PROGRESS REPORT

Reporting UN Organization	**:**	United Nations Development Programme
Country	**:**	Lebanon
Award ID	**:**	00057771
Project ID	**:**	00071490
Award Title	**:**	Hydro Agricultural Development for Marjeyoun Area (Litani)
Award Timeframe	**:**	Oct 2009– Oct 2011
Reporting Period	**:**	1 January to 31 March 2011

I. PURPOSE

Project Summary:

The project will assist local communities in Marjeyoun area to benefit from a main canal supplying water to South Lebanon from West Bekaa. The project will show the advantages and efficiency of modern irrigation techniques, will propose the new cropping patterns in the region, and will support the establishment of a very much needed Water Users Association. The project will have a direct impact on the livelihood of at least 1,250 households within 5 communities affected by the July 2006 conflict through extending the areas suitable for agriculture, and will provide direct assistance to the farmers in the area. The project will produce topo-cadastral maps which are the bases for designing the irrigation distribution networks, will establish a land classification database as a prerequisite for the development of the hydrant implementation plans, and will execute land reclamation for an area of 522 ha setting up the infrastructure for the water distribution network.

Project Objective:

The objective of this proposed pilot project is to prepare the infrastructure and to facilitate the implementation of the irrigation distribution network in the “Marjeyoun” North Perimeter through a participatory approach involving the farmers to ensure proper management of water use.

Project Linkages to National Priorities and Reconstruction Goals:

This project will be a model for the other areas which will benefit from Canal 800. It will set the infrastructure for the distribution network, will show the advantages and efficiency of modern irrigation techniques, will propose the new cropping patterns in the region with their socio-economic impact, and will support the establishment of a very much needed Water Users Association. The project will have a direct impact on the livelihood of the local communities affected by the July 2006 conflict through extending the areas suitable for agriculture and will provide direct assistance to the farmers through providing them with wheat seeds to be cultivated on their lands for two consecutive years (other field crops will be considered as well), awaiting the supply of irrigation water from the main canal.

The project is in line with the Millennium Development Goals, namely goal 7 - Ensure Environmental Sustainability. It works towards the target of proportioning total water resources used in each country. It further meets national priorities on water resource management of the Ministry of Energy and Water and is in line with the water reform programme set by the Lebanese Government.

Project Implementation Partners:

- Litani River Authority (LRA)
- Council for Development and Reconstruction (CDR)
- Communities of “Burghoz”, “Blat”, “Dibbine”, “Ibl Essaki”, and “Jdaydit Marjeyoun”.
- Association of the Friends of Ibrahim Abd El Al (AFIAL)

Key Coordination:

- Ministry of Agriculture (MoA) – Green Plan (GP)
- Ministry of Energy and Water (MoE&W)
- Ministry of the Environment (MoE)

Acronyms:

- Association of the Friends of Ibrahim Abd El Al ≡ AFIAL
- Council for Development and Reconstruction ≡ CDR
- Green Plan ≡ GP
- Lebanese Agriculture Research Institute ≡ LARI
- Lebanese Armed Forces ≡ LAF
- Lebanon Mine Action Center ≡ LMAC
- Litani River Authority ≡ LRA
- Ministry of Agriculture ≡ MoA
- Ministry of Energy and Water ≡ MoE&W
- Ministry of the Environment ≡ MoE
- Request for Proposals ≡ RFP
- Terms of Reference ≡ ToR
- United Nations Development Programme ≡ UNDP
- United Nations Interim Force in Lebanon ≡ UNIFIL
- United Nations Mine Action Center ≡ UNMAC
- Unexploded Ordnance ≡ UXO
- Water Users Association ≡ WUA

II. RESOURCES

		Amount (USD)
Total budget approved	:	2,000,000
Total disbursements until 31 March 2011	:	265,922.82
Commitments for next quarter	:	133,000
Available Balance	:	1,734,077.18

Budget and Expenditure Breakdown as per LRF Category:

