



Country: **Lebanon**

Expected Outcome(s)/Indicator (s):

| | |
|---------------------------|---|
| Lebanon SRF Outcome 1: | National capacities and policy formulations supported and strengthened to reach Sustainable Development |
| Lebanon SRF Goal 3: | Energy and environment for sustainable development |
| Lebanon Service Line 3.1: | Frameworks and strategies for sustainable development |

Implementing partners: UNDP Lebanon Country Office (DEX)

Other Partners: Ministry of Agriculture

The project aims at assisting the Government of Lebanon in its recovery and reform efforts in the conflict-affected and high-poverty region of Baalback-Hermel through better land management practices, namely flood risk reduction and improved access to irrigation water and networks to achieve crop diversification and improve productivity. This will be achieved by the construction of stone walls, check dams and water collection reservoirs to prevent runoff water from reaching villages and farms and through the restoration of land cover to reduce soil erosion. The objectives related to water management will be achieved through construction of several membrane-lined reservoirs to collect wasted water and snow melts and through installation of water-use efficient irrigation networks and systems that will be used by local farmers to increase their agricultural productivity and diversify their crops. The project is financed by the Government of Spain through the Lebanon Recovery Fund, and is in line with the UNDP's development goal of alleviating poverty in rural drylands of the conflict-affected Baalback Hermel area

| | |
|-------------------------|--|
| Programme Period: | 2008-2009 |
| Programme Component: | Energy and Environment for Sustainable Development |
| Project Title: | Flood Risk Management and Water Harvesting for Livelihood Recovery in Baalback-Hermel |
| Project ID: | 00059666 |
| Project Duration: | 2 years |
| Management Arrangement: | DEX |

| | |
|--------------------------|-------------------------|
| Budget: | 2,648,832 USD |
| UNDP Support Cost | 186,048 USD |
| Total budget: | 2,834,880 USD |
| Allocated resources: | • LRF 2,834,880 USD |

Agreed by Council for Development and Reconstruction _____

29 MAY 2008

Agreed by United Nations Development Programme _____

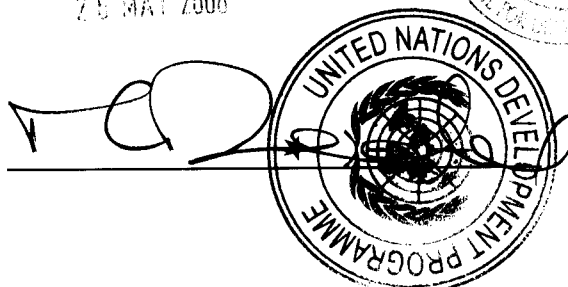
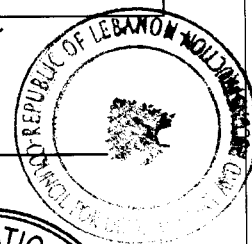


TABLE OF CONTENTS

| | |
|---|-----------|
| Section I - Elaboration of the Narrative | 05 |
| Part I. Situation Analysis | 05 |
| Part II. Strategy | 06 |
| Part III. Management Arrangements | 07 |
| Part IV. Monitoring and Evaluation | 08 |
| Part V. Legal Context | 08 |
| Section II - Results and Resources Framework | 09 |
| Section III - Total work-plan and budget | 16 |
| Section IV – Project Risks | 19 |
| Section V – Annexes | 20 |
| Annex 1: Terms of Reference for the Project Implementation Unit | 20 |
| Annex 2: Terms of Reference for the International Consultants | 23 |
| Annex 3: Approved LRF Project Proposal | 26 |

ACRONYMS

| | |
|--------------|---|
| ACSAD | Arab Centre for the Studies of Arid Zones and Dry Lands |
| AECI | Spanish Agency for International Cooperation |
| APR | Annual Progress Report |
| AUB | American University of Beirut |
| CDR | Council for Development and Reconstruction |
| CO | Country Office |
| DEX | Direct Execution |
| EU | European Union |
| FAO | UN Food and Agriculture Organization |
| GIS | Geographic Information System |
| GoL | Government of Lebanon |
| GTZ | German Agency for Technical Cooperation |
| IC | Italian Cooperation Programme |
| LRF | Lebanon Recovery Fund |
| MoA | Ministry of Agriculture |
| MoE | Ministry of Environment |
| MoEW | Ministry of Energy and Water |
| MoM | Ministry of Municipalities |
| NAP | National Action Programme |
| NGO | Non Governmental Organization |
| PIU | Project Implementation Unit |
| SRF | Strategic Results Framework |
| TPR | Tripartite Review |
| UNDAF | United Nations Development Assistance Framework |
| UNDP | United Nations Development Programme |
| UNDRO | United Nations Disaster Relief Organization |
| USAID | United States Agency for International development |

SECTION I - ELABORATION OF THE NARRATIVE

Part I. Situation Analysis

1. Although water resources in Lebanon are relatively good compared to neighbouring countries, yet the country is likely to suffer from water deficits within the next 20 years because of the absence of clear management policies and the increased water consumptions due to population growth and the expansion of agricultural land. Agriculture is by far the largest consumer of water in Lebanon accounting for 65% - 85% of the total water demand; the rest is shared by industry and domestic use¹.
2. Snowfall and precipitation amounts and distribution are not adequately characterized and documented in Lebanon. Although annual average rainfall is estimated at 850 mm/year, yet irrigation water is greatly needed for most of the year because most of the rainfall is received during a relatively short period during winter (December-March). Moreover, the distribution is highly variable from one region to another reaching 1000 mm/year at the coast, more than 1500 mm/year on the high mountains and only 200 mm/year in North Bekaa where the project's target area Baalback-Hermel is located.
3. From the several streams that are feeding perennial rivers in Lebanon, the two main ones in North Bekaa are: 1) The Litani river which drains the southern Bekaa plateau, transverses the southern edge of the Mount Lebanon range and discharges into the Mediterranean and 2) The El-Assi (Orontes) river which flows northwards into Syria draining the northern Bekaa plain.

A- Flash Floods in North Bekaa

4. Heavy flooding following torrential rains in the Anti-Lebanon mountains are common in Northern Bekaa. They occur during May-June or later in autumn (October-November). In June 1987, heavy rainfall led to road cuts and destruction of bridges, telephones, electricity and water supply. Villages like Fakehe, Jdaide and Ras Baalback became completely isolated. At the agricultural level, heavy losses were reported for field crops, up to 80% of fruit trees in that area were damaged and a large number of cattle were drowned. Soil erosion was noticed over tens of kilometres (UNDRO report 87/1371, June 1987). Floods occurred also in June 1994, October 1999, May 2001, twice in 2004 and recently in May 15th 2007 where severe soil erosion was reported in addition to the substantial agricultural damage and destruction of several aqua farms along the Assi (Orontes) river. Contributing causes for these flash floods are misuse of land, absence of land management, uncontrolled grazing practices, and high land degradation. These factors are, not only contributing to the problem of flash floods, but also leading to a high risk of rapid desertification in the area.
5. In 2006, a project was launched in Al'Qaa region by the Ministry of Agriculture and the German Agency for Technical Cooperation (GTZ), in collaboration with the Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD). The project handled a 18 km² water shed area and established check dams, contour bunds and stone walls in addition to 3 collection lakes ranging between 20,000-40,000 cu. meter in volume. Early observations recorded after the recent torrential rains in 2007 showed a good level of flood prevention in that location.
6. Flood protection practices in North Bekaa are not at an acceptable level; only local retaining walls have been executed on some rivers and were constructed to prevent collapsing of river's walls rather than to mitigate from floods. The threats and damage caused by the floods in Baalback-Hermel area are expected to increase after the July conflict in 2006. This is mainly because of the direct and indirect damage that affected the forest and vegetation cover in that region (about 400 hectares of Junipers trees were partially affected by fires in this area), thus soil erosion is expected to increase and water retention by the vegetation to decrease, all what could potentially lead to more severe and erosive power of runoff water when torrential rain occurs since the roots

¹ Dr. Mutasem El-Fadel, Water Resources in Lebanon, Current Situation and Future Needs, AUB, 2002

of trees and crops hold the soil firmly together and prevent such erosion. Such floods result in the loss of the topsoil, the most fertile layer of soil needed for plant growth.

