interview with Maqta Shama BCWUAs – Berket El Sabaa District

Mr. Roushdy Mohamed Maadi, Chairman

Mr. Abdel Khaleq Metwally Ghoneim, Treasury

Mr. Lotfy Mahmoud El Sayed Basiouny, Board Member

- Established since one year.
- It consists of 5 members, including 1 lady for environmental awareness.
- All the members has been elected, the above mentioned 3 members have an effective roles as a board member.
- The BCWUAs Chairman plays a big role in managing the conflicts between the farmers for any irrigation problems occurs.
- They succeed in rebuilt/extend bridges, cleaning and get rid of all the garbage from the mesqa / canals with the help of the districts' engineers.
- As they newly established, they don't have authority to implement all the required services.
- They do not have a fixed meeting location.
- They only held meeting if needed to discuss any problem occurs.
- They do have administrative skills and the ability of acting as a real board member but still, due to lack of funds and location.
- They mentioned that the ordinary farmer doesn't keep any records of his business, and he really doesn't need to keep records, except the farmers who own a big area of lands.
- When it comes to the irrigation inquiries, they asked the districts' engineers.
- One of the obstacles which prevent associations from providing services to the farmers are; the delayed for a legislative power/authority of the association to communicate with the public authorities, create credibility among the farmers, as they newly established without fund.
- They don't need any kind of business management training, but they do need fund raising.

N.B: They do face a problem with the low performance of the agricultural cooperation in cleaning the mesqa, so they suggest getting involved in supervising the cleanliness of their own mesqa.

9- Interview with Om Ahmed BCWUAs – Qesna District

Mr. Karem Mohamed El Shazly, Chairman

Mr. Shabaan Abdel Hameed, Treasury

Mr. Reda Ahmed Mohamed El Hussein, Board Member

- Established since 2005.
- It consists of 11 members, including 2 ladies for awareness.

- All the members have been elected. The majority of the board members are agricultural engineers.
- They do not have a location, but they held a monthly meeting at the agriculture Cooperation building, as the chairman of the board is the Agr. Cooperation President.
- The chairman's main role is to create awareness among farmers towards the importance of water, and delivering water to the farmer in a proper time is one of the main tasks of the board members.
- They do have administrative skills, but they do not have yet any financial records, keep accounts, or cost plan, due to lack of location.
- They do have a work plan and it has been submitted to the district engineers.
- They do need to activate their BCWUA.
- They mentioned that the regular farmer doesn't keep any records of his business, and that he really doesn't need to keep records, except the farmers who own a big area of lands by his sons.
- They do need a training courses on:
 1. Drainage & Irrigation law.
 2. Maintenance Services on Irrigation Equipments.
- They do have training place/facilities to conduct the training.

10- Interview with Quesna BCWUAs – Quesna District

Mr. Attya Taha Zayed, Chairman

Mr. Ibrahim Elmorsy, Secretary

Mr. Mohamed Mokhtar El Tohamy, Board Member

- Established since 2005.
- It consists of 11 members. including 2 ladies for awareness.
- All the members have been elected.
- They don't have a fixed meeting location but they usually meet in the village club. They attend a meeting to discuss the farmers' issues to determine the needs and the problems of the farmers. The Water Advisories Team plus the District Engineers help them to manage the administrative skills, organize meeting, prepare the minutes of meeting and documentation.
- They do have a work plan submitted to the districts with determining the priority and the needs.
- They do have a record book accounts.
- The Chairman of the board plays a big role in managing the conflicts between the farmers, and a liaison between the beneficiaries and the irrigation districts.
- They succeed to implement several services:
 1. Installation of Aqueduct.
 2. Clean the mesqa with their individual's efforts, as the Agricultural Cooperation didn't give them a hand.
- BCWUAs doesn't have any financial management, they depends on their individual's efforts or by collecting money from their relatives.
- The board members do ask the help & advice of the WA Team and the Irrigation Engineers in any problems related to irrigation inquiries.
- They determine that the farmers don't need to keep any records of their small business.

- One of the obstacles which prevent associations from providing services to the farmers is the delayed for a legislative authority of the association to create reliability among the farmers.
- They do need training programs in many fields such as; how to manage the association, financial & business management, board members roles, drainage & irrigation law, equipment maintenance services.
- They suggest conducting the training at the district building.

11- Interview with El Damanhourya BCWUAs – S.Zifta District

Mr. Wagih Mohamed Nahas, Chairman

Mr. Reda Behiry El Halag, Treasury

- Established since 2003.
- It consists of 5 members.
- The location of the board is the Chairman's place.
- All the members have been elected, The main services provided to the farmers is helping them in cleaning the canals to avoid machinery disorder in pumping water efficiently and consequently affect the water quality, and in case they failed in solving this issue, they inform the district engineers to get involved. Also they create awareness, managing the conflicts between the farmers in any irrigation problems occurs.
- The treasury of the association is working at the Agricultural Cooperation.
- They held a meeting to solve farmers' problems, such as; clean the canals, pitching canals/mesqa, and inform the authority by the drainage problems.
- The Association's do have administrative skills, in organizing meetings, documentation, and preparing a work plan.
- The association doesn't have a financial management.
- The following are the training programs which has been recommended;
 - How to manage the association, with board members roles.
 - Financial & Business Management,
 - Drainage and Irrigation Law.
 - Maintenance Services.
- They can provide a training location.