CATEGORY	Total Budget(USD)	Total Exp. to date (USD)
1. Personnel (Incl. staff and consultants)	232,200	145,500
2. Contracts (Incl. companies, professional services)	1,416,959	91,000
3. Training (incl. AV printing / production)	30,000	3,500
4. Transport (local)	15,000	3,800
5. Supplies and commodities (Incl. IT equipment and rental & maintenance)	100,000	1,000
6. Equipment (including installation)	40,000	0
7. Travel	15,000	0
8. Miscellaneous	20,000	3,726
9. Agency Management Support (7%)	130,841	17,396.82
TOTAL	2,000,000	265,922.82

III. PROGRESS

- **Draft Law for Water Users Associations**

  Even though the draft law was finalized and AFIAL is responsible for the dissemination of the concept and pass the law, not much progress to be reported on this front for this quarter due to the political situation in the country. Meetings were not scheduled with the parliamentary committees during this reporting period since the cabinet has resigned and it would be more prudent to wait until the political situation has stabilized before resuming the lobbying efforts.

- **Study Tour to Bari**

  Subsequent to the workshop seminars conducted in each of the five villages, and as part of the second phase of implementation of the WUA and capacity building of the farmers, a study tour was organized with the International Center for Advanced Mediterranean Agronomic Studies – "Instituto Agronomico di Bari (CIHEAM - IAMB)", involving one farmer representing each of the five villages under the project. The study tour started on the 27th of March 2011 and extended until the 2nd of April 2011 to the Agronomic Institute of Bari in Valenzano – Italy. The purpose of the trip was to build the capacity of the farmers and acquaint them with the advanced water management models. In addition to the transfer of knowledge from Bari to Lebanon, and getting the farmers to be more implicated in the hydro agricultural development projects.

  The trip comprised field visits to each of:
  - "Consorzio per la Bonifica Della Capitanata", which is the most active consortium in Europe managing about 441,000 hectares of irrigated land, and it comprises 9 WUAs.
  - "Cappacciotti" water dam on the "Ofanto" river with a capacity of 48,000,000 m³ to irrigate about 40,000 hectares. The farmers had the opportunity to be introduced to the on-demand irrigation system using the aqua-card technology.
  - Farmer's cooperative in Puglia "La Cooperativa Vinicola Olearia Ortofrutticola" which was established with 44 farmers in 1967 and expanded to attain 700 farmers nowadays. The importance of this visit was that it exposed the Lebanese farmers to the advantages of group work (WUA) in facilitating farming activities and raising farmers' income.
  - "Terre del Primitivo", a local action group, which helped the farmers focus on rural development, and helping farmers stay in their villages by improving their capacities in different aspects.

Figure 5: The group of farmers during the study tour in Bari

Even though the study tour extended for a relatively short period of time, it had a very positive impact on the behavior of the farmers and their attitude towards the ownership of the project; especially their willingness to apply what they learned in their respective villages. They had the opportunity to get acquainted to the diverse irrigation techniques and the importance and strength of working in groups and how beneficial and rewarding this can be.

The trip encouraged them to speak up and discuss the problems and constraints they are facing or anticipating for the creation of the WUA and begin looking for solutions. In fact, the farmers started, each according to the needs of their villages, visualizing how the new experience can be adapted at a smaller scale to address the challenges they are encountering. They started preparing workshops to explain to the other farmers the importance of creating this WUA and how this can directly involve them in the decision making and have a sure impact on keeping them attached to their land and improving their capabilities.

- **Land Classification Analysis**

The land classification consultant initiated the work in the project area by forming two groups on the ground, comprising each: 1 excavator, 1 pickup truck, 1 engineer and 2 labourers. In parallel, and based on the topo-cadastral maps prepared by the project, the consultant embarked on preparing the necessary maps needed to identify the spots where the inspection pits will be made, as well as the locations where the samples needs to be taken from for physical and chemical laboratory analysis. These maps were firstly superimposed with the maps acquired from the LAF, in order to avoid the areas contaminated with mines and UXOs.

The land classification work is progressing by making an inspection pit every 0.4 hectare of land to clearly describe the soil profile as to texture, percentage of elements on the surface (rock, stone, pebble, gravel, etc.), slope, horizon A, crops, etc. Figure 1 below illustrates the form used onsite to describe the soil parameters in each parcel.