B- Desertification in North Bekaa

7. The National Action Program to Combat Desertification (NAP), which was developed in 2003 by the Ministry of Agriculture and in collaboration with UNDP and GTZ, classified the Northern part of Bekaa as one of the areas prone to high risks of desertification. This is mainly due to lack of proper land and water management practices, bad rainfall distribution, overgrazing, steep mountains with shallow soil and poor vegetative cover. Summer droughts and uneven rain distribution are the main reasons for poor agricultural productivity in North Bekaa; most of the rain falls between November and May, leaving long periods of dry conditions and little water for supplementary irrigation in summer.
8. During the July 2006 conflict, North Bekaa, particularly Baalback-Hermel area was directly affected by the war. Large scale destructions in infra structure, biodiversity and agriculture were reported. Agriculture in that area was directly affected: bombing resulted in big losses in crop yields that were either burned, not harvested or became unmarketable. Public irrigation infrastructure in the Bekaa were damaged. Cattle, goats and sheep were killed either because of shelling or due to starvation and thirst. Targeting of aqua farms in Hermel affected more than 30 fish farmers with an estimated total loss of about 300 tons of fish lost from ponds. In addition, the high security risk during the war stopped forest management activities and lack of fuel encouraged people to cut trees in forests and woodlands. Losses from biodiversity destruction were also enormous and could not be estimated.
9. The conflict exacerbated the numerous existing socio-economic and environmental issues already facing this area. Baalback-Hermel in North Bekaa suffers from drought, poor agricultural productivity, loss of biodiversity, poverty (66% poverty in Hermel and 49% in Baalback) and in some years flooding caused by surface runoff water due to torrential rains, poor soil infiltration and deteriorated vegetation cover. Approximately fifty percent of the population of this area is thought to be employed in the agricultural sector.
10. Water harvesting has been used for thousands of years to supplement scarce water resources in arid and semi-arid regions of the world. Rain water and snowmelt runoff can be collected in small reservoirs. The collected water can be used in supplemental irrigation. Supplemental irrigation during the dry growing season could be life saving for rain fed crops cultivated in North Bekaa. Moreover, the extended water availability during the dry season widens the farmers' choices among different cropping patterns and farming systems that can be used. Therefore, water harvesting accompanied by installation of water-use efficient irrigation networks will have a great impact on agricultural productivity and farm income in the Baalback-Hermel region.

Part II. Strategy

11. The project will assist the Government of Lebanon in its recovery and reform efforts in the conflict-affected and high-poverty region of Baalback-Hermel through better land management practices, namely flood risk reduction and improved access to irrigation water and networks to achieve crop diversification and improve productivity.
12. The project will work in partnership with concerned stakeholders and in collaboration with other relevant on-going projects to ensure proper management of resources and to avoid duplication. For the part related to flood risk management, the project will build on the previous 18 km² model executed by the MoA and GTZ in Al-Qaa; it will cover a new watershed area of around 100 km² which is almost half of the area under risks of floods in North Bekaa. In this regard, check dams, contour bunds and stone walls will be established as per the intended modelling study of the watershed and large safety reservoirs (Hafeers) will be made for collection of flood water.
13. In parallel, the project will also work on the restoration of vegetative cover on the slope hills in target areas. Nurseries for the propagation of forest trees endemic to the region will be established; priority will be given to wild fruit trees which are historically grown in the region such

as wild pistachio, wild almonds and wild pears. Efforts will be done to rehabilitate the pastures and forage with drought tolerant shrubs such as Atriplex and others will be planted near the stone walls and contour bunds where soil moisture is expected to be higher.

14. Public awareness campaigns and training sessions will be delivered to local communities and municipalities on subjects related to water management, use and maintenance of modern irrigation systems, maintenance of flood preventing structures and reservoirs and land cover protection.

Part III. Management Arrangements

15. The Project will be executed under the UNDP Direct Execution modality (DEX), whereby UNDP will act as both the implementing and the executing agency in full collaboration with the Ministry of Agriculture.
16. Day-to-day management of the project will be done by the existing project implementation unit (PIU) established by the UNDP project "National Action Programme to Combat Desertification", hosted by the Ministry of Agriculture. The PIU will work under the direct supervision of the Energy and Environment Programme of the UNDP and in close collaboration with the Ministry of Agriculture. The PIU will also work in coordination with the MoEW, concerned municipalities, local beneficiaries and other project partners as specified below. The PIU will be responsible for the overall execution of the project and will be led by a full time national Project Manager, supported by the required project technical assistants. The Terms of Reference of the PIU personnel are listed in Annex 1. Besides their hosting of the project and its staff, the MoA will provide in-kind contribution in the form of offices, furniture, personnel and cars.
17. International technical backstopping will be requested in watershed modelling, water harvesting techniques, rangeland rehabilitation, reforestation, and water-use efficient irrigation methods. National and/or international consultants will be recruited for the above mentioned tasks with emphasis on expertise from collaborating organizations such as MoA, GTZ, ACSAD and AECI. The Terms of reference for the proposed consultants are listed in Annex 2.
18. Project partners
The programme shall involve several concerned parties to ensure proper implementation of the programme's phases. These parties are the following:
 - *Government of Spain*: Donor country and international technical backstopper to the proposed programme
 - *United Nations Development Programme* : Implementation agency (technical, management, supervision) of the proposed programme
 - *Ministry of Agriculture*: National project partner (supervision and execution through the NAP to combat desertification project).
 - *Ministry of Energy and Water* : information sharing and coordination
 - *German Agency for Technical Cooperation (GTZ)*: sharing of information and studies, technical backstopping and participation in coordination meetings.
 - *Arab Centre for the Studies of Arid Zones and Dry Lands, ACSAD*: Modeling of watershed area and technical backstopping in flood risk management.
 - *Local Experts* : Local consultants, focal points and supervisors
 - *Municipalities and local communities*: National public institutes or entities and individuals benefiting from the proposed programmes.
19. In accordance with the decisions and directives of UNDP's Executive Board reflected in its Policy on Cost Recovery from Other Resources, the Contribution shall be subject to cost recovery by UNDP for two distinct cost categories related to the provision of support services, namely
UNDP General Management Support recovered with a flat rate of 7 % and includes the following services:
 - Project identification, formulation, and appraisal
 - Determination of execution modality and local capacity assessment
 - Briefing and de-briefing of project staff and consultants
 - General oversight and monitoring, including participation in project reviews

- Receipt, allocation and reporting to the donor of financial resources
 - Thematic and technical backstopping through Bureaus
 - Systems, IT infrastructure, branding, knowledge transfer
20. UNDP Direct costs incurred for **Implementation Support Services (ISS)**, recovered through the **Universal Price List**, as long as they are unequivocally linked to the specific project, these costs are built into the project budget against a relevant budget line and, in the case of clearly identifiable transactional services, charged to the project according to standard service rates. ISS include the following services:
- Payments, disbursements and other financial transactions
 - Recruitment of staff, project personnel, and consultants
 - Procurement of services and equipment
 - Organization of training activities, conferences, and workshops, including fellowships
 - Travel authorization, visa requests, ticketing, and travel arrangements
 - Shipment, custom clearance, vehicle registration, and accreditation
21. The audit of DEX projects is made through the regular external (UN Board of Auditors) or internal audits (audits managed by UNDP's Office of Audit and Performance Review).

Part IV. Monitoring and Evaluation

22. UNDP CO will undertake periodic monitoring of the implementation progress through regular meetings with the project team. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion and to ensure smooth implementation of project activities. Furthermore, UNDP CO will be responsible for financial monitoring and reporting on all disbursements of the programme, and will ensure continued reporting to the Government of Lebanon/Lebanon Recovery Fund and the Donor Country. Financial disbursements and auditing, as well as the procurement of goods and services, and the recruitment of personnel shall be based on UNDP procedures and guidelines.
23. Monitoring will be a continuous and systematic process review of the various activities and will be intended to (i) measure input, output, and performance indicators; (ii) provide regular and up-to-date information on the progress towards meeting the overall Project Objectives; (iii) alert the implementing partners with problems in implementation, and provide basis on which performance may be improved, and (iv) determine whether the relevant stakeholders are responding as expected.
24. The regular reporting from the Project is governed by UNDP reporting requirements, and will include the following reports:
- i. Six-monthly progress reports which will reflect progress on works, goods procured, technical assistance, performance indicators and financial reports;
 - ii. Annual Project Progress Report (APR) as per UNDP format to be submitted annually as of project initiation. [The APR will be discussed during the annual Tripartite Project Review (TPR) meeting in the presence of project donors, national counterparts and all concerned stakeholders.]
 - iii. Final Project Evaluation Report carried out by an independent external consultant
25. Furthermore, a number of timely milestone review events will be undertaken in the presence of project donors, national counterparts and all concerned stakeholders and beneficiaries. These events will include: i) a Project Inception workshop, ii) an Annual Tripartite Project Review (TPR) meeting, and iii) a Terminal Project workshop.