12- Interview with El Ghorayeb BCWUAs – S.Zifta District

Mr. Abdel Sameea Mahmoud El Raei, Chairman

Mr. Aly Abdel Hameed Saady, Treasury

Mr. Sobhy Mohamed Shahin, Board Member

- Established since 2004.
- It consists of 7 members, including one lady for the environmental awareness.
- The location of the board is one of the Chairman's possessions.
- All the members have been elected.
- The chairman of the board plays a big role in:
 1. Clarifying the relation between the BCWUAs and the Districts Engineers.
 2. A liaison between the beneficiaries and the irrigation districts.

3. The female member has a big role in spread awareness among 3 villages concerning cleanliness.
- They held and recording the monthly meeting with the help of the districts' engineers at the IWMD.
 - They do have administrative skills.
 - BCWUA doesn't have a financial management.
 - They do have credibility among the farmers, but they do need still the legislative authority of the association, to encourage them in collecting money.
 - They provide services by their individual's efforts.
 - The farmer's wife is the one who is responsible for the financial issues, home expenditures, buying Agr. Fertilizersetc.
 - They have administrative skills, and the ability to play their roles efficiently, if they have their legislative power.
 - There is a direct relation between the board member and the beneficiaries in solving problems, but they face difficulties in dealing / communicate with the public authorities.
 - The same as the previous association, they do need training programs in their roles as a board member, business & financial management, drainage and irrigation law and maintenance services.
 - They can hold any training course at the BCWUAS location.

7. Interview with Shala BCWUAs – S.Zifta District

Mr. Ahmed Abdel Aziz El Washahy, Chairman

Mr. Abdel Fattah Abdel Hay El Adeel, Treasury

Mrs. Amna Mohamed Abo Abda, Environmental Awareness Specialist

- Established since 2004.
- It consists of 4 members.
- The location of the board is the Chairman's place.
- All the members have been elected. Everyone has its own roles and responsibilities.
- The main service provided to the farmers is helping them in cleaning the canals/ masqa to avoid machinery disorder in pumping water efficiently.
- They do ask the help & advice of the District Engineers and the WA team.
- The association members are aware of the problems & issues and how to solve the farmers problems, concerning irrigation, cleaning canal/mesqa.
- They start to hold a meeting after getting the internal regulations training to determine priorities.
- From the chairman point of view, it is not necessary that all the members of board attend the meeting, the one who has a problem with the water advisories team is enough.
- The chairman is aware of all the frame legal rules, as he is working as an attorney.
- Work Plan is prepared and submitted to the district engineers.
- The association doesn't have financial resources, and they do depend on their individual efforts and the delay of legislative power and authority is one of the obstacles facing them to implement different activities to fund raise in order to achieve the association's objectives such as; providing services to the wide range of farmers and to create credibility.

- BCWUA doesn't have any financial records, keep accounts, or plan expenditures.
- They do need training programs in many fields such as; how to manage the association, financial & business management, and maintenance service.
- They do not have any place to conduct the training.

III) INTERVIEW WITH MAINTENANCE WORKSHOPS

- 4 Interviews has been done with 3 Owners of Maintenance Workshops & an industrial school's graduate at S.Zifta district.
- All the owner of the workshops has many years of experiences, and it's a family business (the owner & 2 brothers).
- The majority of the Mechanics are experienced labors, they are not graduated from any technical schools and they got their experiences from doing practical job since childhood.
- From the labor point of view, Maintenance /Repair Workshops for pumps are available in each district and each village, farmers have access to services and for most of them, mechanics do maintenance on-site, with a good quality of service.
- There is no common problem with the pumps used by farmers except the heavy damaged one (the motor's pump repair), but it's only took 1 to 2 days to repair it.
- From their point of view the farmer don't do a regular maintenance for their pumps, only in the heavy damaged one (repair the motor), which done every 3 years for about L.E 100.
- Dweits Spare parts & accessories' prices seems relatively high, which is frequently used by farmers.
- Dweits & Peter's spare parts are mostly available at the district/local market.
- Mechanics didn't hear about BCWUAs, he only deals with the regular farmer.
- Mechanics don't believe in getting training / or by the Industrial School, as he believes in getting more and more experiences by practicing at the workshop.
- School Graduates prefer to work as an employee/or teacher instead of working in a maintenance workshop.

IV) OTHER ISSUES RELATED TO BCWUAs (Success Stories)

El Ghorayeb BCWUAs – S.Zifta District

There was a conflict between 2 big well known families, regarding their land irrigation's time. One of the families informed the police and the district attorney.

The existence of the El Ghorayeb BCWUA played the role of negotiating between the two families and their role was sensed in such a situation and its capability to solve such issues. (Problem resolved in a proper time & friendly manner).