Figure 1: Form used on-site for the land classification analysis

Based on the soil description parameters, the consultant has to produce a soil series classification. Since this series classification needs to be supported by physical and chemical laboratory analysis as well as in-situ infiltration rate measurements, the Consultant is sampling

every 4 hectares for physical laboratory analysis (coarse sand, fine sand, silt, clay, etc.) and every 40 hectares for chemical analysis (Nitrogen, Potassium, Phosphate, Magnesium, Iron, Calcium, etc.); whereas for the infiltration rate measurements, these have to be performed in-situ and in a perfectly dry soil, thus they are postponed until well beyond the end of the rainy season.

Until the end of this reporting period, the field works are completed for three out of the five villages, namely Blat, Bourghoz and Ible Essaki and the efforts are still underway for the remaining two villages of Debbine and Jdaydit Marjeyoun.

In addition 65 soil samples were tested at the LARI laboratories in Tall Aamara for the physical and chemical parameters. LARI was selected among other labs, which had submitted offers to perform the required physical and chemical analyses, as it proved to be the best reliable and the most competitive.

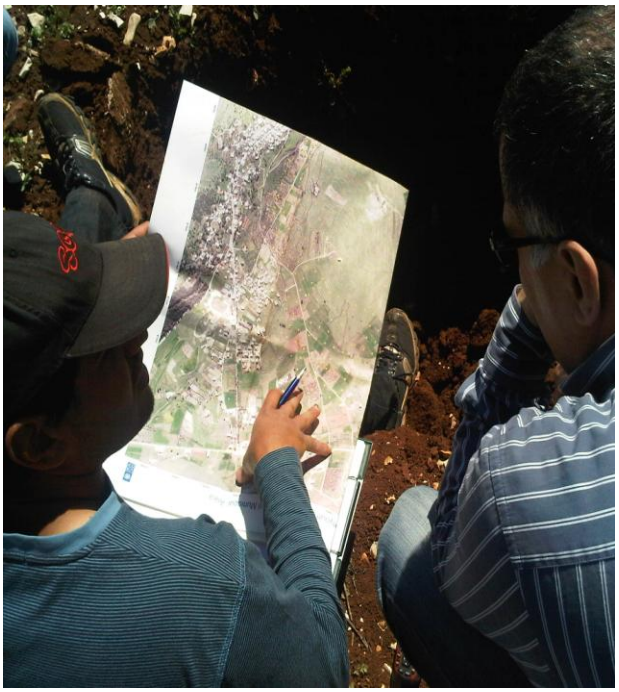

Figure 2: Identifying sampling locations

Figure 3: Excavating an inspection pit in Blat

Figure 4: Description of the soil profile

Figure 5: Soil sample ready for the lab

- **ToR for the Hydrant Plans**

  By the end of this reporting period, the request for proposal for the recruitment of the firm to conduct the hydrant plan design as well as the study of the cropping patterns and the guidelines for the land reclamation, was posted on line and allowed four weeks for the submission of proposals. This is being done in anticipation of the results of the land classification analysis. Within this study, the consulting firm is expected to accomplish tasks such as identifying the optimal crop type and pattern for each of the five villages taking into account possible irregular water supply from “Canal 800”; estimate water needs at on-farm level based on cropping pattern as well as calculation of global needs based on efficiency on-farm and in the network; examining the different alternatives for an integrated irrigation/agricultural solution that ensures high efficiency at distribution network and on-farm levels, in addition to flexibility in irrigation management programming especially in dry water years to avoid inequity in water distribution between farmers.

  The consulting firm will establish hydrant plan norms considering relationship between area and flow, based on water need and subsequently design the hydrant plans in collaboration with the farmers and WUA to tackle the issue of accessibility for every farmer.

  Furthermore, the firm will look into more detail of proposing guidelines for the management of the irrigation system including the role of WUA and a schedule to develop irrigation for the first five years; assessing the estimated cost for the implementation of the hydrant plans including cost for initial infrastructure, maintenance costs per year as well as needed parts to ensure the continuous operation of the system; considering the different types of fee collection methodologies available with particular emphasis on a comparison between traditional pressurized system and a system using prepaid cards or other similar modality of payment.