Part V. Legal Context

26. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Lebanon and the United Nations Development Programme, signed by the parties on 10 February 1986.

27. The UNDP Resident Representative in Lebanon is authorized to effect in writing the following types of revisions to the Project Document, after consultation with the project partners:
- i. Revision of, or addition to, any of the annexes to the Project Document;
 - ii. Revisions which do not involve significant changes to the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation;
 - iii. Mandatory annual revisions which re-phase the delivery of agreed project outputs or increased expert or other costs due to inflation, or take into account agency expenditure flexibility; and
 - iv. Inclusion of additional annexes and attachments
28. Upon completion of the project, the UNDP CO shall transfer ownership of all furniture and equipment purchased for the day-to-day operation of the PIU to the Government of Lebanon.

SECTION II - RESULTS AND RESOURCES FRAMEWORK

The project aims at assisting the Government of Lebanon in its recovery and reform efforts in the conflict-affected and desertification-prone region of Baalback-Hermel through better land management practices, namely: flood risk reduction, restoration of vegetation cover and improved availability of irrigation water needed to increase crop productivity and improve standards of living. To achieve this objective, the following outputs and activities will be undertaken:

Output 1: Coordination and linkages with on-going projects established and strengthened

Activity 1.1: Technical, financial and operational management.

Activity 1.2: Promote synergies with relevant on-going projects in target area.

The project will work under the newly developed programme "Sustainable Rural Livelihood Development for Lebanon" established and funded by the MoA and UNDP. The programme will link all UNDP projects executed through the Ministry of Agriculture and the Lebanese Agricultural Research Institute in order to insure complementarity and coordination.

The project will also seek collaboration with other relevant projects executed in the target area by other agencies such as the IC, EU, USAID, AECI and others.

Activity 1.3: Exchange of information and coordination meetings

- Collect information about other relevant completed or on-going projects in Baalback-Hermel
- Public meetings will be conducted with local communities to assure their involvement.
- Coordination meetings among representatives of relevant on-going projects
- Establish a project working group from all project partners

Output 2: Risks and damages caused by floods in target area managed and reduced

Activity 2.1: Field data collection and Identification of target area.

Field data will be collected for the watershed area, and will include information about the land use practices, grazing, topography and slope, hydrological data, vegetation, soil types and characteristics, soil erosion, climatic data, storm trends and rainfall intensity and frequency. Based on the data, a target site of around 100 km² will be identified for the modeling and constructions.

Activity 2.2: Modeling of target area and generation of maps for constructions.

The tools for characterizing the area subject to floods include GIS for maps and spatial analysis and a set of computer programs for data processing. Technical Backstopping for implementing this task will be provided by GTZ and ACSAD who have successfully a previous flood risk management model in Al-Qaa area. Modeling of the target watershed (100 km²) will be by experts from ACSAD in collaboration with technical staff from the PIU and the MoA.

Activity 2.3: Establishment of constructions and collection lakes (Hafeers).

- Construction of stone bunds on the contour to reduce the net volume of runoff water reaching the drainage way, they can affect the time of concentration together with the discharge rate of runoff water that reaches the drainage way and they will provide better soil moisture to the site which can be utilized by planted fodder shrubs.
- Construction of contour stone walls which are wider and deeper than the bunds. They are meant to reduce the flow velocity, filter out the suspended materials and increase infiltrations. They are excellent tools for both soil and water conservation and can provide good climates for fodder shrubs as well as forest trees. They are very strong structures that can withstand heavy rainfall.
- Contour Earth Ridges: these are very simple structures that are constructed quickly by tractor with single moldboard plow. They can effectively intercept and spread runoff water over a distance and can be planted with shrubs to form a green barrier for runoff water.
- Construction of check dams: they serve as a flood control as well as soil conservation measure. Their main function is to increase the time required by the flowing water to pass

- through the drainage way and thus reduces the peak discharge rate at the outlet of the catchment.
- Construction of Hafeers which are an off-stream water harvesting concerned with storing a certain volume of diverted runoff /flood water from a drainage way for certain planned purposes.
 - Hill lakes will also be constructed for water storage to reduce the volume of runoff water flowing in the drainage way, thus reducing its damaging force. They are very effective in flood control and in recharging ground water.
 - Gabion diversion structures are simple walls that intercept part of the flow and guide it to the storage facility

Activity 2.4: Monitoring and evaluation of structures and impact assessment.

Monitoring and evaluation procedures for flood prevention and management will be put in place and responsibilities and tasks of the involved stakeholders will be clarified to insure the continuity and effectiveness of the structures in flood prevention. The impact of the constructions and land cover rehabilitation will be assessed through visits following heavy torrential rain in the target area, meetings will be done with local communities and municipalities and evaluation reports will be submitted.

Similarly, the impact of water harvesting reservoirs will be assessed through interviews with beneficiaries and through socio-economic re-evaluation.

Output 3: Water for irrigation harvested, managed and made available to farmers

Activity 3.1: Field surveys and assessment of water resources in Baalback-Hermel area.

Prepare a questionnaire on water resources in Baalback-Hermel villages targeted to collect information about water status in the village, annual discharge and flow, existing or previous interventions from other projects, agricultural and irrigation practices, potential number of beneficiaries, socio-economic evaluation, crops cultivated, cooperation among farmers, land ownership, climate and rainfall etc..

Conduct visits and set meetings with municipalities, local cooperatives, farmers and other stakeholders. Data collection and analysis leading to the preparation and prioritization of a list of interventions by the project in the target area.

Activity 3.2: Sites identification for water harvesting reservoirs.

Selection of sites will be based on soil and topography suitability, land cover and land use characteristics, agricultural practices and surface runoff generating potential. Hydrological modeling, remote sensing and GIS techniques will also be used in the site selection process of these reservoirs as well as results of the socio-economic survey. Municipalities, farmers and local communities will be involved in the site selection procedure.

Activity 3.3: Construction of water reservoirs and modern irrigation systems

Excavations and land preparations for establishment of water collecting reservoirs will be performed by selected local contractors and with the participation of target communities. The reservoirs will be covered with special geo membranes to avoid water loss. New and modern irrigation systems will be provided to farmers and local beneficiaries with additional equipment that are needed for the operation and maintenance of the irrigation networks. The newly introduced irrigation networks will insure maximum efficient use of available water resources for maximum possible agricultural productivity. Professional national and/or international experts will be consulted for meeting this target.

Activity 3.4: Selection of beneficiaries and provision of extension services

Beneficiaries and target farmers will be selected based on their proximity to the water harvesting site, their socio-economic evaluation including involvement of family in farming, land ownership, cropping systems and experience. The project staff and experts from the MoA will advise them on issues related to crop diversification and increased productivity.

Output 4: Land cover in risk area increased and soil erosion reduced

Activity 4.1: Identification of sensitive areas subject to soil erosion.

Areas vulnerable to higher degrees of soil erosion will be identified and will be given priority for forestation and land cover establishment. This vulnerability will be assessed through field surveys on land use, vegetation, slopes, soil studies and existing information from other studies and projects. Soil erosion risks map will be also generated.

Activity 4.2: Establishment of nurseries for seeds & seedlings production.

The project will establish with the help of local communities and municipalities special nurseries for seed and seedlings production of fodder shrubs, wild fruit trees and forest trees. Links with existing nurseries established by previous or other on-going projects will be made and support will be provided when needed.

Activity 4.3: Crop diversification and increased farm productivity.