  The Consultant will also undertake an assessment of the area and propose land reclamation designs in line with the proposed cropping patterns, i.e. the most suitable land characteristics and features, and will accordingly develop guidelines and specifications that would assist the project to later tender out the land reclamation works.

- **Expression of Interest for Land Reclamation Works**

The project launched an expression of interest to qualify contracting firms capable of accomplishing the land reclamation works in the five villages targeted under the project. The implementation of land reclamation will require base works (deep plowing, rocks removal and construction of terraces, etc.) and complementary works where necessary (terraces walls construction, stone and pebble removal, etc.). The works need engineering concept and heavy machinery and will cover an area estimated at 522 ha.

The land reclamation contractor is expected to undertake the execution of the base works according to proposed guidelines and designs for uniform geographical regions, based on parcels descriptions; and will also support the complementary works (terraces walls, stone and gravel removal, etc.) where needed.

The detailed scope of works along with the methodology and approach will be specified by the project in the Invitation to Bid (ITB) that will be released after the short-listing of the qualified firms and based on the results of the land classification analysis.

- **Project Management**

A site engineer, with agricultural background was recruited for the coordination with the land classification consultant and supervision onsite.

In addition, the ToR for a service contract site engineer were posted online and the advertisement for the position will close by the beginning of the next quarter, whereby a site engineer will be selected to assume his duties in the project area. The site engineer will be responsible for the coordination with the different contractors and stakeholders as well as the project partners such as the Litani river authority and AFIAL. He/she will undertake the monitoring of the land classification works on the ground, and the follow up on the land reclamation works at a later stage, in addition to the coordination and supervision of the consultant undertaking the design of the hydrant plans and cropping pattern.

Activity Results	Activity Actions	Progress up to 31 March 2011	Indicator	Targets for 2011
1 Establishment of Water Users Association (WUA)	1.1 Draft the required legislation to establish the WUA Financial Management; 1.2 Lobby with policy makers to pass the required legislation	✓ Finalized the draft law ✓ Initiated the lobbying efforts ✓ Finalized stakeholder analysis ✓ Building farmers capacity - study tour	✓ At least 3 national workshops conducted ✓ WUA law drafted ✓ Study tour completed ✓ Stakeholder survey and situation analysis completed	✓ Continue capacity building trainings ✓ Implementation of WUA on the ground ✓ Continue lobbying efforts to pass the law
2 Development of land database and hydrant plans	2.1 Processing of topo-cadastral maps, using GIS; 2.2 Conduct physical & chemical laboratory analysis for soil and infiltration measurements (every 4 ha); 2.3 Obtain data on the geology, slopes, percentage and nature of rocks, stones and gravel on surface, and current land use for the project area; 2.4 Determine cropping pattern and water needs at farm level; 2.5 Finalise the hydrant plans	✓ Initiated land classification activities - 3 villages completed ✓ Physical and chemical analysis for 65 soil samples ✓ Launched RFP for hydrant plan design including cropping pattern and water needs at farm level	✓ Topo-cadastral maps prepared (27,231 cadastral records) ✓ Land use map produced ✓ Physico-chemical lab analysis results for 65 samples ✓ Hydrant plan contract signed	✓ Complete land classification analysis including laboratory physical and chemical tests ✓ Select a consulting firm and initiate the hydrant plan designs, etc.
3 Execution of land reclamation works	3.1 Develop guideline basis for land reclamation works; 3.2 Prepare land reclamation designs for uniform geographical region 3.3 Execution of the base works; 3.4 Support complementary works (Terraces, walls, stone and gravel removal) to be done by farmers; 3.5 Provide the farmers with wheat seeds for cultivating their land	✓ Launched EOI for land reclamation works ✓ Launched RFP for the guideline basis and land reclamation designs	✓ EOI for land reclamation posted on UNDP site ✓ Land reclamation works ontract signed	✓ Launching the bids for the consultant to propose the guideline basis for land reclamation ✓ Evaluation of EOI for land reclamation works ✓ Prepare the ITB to select contractors to perform the land reclamation works ✓ Sign a contract with the awarded Contractor and initiate work on the ground
4 Project Management	4.1 Establish PMU; 4.2 Establish coordination and linkages between all project partners; 4.3 Ensure timely implementation and reporting on project activities	✓ UNV agricultural engineer recruited ✓ TORs of site engineers posted	✓ Agricultural engineer on site	✓ Recruitment of the necessary Consultants ✓ Timely reporting on all project activities ✓ Recruitment of site engineer

IV. WORK PLAN PER ACTIVITY FOR THE SECOND QUARTER IN 2011 (April – June 2011)

Key Milestones	April				May				June			
Wks	1	2	3	4	1	2	3	4	1	2	3	4
1. Establishment of Water Users Associations												
1.1 Lobbying Efforts to Disseminate the Law												
1.3 Capacity building Trainings												
1.4 WUA Implementation												
2. Development of Land Database & Hydrant Plans												
2.1 Land Classification Analysis and Soil Field Unit												
2.2 Supervision of Land Classification Works												
2.3 Selection of International Irrigation Expert												
2.4 Evaluating proposals and selection of consulting firm to undertake the design of the hydrant plans												
3. Execution of Land Reclamation Works												
3.1 Evaluating EOI for land reclamation												
3.2 Launching Bids for Land Reclamation Guidelines												
3.2 Preparing ITB for t selection of Land Reclamation Contractor(s)												
3.3 Finalizing the design of the reclamation programmme												
4. Project Management												
4.1 Technical, Financial and operational mgt.												
4.2 Promotion of synergies with other projects												
4.3 Information exchange and coordination												

Implementation Constraints and Lessons Learnt during this Quarter:

Political & security situation south of the Litani: Given that the project location is south of the Litani river, access to the sites remains a high security risk and authorisation is required from local authorities as well as UNIFIL. Accordingly, letters were issued by UNDP CO for both the Lebanese Armed Forces – Ministry of Defense as well as the UNIFIL force commander requesting assistance in facilitating the access of the project team as well as the consultants to the project area in order to complete their desired tasks. During some periods of heightened security, access to the field is denied which delays some of the project activities.

Presence of cluster bombs and explosive remnants of war: Marjeyoun area is still contaminated with unexploded ordnances (UXOs); some zones remain unmapped and uncleared to date. To ensure the safety and security of the project staff and consultants, the project is coordinating with the Lebanon Mine Action Center (LMAC) and the United Nations Mine Action Center (UNMAC); in some instances areas may not be accessible until demining occurs or if not feasible these areas must be avoided at all.

Delays in launching the project: The project experienced delays during the first phase of implementation due to the difficulty in acquiring the necessary data, particularly the cadastral maps for the five villages in Marjeyoun. The required maps were originally requested from the Directorate of Cadastre and real estate (the responsible authority) but feedback was never received. After around two months of following-up and inquiries, the Directorate stated that only paper maps will be provided. As well, the latter request did not materialise. As such, a letter was sent to the Ministry of Finance requesting their endorsement to acquire the needed documents. The project in turn received an exhaustive list of land owners in the five villages that would be used to identify the agricultural lands at the preliminary phase of the project and then will be consolidated with data from the stakeholders on the ground. This, however, was not a sufficient replacement to the initially requested maps which were crucial to the effective launch of the project's activities. Following all efforts to acquire the needed maps, the project managed to obtain paper maps through a third party. These had to be scanned and digitized in order to prepare the soft copies that will form the bases for designing the irrigation distribution networks. This was very time consuming and the maps were not ready before October 2010. The cadastral maps are essential in order to finalize the land classification, which in turn is required to complete the design of the hydrant plans, and ultimately the land reclamation. As such, delays in acquiring these maps early on in the process subsequently imposed further delays on the delivery of the remaining sequential activities.

Weather conditions: During the rainy season, work on site has to be halted, whether it were during the phase of studies and analyses especially the onsite sampling and the infiltration rate test which requires the soil to be perfectly dry so as to be performed properly, or during the implementation phase, i.e., the land reclamation works which involve heavy machineries and can be adversely affected by the rainy weather.