The increased availability of irrigation water will encourage farmers to shift into more profitable crops leading to higher economic yields and better income. In addition, the project will work in coordination with the existing MAP project aiming at encouraging cultivation of medicinal and aromatic plants including industrial hemp.

Activity 4.4: Forestation and cultivation of forages in vulnerable areas.

Forestation and land cover rehabilitation will be done in sensitive areas and near the established flood preventive constructions where soil moisture is more available and where vegetation can serve in reducing runoff water and hence reduction in flood damage. In addition, trees could be planted near and around the water harvesting lakes as part of landscaping designs that could combine benefits of water harvesting with eco-tourism and recreational activities.

Output 5: Sustainability, Capacity building and public awareness

Activity 5.1: Empowerment of beneficiaries in target area.

Municipalities in affected areas will be provided with the necessary tools and equipment needed for the maintenance of flood prevention structures as well as water harvesting reservoirs. In addition, basic material needed for cultivation of planted shrubs and trees and for their protection from grazing will also be provided. Accompanied by the proper training, this will ensure the sustainability of the project outcomes and constructions.

Activity 5.2: Raising Public awareness on flood prevention and water management.

Public awareness will be raised on matters related to water harvesting techniques, flood risks assessment and management, importance of agro-biodiversity, causes of land degradation and desertification, water-use efficient cropping systems, management of grazing and alternative cropping systems. The tools for raising awareness will include on-site workshops, TV spots, preparation and distribution of brochures and leaflets, bilateral meetings and others.

Activity 5.3: Capacity building through training of target communities.

Concerned municipalities will be trained in maintenance and repair of flood preventive constructions, cleaning of water reservoirs and irrigation networks, cultivation of medicinal and aromatic plants, organic farming, crop production and protection, seeds and seedlings production and post harvest techniques.

Activity 5.4: Alternative sources of income and new livelihoods.

The project will also explore alternative livelihoods for the beneficiaries such as introduction of new crops (such as safflower, medicinal and aromatic plants and industrial crops), agro-tourism, fair trade and organic agriculture.

Results and Resource Framework

| | |
|-----------------------------|---|
| Intended Outcome | Support recovery and reform efforts in the conflict-affected and high-poverty region of Baalback-Hermel through the better land management practices, namely flood risk management and water harvesting and irrigation programmes for improved livelihoods |
| Outcome Indicators | <ul style="list-style-type: none"> - Negative impacts of floods mitigated at environmental, agricultural and socio-economic level - Additional source of irrigation water secured - Land management in the region improved - Living conditions of beneficiaries groups enhanced |
| SRF Service Line | 3.1 Frameworks and Strategies for Sustainable Development |
| Partnership Strategy | UNDP/MoA/GTZ/ACSAD/AECI |
| Project Title | Flood Risks Management and Water Harvesting for Livelihood Recovery in Baalback-Hermel |
| Project Atlas ID | 00059666 |

| Intended Outputs | Target years | Activities | Indicators | Responsible parties | Resources | Inputs USD |
|---|---------------|---|---|---------------------|--|------------|
| 1. Project Coordination and Management | 2008/ 2009 | 1.1 Technical, financial and operational management. 1.2 Promotion of synergies with other projects 1.3 Information exchange and coordination. | <ul style="list-style-type: none"> • Coordination meetings • Relevant projects identified • Working groups established or existing groups used • Information exchanged • Timely completion of activities and reporting • Effective networking | UNDP MoA PIU | <ul style="list-style-type: none"> • PIU • MoA • LARI • MoE • GTZ | 297,911 |
| 2. Risks and damages caused by flash floods managed and reduced | 2008/ 2009 | 2.1 Data collection and identification of target area 2.2 Modelling of target area and generation of maps 2.3 Constructions for flood control and prevention 2.4 Monitoring, evaluation and impacts assessment | <ul style="list-style-type: none"> • Data base created (including flood maps) • Target area defined • Modelling maps developed • Flood control structures constructed • Preliminary assessment done and base line created • Monitoring and impact assessment reports submitted | UNDP MoA PIU | <ul style="list-style-type: none"> • PIU • ACSAD • GTZ • MoA | 1,091,400 |
| 3. Irrigation water harvested and availability to farmers increased | 2008/ 2009 | 3.1 Field surveys and assessment of water resources 3.2 Identification of water-harvesting sites 3.3 Constructions of reservoirs & installation of irrigation networks 3.4 Selection of beneficiaries and technical advice | <ul style="list-style-type: none"> • Sources and quantities of superficial water identified (including mapping) • Contacts and meetings with concerned stakeholders established • Potential sites identified • Water reservoirs constructed • Irrigation systems installed • Beneficiaries identified | UNDP MoA PIU | <ul style="list-style-type: none"> • PIU • MoA • AECI • Consultants • UN/RC Hub | 830,320 |

| Intended Outputs | Target years | Activities | Indicators | Responsible parties | Resources | Inputs USD |
|---|--------------|--|---|--|--|------------|
| 4. Land cover in risk areas increased and soil erosion reduced. | 2008/2009 | <ul style="list-style-type: none"> 4.1 Identification of erosion-sensitive areas 4.2 Establishment of nurseries for seedling production 4.3 Crop diversification and increased productivity 4.4 Forestation and forage cultivation | <ul style="list-style-type: none"> • Extension services provided • Soil erosion risk map prepared • Nurseries for seedlings production established • New and marketable crops introduced • Crop yields and community income improved • Irrigated agricultural area increased • Forested area increased | <ul style="list-style-type: none"> UNDP MoA PIU | <ul style="list-style-type: none"> • PIU • GTZ • MoA • NGO's • Consultants • Local communities/private sector • UN/RC Hub | 513,600 |
| 5. Sustainability, capacity building and public awareness | 2008/2009 | <ul style="list-style-type: none"> 5.1 Empowerment of target beneficiaries 5.2 Awareness raising on flood prevention, water management, sound agricultural practices and land management 5.3 Capacity building through training. 5.4 Alternative livelihoods | <ul style="list-style-type: none"> • Maintenance Equipment provided to target beneficiaries and municipalities. • Infrastructure of municipalities for flood management improved • Number of farmers trained • Farm income improved | <ul style="list-style-type: none"> UNDP MoA PIU | <ul style="list-style-type: none"> • PIU • MoA • ACSAD • GTZ • Consultants | 101,650 |

SECTION III – TOTAL WORK-PLAN AND BUDGET

| Starting from Jan. 2008 | 2008 → | | | | | | | | | | | | 2009 → | | | | | | | | |
|---|--------|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|--|
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| Key Activities months | | | | | | | | | | | | | | | | | | | | | |
| 1. Project Management and Coordination | | | | | | | | | | | | | | | | | | | | | |
| 1.1 Technical, Financial and operational management | | | | | | | | | | | | | | | | | | | | | |
| 1.2 Promotion of synergies with other projects | | | | | | | | | | | | | | | | | | | | | |
| 1.3 Information exchange and coordination. | | | | | | | | | | | | | | | | | | | | | |
| 2. Flood Risks Management and Reduction | | | | | | | | | | | | | | | | | | | | | |
| 2.1 Data collection and identification of target area. | | | | | | | | | | | | | | | | | | | | | |
| 2.2 Modelling of target area and generation of maps. | | | | | | | | | | | | | | | | | | | | | |
| 2.3 Constructions for flood control and prevention. | | | | | | | | | | | | | | | | | | | | | |
| 2.4 Monitoring, evaluation and impact assessment. | | | | | | | | | | | | | | | | | | | | | |
| 3. Irrigation Water Harvesting and Networking | | | | | | | | | | | | | | | | | | | | | |
| 3.1 Field surveys and assessment of water resources | | | | | | | | | | | | | | | | | | | | | |
| 3.2 Identification of water-harvesting sites. | | | | | | | | | | | | | | | | | | | | | |
| 3.3 Constructions of reservoirs and irrigation networks | | | | | | | | | | | | | | | | | | | | | |
| 3.4 Selection of beneficiaries and technical advice | | | | | | | | | | | | | | | | | | | | | |
| 4. Land Cover Increase and Soil Erosion Reduction | | | | | | | | | | | | | | | | | | | | | |
| 4.1 Identification of erosion-sensitive areas | | | | | | | | | | | | | | | | | | | | | |
| 4.2 Establishment of nurseries for seedling production | | | | | | | | | | | | | | | | | | | | | |
| 4.3 Crop diversification and increased productivity. | | | | | | | | | | | | | | | | | | | | | |
| 4.4 Forestation and forage cultivation | | | | | | | | | | | | | | | | | | | | | |
| 5. Sustainability, Capacity Building & Awareness Raising | | | | | | | | | | | | | | | | | | | | | |
| 5.1 Empowerment of target beneficiaries. | | | | | | | | | | | | | | | | | | | | | |
| 5.2 Awareness raising on flood and water management. | | | | | | | | | | | | | | | | | | | | | |
| 5.3 Capacity building through training. | | | | | | | | | | | | | | | | | | | | | |
| 5.4 Alternative livelihoods | | | | | | | | | | | | | | | | | | | | | |

Note: The Project Work Plan will become effective upon PRODOC signature.



Annual Work Plan

Lebanon - Beirut

Award Id: 00049117

Report Date: 8/2/2008

Award Title: Flood Risks Management and Water Harvesting

Year: 2008

| Project ID | Expected Outputs | Key Activities | Timeframe | | Responsible Party | Planned Budget | | | | |
|------------|--------------------------------|-------------------------|-----------------------------|-------------------------|-------------------------|-------------------------------|----------|--------------------------------|-------------------------------|------------|
| | | | Start | End | | Fund | Donor | Budget Descr | Amount US\$ | |
| 00059666 | Flood Risks Management and Wat | Flood risk reduction | | | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 10,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72100 | Contractual Services-Companie | 300,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 2,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 22,540.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72100 | Contractual Services-Companie | 200,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 2,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 2,000.00 |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 14,630.00 | |
| | | | Irrigation water harvesting | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 5,000.00 | |
| | | | Land cover management | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 5,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 2,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 1,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 910.00 | |
| | | | Project Management & Coor | UNDP (Direct Execution) | 30000 | LRF | 71400 | Contractual Services - Individ | 70,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 2,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 72200 | Equipment and Furniture | 25,000.00 | |
| | | | | UNDP (Direct Execution) | 30000 | LRF | 72400 | Communic & Audio Visual Equip | 1,000.00 | |
| | | UNDP (Direct Execution) | 30000 | LRF | 72500 | Supplies | 2,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 72800 | Information Technology Equipm | 4,412.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 73400 | Rental & Maint of Other Equip | 1,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 1,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 8,078.00 | | | |
| | Sust, cap bldg & awareness | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 2,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 72500 | Supplies | 1,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 74200 | Audio Visual&Print Prod Costs | 1,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 1,000.00 | | | |
| | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 350.00 | | | |



Annual Work Plan

Lebanon - Beirut

Award Id: 00049117

Award Title: Flood Risks Management and Water Harvesting

Year: 2008

Report Date: 8/2/2008

| Project ID | Expected Outputs | Key Activities | Timeframe | | Responsible Party | Planned Budget | | | | |
|--------------------|------------------|----------------|-----------|-----|-------------------|----------------|-------|--------------|-------------|------------|
| | | | Start | End | | Fund | Donor | Budget Descr | Amount US\$ | |
| TOTAL | | | | | | | | | | 701,920.00 |
| GRAND TOTAL | | | | | | | | | | 701,920.00 |

y



Annual Work Plan

Lebanon - Beirut

Award Id: 00049117

Report Date: 8/2/2008

Award Title: Flood Risks Management and Water Harvesting

Year: 2009

| Project ID | Expected Outputs | Key Activities | Timeframe | | Responsible Party | Planned Budget | | | | |
|------------|--------------------------------|----------------------------|-----------|-----|---------------------------|--------------------------------|------------|--------------|-------------------------------|------------|
| | | | Start | End | | Fund | Donor | Budget Descr | Amount US\$ | |
| 00059666 | Flood Risks Management and Wat | Flood risk reduction | | | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72100 | Contractual Services-Companie | 595,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72200 | Equipment and Furniture | 80,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 9,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 4,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 48,860.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 17,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 10,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72100 | Contractual Services-Companie | 533,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 3,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 4,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 39,690.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71300 | Local Consultants | 25,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 71600 | Travel | 5,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72100 | Contractual Services-Companie | 430,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 72300 | Materials & Goods | 3,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 4,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 32,690.00 |
| | | | | | Project Management & Cool | 30000 | LRF | 71300 | Local Consultants | 15,000.00 |
| | | | 30000 | LRF | 71400 | Contractual Services - Individ | 115,000.00 | | | |
| | | | 30000 | LRF | 71600 | Travel | 8,000.00 | | | |
| | | | 30000 | LRF | 72400 | Communic & Audio Visual Equip | 2,000.00 | | | |
| | | | 30000 | LRF | 72500 | Supplies | 6,000.00 | | | |
| | | | 30000 | LRF | 72800 | Information Technology Equipm | 3,000.00 | | | |
| | | | 30000 | LRF | 73400 | Rental & Maint of Other Equip | 19,000.00 | | | |
| | | | 30000 | LRF | 74500 | Miscellaneous Expenses | 3,420.00 | | | |
| | | | 30000 | LRF | 75100 | Facilities & Administration | 12,000.00 | | | |
| | | Sust. cap bldg & awareness | 30000 | LRF | 71300 | Local Consultants | 20,000.00 | | | |
| | | | 30000 | LRF | 71600 | Travel | 8,000.00 | | | |



Annual Work Plan

Lebanon - Beirut

Award Id: 00049117

Report Date: 8/2/2008

Award Title: Flood Risks Management and Water Harvesting

Year: 2009

| Project ID | Expected Outputs | Key Activities | Timeframe | | Responsible Party | Planned Budget | | | | |
|--------------------|------------------|----------------------------|-----------|-----|-------------------------|---------------------|-------|--------------|-------------------------------|-----------|
| | | | Start | End | | Fund | Donor | Budget Descr | Amount US\$ | |
| | | Sust. cap bldg & awareness | | | UNDP (Direct Execution) | 30000 | LRF | 72500 | Supplies | 6,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74200 | Audio Visual&Print Prod Costs | 49,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 74500 | Miscellaneous Expenses | 7,000.00 |
| | | | | | UNDP (Direct Execution) | 30000 | LRF | 75100 | Facilities & Administration | 6,300.00 |
| TOTAL | | | | | | 2,132,960.00 | | | | |
| GRAND TOTAL | | | | | | 2,132,960.00 | | | | |

✓

SECTION IV – PROJECT RISKS

| Key Activities | Risks | Recommendations |
|--|--|---|
| 1. Project Management & Coordination and linkages with other projects | <ul style="list-style-type: none"> • Very tight project Timeframe • Unstable Political situation • Insufficient coordination among institutions and projects • Political instability | <ul style="list-style-type: none"> • Ensure adequate human resources to optimize project management • Ensure adequate no. of coordination meetings • Follow up on progress of other projects |
| 2. Risks & damages from floods managed and reduced | <ul style="list-style-type: none"> • Land ownership problem • Improper maintenance of structures • Low interest from local communities • Political instability • Shortage in Labor during peak work | <ul style="list-style-type: none"> • Close consultations with municipalities and local communities • Provide adequate training • Pre-planning of activities |
| 3. Irrigation Water harvested and made available to farmers | <ul style="list-style-type: none"> • Land ownership problem • Improper maintenance of irrigation networks • Water sharing problems • Political instability • Insufficient rain and snow fall | <ul style="list-style-type: none"> • Close consultations with municipalities and local communities • Provide adequate training • Involve communities in site selection |
| 4. Land cover increased and soil erosion reduced. | <ul style="list-style-type: none"> • Land ownership problem • Grazing control problems • Bad crop management • Low interest from local communities • Political instability | <ul style="list-style-type: none"> • Provide adequate extension services • Provide adequate awareness • Follow up a participatory approach |
| 5. Capacity building and public awareness | <ul style="list-style-type: none"> • Insufficient participation in awareness raising and capacity building to sustain the project | <ul style="list-style-type: none"> • Follow up a participatory approach |

ANNEX 1

Terms of Reference of the PIU Personnel

PROJECT MANAGER

Key Functions/Responsibilities:

Under the direct supervision of UNDP and in close coordination with the Ministry of Agriculture, the Project Manager will be responsible for the overall execution of the project and will work in close coordination with UNDP, the donor, the Lebanese Government, the local beneficiaries, and the national and international consultants. The specific functions of the Project Manager are as follows:

1. Project elaboration and management:

- Prepare detailed project document in coordination with UNDP and in consultation with MoA
- Develop a detailed project work plan, budget breakdown and schedule
- Develop TORs for International and local consultants based on project needs with the guidance of UNDP and assist in the recruitment process based on UNDP procedures
- Follow-up on and monitor on all sub-contracts and short-term consultants (both national and international) as required
- Manage local project team and resources
- Coordinate all project activities with the concerned stakeholders, MoA and UNDP
- Ensure timely reporting to UNDP, the donor and MoA.
- Disburse financial resources in accordance with UNDP rules and regulations, and monitor all expenditures

2. Project implementation and delivery:

- Monitor project progress against set deliverables and timeframes
- Supervise and follow-up on all project delivery and execution at the different sites
- Ensure smooth and successful implementation of the various project activities
- Assist in the entire procurement process for the equipment
- Proactively inform UNDP of project risks along with mitigation measures
- Ensure communication about the project is regular and accurate
- Prepare any follow-up project proposals as per the needs identified by UNDP/donor.
- Identify and link to related on-going activities within other ministries (particularly Ministry of Energy and water), institutions, NGOs or relevant organizations at the national/regional level and encourage collaboration and synergies

3. Technical support:

- Review and provide technical advice on all project outputs
- Supervise the technical delivery of the sub-contractors and local consultants
- Provide regular training for the project team and local stakeholders to ensure proper project performance
- Liaise with the local communities to ensure cooperation and involvement
- Follow-up on the development and implementation of all the technical activities related to the project document
- Build the capacity of and provide training and awareness to the rural communities and municipalities on flood risk management and water and biodiversity conservation.

Competencies/Qualifications:

The Candidate must be willing to travel extensively to the project sites in North Bekaa and must have experience working with local communities. The Candidate must have strong planning and managerial skills to ensure quick project implementation and timely delivery of required outputs.

- Advanced degree in agriculture, water management, rural development or related field.
- Minimum of 10 years of professional experience in agricultural and rural development.

- Excellent communication skills, Fluency in English and Arabic.
- Familiarity with UNDP/DDC approach to sustainable livelihoods, combating desertification and poverty alleviation;
- Lebanese national

FIELD OPERATIONS COORDINATOR

Key Functions/Responsibilities:

Under the direct supervision of the Project Manager and in close coordination with UNDP, the Field Operations Coordinator will be responsible for the follow up of all field activities and coordination with relevant municipalities, local communities and on-going projects.

The specific functions of the Field Operations Coordinator include:

- Follow up and monitor the progress of flood prevention activities, water harvesting and land cover rehabilitation.
- Accordingly, prepare progress reports reflecting achievements and difficulties
- Carry out field visit to project sites and coordinate with local stakeholders
- Coordinate work activities with UNDP Hub offices in North Bekaa and with involved engineers from the MoA
- Establish and maintain contacts with municipalities and local communities in target area.
- Assist the PM and hired consultants in technical training sessions and public awareness.
- Identify needed capacity building measures and equipment for concerned communities and municipalities.
- Provide technical advises to farmers and local communities on crop management and efficient water use and irrigation techniques.

Competencies/Qualifications:

The Candidate must have an interest in flood risk and water management techniques. She/He must possess excellent research, organizational, networking and communication skills especially with farmers and local communities, in addition to the ability to handle multiple tasks simultaneously and accurately. The Candidate must have a teamwork spirit and be willing to learn and embrace additional responsibilities within the team.

- Education: Bachelor degree in agriculture, water and soil conservation, farming systems or/and irrigation.
- Experience: Research experience, and relevant computer experience, especially GIS software
- Languages: Excellent command of English and Arabic. French is a plus.

PROJECT ASSISTANT

Key Functions/Responsibilities:

Under the direct supervision of the Project Manager and in close coordination with UNDP, the Project Assistant will be responsible for the day-to-day administrative and operational activities of the project in addition to research, data collection and communication. The specific functions of the Project Assistant include:

1. Administrative & Operational activities

- Assist in the preparation of relevant procurement procedures for goods and consultancy services, [Request for Proposals, Request for Quotation, Contracts, Request for Payments, etc.] ensuring for all supporting documents in accordance with DEX and UNDP requirements;
 - Reconcile Petty Cash, ensuring all disbursements are in accordance with UNDP rules and procedures;
 - Assist in the organization of project events (technical workshops, training sessions, stakeholder meetings, project review meetings, etc.)
 - Organize a filing system, and maintain records, files, data bases and inventories;
 - Arrange appointments and follow up on travel and shipment arrangements, transport, etc;
 - Prepare mailing lists and minutes of meeting;
 - Support other aspects of project implementation and office management, as applicable;
2. Communication and Outreach activities
- Assist in the preparation of project progress reports and other regular project reporting;
 - Assist in the development of project newsletters, press releases, brochures, etc.
 - Assist in the coordination of all communication and outreach activities.
3. Technical skills
- Assist the PM in the implementation of the project's activities.
 - Establish and maintain contacts with on-going projects related to flood & water management.
 - Assist in the preparation of technical reports and project progress reports
 - Conduct relevant research and gather needed information
 - Assist the Project Manager/National Focal Point in preparing reports, documentation and briefing material for the use in official meetings or missions

Competencies/Qualifications:

The Candidate must have an interest in flood risk and water management techniques. She/He must possess excellent research, organizational, networking and communication skills especially with farmers and local communities, in addition to the ability to handle multiple tasks simultaneously and accurately. The Candidate must have a teamwork spirit and be willing to learn and embrace additional responsibilities within the team.

- Education: Bachelor degree in agriculture or related field.
- Experience: Three or more relevant work experience preferably with UN organizations and relevant computer experience.
- Languages: Excellent command of English and Arabic. French is a plus.

ANNEX 2

Terms of Reference of the International Consultants

FLOOD RISK MANAGEMENT EXPERTS / ACSAD – WATER DEPARTMENT

Main Objective: Preparation of a watershed management plan for a watershed area of approx. 100 km² in Ras Baalback-Fakhe-Aarsal region with emphasis on reducing flood risk down stream including various water conservation measures (hill lakes, stone bunds, etc.)

Activities:

1. Study and analyze the hydrologic parameters of the project area, taking into consideration the various prepared maps
2. Study the topography of the project area through field visits and using suitable topographic maps.
3. Propose appropriate flood control measures for the areas
4. Specify (if relevant) the necessary technical details for the selected measures.
5. Define and design hydraulic structures needed for flood risk management in target area.
6. Preparing relevant hydrological and modeling maps showing all information (location, kind of structure, etc.) of the proposed flood control measures
7. Preparation of a cost and time estimation regarding the implementation of the designed measures.
8. Preparing a tentative work plan for the implementation
9. Analyze all relevant information and propose alternatives for flood control measures together with the feasibility estimate of the designed measures and activities.
10. Prepare a technical report, including all relevant information, which are required for the implementation of various measures
11. Assist the project staff and the MoA in the supervision of field activities.

All tasks will be carried out in close cooperation with the project implementation unit, UNDP GTZ and the MoA.

Competencies/Qualifications:

- Advanced degree in hydrology, civil engineering or related fields
- Considerable international experience in flash flood management and prevention
- Proficiency in English language and Excellent reporting skills.

WATER HARVESTING SPECIALIST

Main objective: Identification of sites suitable for establishment of several water collection reservoirs taking into consideration available water sources in Baalback-Hermel area, snow melt amounts, rainfall, socio-economic factors and types of agricultural practices and systems prevailing in the target area.

Activities

- Assist the project team in the assessment of water supply and resources in target area taking into consideration the legal and institutional frameworks under which water resources are allocated and managed.
- Prepare a study on potential sites suitable for water harvesting and construction of reservoirs based on hydrological data, land cover/use characteristics, surface runoff potentials, topographic and soil characteristics.
- Provide technical experience in modern water harvesting techniques
- Provide training to local communities and municipalities.
- Prepare cost estimate for each reservoir and specifications of materials and excavations needed.
- Assist the project team in supervision of reservoirs construction and maintenance.

All tasks will be carried out in close cooperation with the project implementation unit, UNDP and the MoA.

Competencies/Qualifications:

- Advanced degree in fields related to hydrology, water harvesting and construction of reservoirs.
- Considerable international experience in water harvesting techniques and construction of reservoirs
- Experience in working at the community level
- Proficiency in English language and Excellent reporting skills.

IRRIGATION SPECIALIST

Main objective: Assessment of water supply and demand and the potential for improved agricultural practices in Baalback-Hermel region through adoption of modern and water-use efficient irrigation networks.

Activities

- Design irrigation networks and water extension schemes starting from the main storage tanks to the fields and prepare specifications for the needed equipment.
- Design and conduct training on water use and agronomic practices for local communities.
- Develop a database to store and process information on water resources and water supply in target villages.

All tasks will be carried out in close cooperation with the project implementation unit, UNDP and the MoA.

Competencies/Qualifications:

- Advanced degree in fields related to water resources management, water supply schemes and/or irrigation
- Considerable international experience in installation of modern and water use efficient irrigation systems.
- Experience in working at the community level
- Proficiency in English language and Excellent reporting skills.

LAND COVER AND SOIL EROSION EXPERT

Main objective: Assessment of zones sensitive to soil erosion within the selected target areas and propose appropriate land cover rehabilitation measures aiming at minimizing risks associated with increased soil erosion and contributing to floods.

Activities

- Collect and evaluate available data relevant to soil erosion in target areas and their significance for effective flood risk management.
- Identify sensitive areas and generate maps of areas prone to soil erosion in Baalback-Hermel region.
- Prepare a detailed study on land cover and use characteristics in target area.
- Assist the project team in training of local communities
- Prepare final report

All tasks will be carried out in close cooperation with the project implementation unit, UNDP and the MoA.

Competencies/Qualifications:

- Advanced degree in fields related to soil science, soil erosion control, land cover rehabilitation, range land and pastures management and/or forestation.
- Considerable international experience in vegetative cover rehabilitation and soil erosion control.
- Experience in working at the community level
- Proficiency in English language and Excellent reporting skills.

ANNEX 3

Approved LRF Project Proposal



**Submission Form
To
The Lebanon Recovery Fund Steering Committee**

| | |
|--|-------------------|
| To be completed by the Recovery and Reconstruction Cell (RRC) | |
| Meeting No: | Date of Meeting: |
| Item No: | Programme/project |

*(To be completed by the Participating UN Organisation
and endorsed by Working Group Chair)*

| | |
|--|--|
| To: | Date of Submission |
| Lebanon Recovery Trust Fund Steering Committee | 10 October 2007 |
| From: | Contact: |
| United Nations Development Programme | Mona Hammam UNDP Resident Representative United Nations Development Programme UN-House, Riad El Solh Sq. P.O.Box 11-3216 Beirut Email: mona.hammam@undp.org |
| Through: Working Group | Contact: Telephone number, email |
| <input type="checkbox"/> Endorsement <input type="checkbox"/> Comments | |
| Proposed submission, if approved would result in: | Proposed submission resulted from: |
| <input checked="" type="checkbox"/> Continuation of existing programme/project <input type="checkbox"/> New programme/project <input type="checkbox"/> Other (explain) | <input checked="" type="checkbox"/> National Authorities initiative within national priorities <input type="checkbox"/> UN Agency initiative within national priorities <input type="checkbox"/> Other: |
| Programme/project title: Flood and water management for livelihood recovery in Baalback-Hermel | |
| Amount of funds requested for proposed programme/project: 2,834,880 USD | |
| Estimated number of beneficiaries: Inhabitants of 2 or 3 flood-affected villages (Fakehe, Jdaide or Ras Baalback), i.e. approximately 25,000 – 30,000 individuals | |
| Request against specific earmarking: un-earkmarked | |
| Amount of indirect costs requested: 7%: 186,048 USD | |

1. Background

During the July 2006 conflict, North Bekaa, particularly Baalback-Hermel area was directly affected by the war. Large scale destructions in infra structure, biodiversity and agriculture were reported. Agriculture in that area was directly affected: bombing resulted in big losses in crop yields that were either burned, not harvested or became unmarketable. Public irrigation infrastructure in the Bekaa were damaged. Cattle, goats and sheep were killed either because of shelling or due to starvation and thirst. Targeting of aqua farms in Hermel affected more than 30 fish farmers with an estimated total loss of about 300 tons of fish lost from ponds. In addition, the high security risk during the war stopped forest management activities and lack of fuel encouraged people to cut trees in forests and woodlands. Losses from biodiversity destruction were also enormous and could not be estimated

The conflict exacerbated the numerous existing socio-economic and environmental issues already facing this area. Baalback-Hermel in North Bekaa suffers from drought, poor agricultural productivity, loss of biodiversity, poverty (66% poverty in Hermel and 49% in Baalback) and in some years flooding caused by surface runoff water due to torrential rains, poor soil infiltration and deteriorated vegetation cover. Approximately fifty percent of the population of this area is thought to be employed in the agricultural sector.

The National Action Program to Combat Desertification (NAP), which was developed in 2003 by the Ministry of Agriculture and in collaboration with UNDP and GTZ, classified the Northern part of Bekaa as one of the areas prone to high risks of desertification. This is mainly due to lack of proper land and water management practices, bad rainfall distribution, overgrazing, steep mountains with shallow soil and poor vegetative cover.

Summer droughts and uneven rain distribution are the main reasons for poor agricultural productivity in North Bekaa: most of the rain falls between November and May, leaving long periods of dry conditions and little water for supplementary irrigation in summer. When it rains in early summer or in autumn, rainfall can be very intense causing heavy surface runoff which is exacerbated by the poor soil infiltration rates and loss of vegetative cover due to fires, fuel wood cutting and wars.

Heavy flooding following torrential rains in the Anti-Lebanon mountains are common in Northern Bekaa. They occur during May-June or later in autumn (October-November). In June 1987, heavy rainfall led to road cuts and destruction of bridges, telephones, electricity and water supply. Villages like Fakehe, Jdaide and Ras Baalback became completely isolated. At the agricultural level, heavy losses were reported for field crops, up to 80% of fruit trees in that area were damaged and a large number of cattle was drowned. Soil erosion was noticed over tens of kilometres (UNDRO report 87/1371, June 1987). They also occurred in June 1994, October 1999, May 2001, twice in 2004 and recently in May 15th 2007 where severe soil erosion was reported in addition to the substantial agricultural damage and destruction of several aqua farms along the Assi (Orontes) river.

In 2006, a project was launched in Al'Qaa region by the Ministry of Agriculture and the German Agency for Technical Cooperation (GTZ), in collaboration with the Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD). The project handled a 10 km² water shed area and established check dams, contour bunds and stone walls in addition to 3 collection lakes ranging between 20,000-40,000 cu. meter in volume. Early observations recorded after the recent torrential rains in 2007 showed a good level of flood prevention in that location.

2. Purpose of Proposed Project

The objective of the proposed project is to provide assistance to the Government of Lebanon in its early recovery efforts in the conflict-affected agricultural Baalback-Hermel region through flood and water management. This support would make irrigation water more available and thus increase agricultural income to alleviate poverty and improve community living conditions in the region.

3. Evaluation of Proposals by the Working Group

Provide concise summary evaluation of proposal against:

| <i>General principles and selection criteria</i> | | |
|--|--|---|
| (a) | Must be explicitly based on Lebanon's national priorities and needs, as noted in the public domain. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (b) | Must fall with the UN's mandate, and must address the Millennium Development Goals, directly or indirectly through a human rights-based approach. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (c) | Must promote and ensure national ownership. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (d) | Must be at an acceptable level of risk, within UN parameters. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (e) | Must fall within the areas of UN's comparative advantage. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (f) | The UN must be an appropriate system to deliver the intervention. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (g) | The UN response must be properly designed for and within the Sector setting, must be effective, coherent, context-sensitive, and cost-efficient and the outcomes, sustainable. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (h) | Must avoid duplication of and significant overlap with the activities of other actors. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (i) | Must build on existing capacities, strengths and experience. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (j) | Must promote consultation, participation and partnerships. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| If one or more of the above criteria is not met, please explain: | | |
| | | |

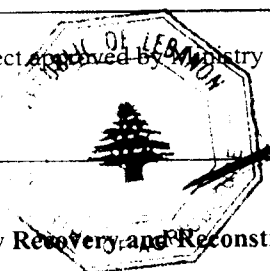
Implementability

| | 2007 | 2008 | 2009 |
|----------------------------------|------|------|------|
| Estimated commitments (\$mill) | — | — | — |
| Estimated disbursements (\$mill) | — | — | — |

Does the project correspond to national priorities? Yes No

Please elaborate

Project approved by Ministry of Agriculture (Line Ministry)



on 4 October 2007 (date)

4. Review by Recovery and Reconstruction Cell (RRC)

Check on Programme/Project Proposal Format Contents

- | | | |
|--|------------------------------|-----------------------------|
| <input type="checkbox"/> Cover sheet (first page) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Logical Framework | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Programme/Project Justification | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Programme/Project Management Arrangements | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| <input type="checkbox"/> Risks and Assumptions | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

- Budget
- Support Cost

Yes No
Yes No

*Overall review of programme submission
Recommendations*

Elaborate

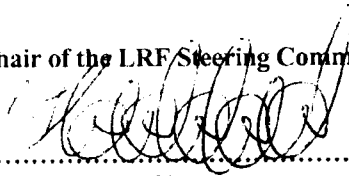
5. Decision of the LRF Steering Committee

- Approved for a total budget of \$2,834,880**
- Approved with modification/condition**
- Deferred**

Reason/Comments

Elaborate

Chair of the LRF Steering Committee


.....
Signature

Oct 10, 2007
.....
Date

6. Follow-up action taken by the Administrative Agent

- Project consistent with provisions of the Letter of Agreement with donors (if applicable)

.....
Signature

.....
Date

**LEBANON RECOVERY FUND
PROJECT DOCUMENT COVER SHEET**

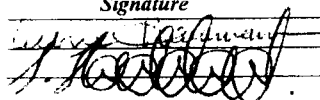
| | |
|---|--|
| Participating UN Organisation: United Nations Development Programme (UNDP) | Sector: Agriculture / Environment |
| Programme/Project Manager Name: Edgard Chehab Address: UNDP Lebanon Telephone: +961 (0)3 240034 E-mail: edgard.chehab@undp.org.lb | Working Group Chair Name: Address: Telephone: E-mail: |
| Programme/Project Title: Flood and water management for livelihood reco Baalback-Hermel | Programme/Project Location: North Bekaa, Baalback-Hermel |
| Programme/Project Description: The project aims at supporting early recovery efforts in the conflict-affected Baalback-Hermel region by better flood and water management to improve agricultural productivity. | Total Programme/Project Cost: LRF: 2,834,880 USD (equiv 2,000,000 Euros) Government Input: Other: Total: 2,834,880 USD (equiv 2,000,000 Euros) Programme/Project Duration: 20 months. |
| Development Goal: Improving land management and increasing agricultural productivity to support early recovery efforts and alleviate poverty in Baalback-Hermel. Immediate Objectives: <ol style="list-style-type: none"> 1. Restoration of livelihoods in conflict-affected poor rural areas in North Bekaa 2. Improving land and water management to increase agricultural productivity and reduce agricultural and social damages resulting by frequent flash floods in the region | |
| Outputs and Key Activities: <ul style="list-style-type: none"> • Construction of walls, dams and water-collection reservoirs to reduce the risk of flooding in Baalback Hermel region. • Installation of water-saving irrigation networks and water-use efficient irrigation systems to improve water availability and increase crop production and diversity. • Restoration of vegetative cover (including agricultural crops) and forestation trees that were destroyed by the July conflict in order to reduce soil erosion. | |
| Working Group Review Date: _____ RRC Review Date: _____ Steering Committee/Project Approval Group Approval Date: _____ | |

On behalf of:

UNDP

Lebanon

Signature



Date

16 October 2007
Oct. 26, 2007

Name/Title

Monsieur Haddad
Sami Haddad

3. Logical Framework

| Objectives | Measurable indicators | Means of verification | Important assumptions |
|---|---|---|---|
| Development Objective <i>Improving land management and increasing agricultural productivity to support early recovery efforts and alleviate poverty in Baalback-Hermel.</i> | <ul style="list-style-type: none"> - Damage caused by surface runoff and floods reduced. - Agricultural production increased - Poverty reduced - Livelihoods restored | <ul style="list-style-type: none"> - Assessment of damage caused by floods - Survey of farmers' and Baalback-Hermel population' feedback | Continued government support and follow up by the implementing institution. |
| Immediate Objectives: <i>K Restoration of livelihood in conflict-affected poor rural areas in North Bekaa</i> <i>Improving land and water management to increase agricultural productivity and reduce agricultural and social damages resulting by frequent flash floods in the region</i> | <ul style="list-style-type: none"> Farmers income improved Area of land converted or restored | <ul style="list-style-type: none"> - Rapid rural socio-economic appraisal - Mapping of land Cover | (Immediate Objective to Development Objective) Beneficiaries properly use and maintain the constructions and irrigation networks. Local communities get sufficient awareness and training to insure sustainability of the project. |
| OUTPUTS: <i>Constructions of dams, walls and bunds to reduce risk of damage caused by floods (runoff water).</i> <i>Installation of water-use efficient irrigation networks to improve water availability and increase crop production and diversity.</i> <i>Restoration of vegetative cover (including agricultural crops) and forest trees on mountain slopes.</i> | <ul style="list-style-type: none"> Number of dams, walls and bunds constructed Number of farmers benefiting from irrigation facilities. Availability of irrigation water increased Reduction in surface runoff water Crop yield and type increased Forest cover increased | <ul style="list-style-type: none"> Survey of beneficiaries in target areas. Development of surface runoff coefficient maps Assessment of irrigation water quantities and availability Mapping of land cover Survey of agricultural lands including crop types and yields | (Outputs to immediate objectives) Improper maintenance of reservoirs and constructions Political or tribal disagreements |
| ACTIVITIES: | INPUTS: | | (Activity to output) |
| <ol style="list-style-type: none"> 1. Survey and analysis of soils and topography of areas affected by surface runoff water and floods in North Bekaa. 2. Construction of check dams, contour trenches, bunds and stone walls in order to reduce runoff water velocity and its erosive activity and improve soil infiltration rates and soil moisture. 3. Construction of water collection reservoirs to collect water from rain and snow melt 4. Restoration of land vegetative cover, pastures and forests to reduce soil erosion 5. Provision and installation of water-efficient irrigation systems for use in agriculture | <ul style="list-style-type: none"> 100,000 950,000 400,000 150,000 250,000 | <ul style="list-style-type: none"> Land surveys/mapping and soil analysis Surveys/photos of construction Assessment of water run-off Organization of workshops and field visits Before and after land cover maps Survey of irrigation systems and assessment of | <ul style="list-style-type: none"> Low level of collaboration from local communities and municipalities Political unrest and availability of labour force Landownership problems |

| | | | |
|--|--------|----------------------------------|--|
| | | irrigation water quantities | |
| 6. Organization of grazing activities in target areas | 70,000 | Assessment of grazing activities | |
| 7. Raising public awareness on agricultural water management issues and sustainable land management. | 40,000 | Questionnaires | |
| 8. Training of local farmers and concerned municipalities in maintenance of constructed structures, water reservoirs and irrigation networks | 40,000 | | |

4. Project Justification

Most of the attention from the recovery support is going to the severely and mostly affected regions in South Lebanon and South of Beirut; although the Baalback-Hermel area in Bekaa was directly and indirectly affected by the war but did not receive the attention it deserves. Besides the direct damage caused by the war in Bekaa, substantial losses were also reported in the agricultural sector, the main source of income for people in that region.

The early recovery support to the war affected communities should comprise of actions not only aiming at immediate recovery and reconstruction but also oriented towards socio-economic development of the affected areas. Accordingly, in the area proposed, funds should be made available to farmers not only to resume the pre-conflict economic activities but also to improve their production systems and income generating capacity.

One way to achieve this is through improving water and land management practices in North Bekaa where irrigation water is scarce and as a consequence crop productivity and diversity is low. Provision of modern and water-use efficient irrigation systems together with the establishment of hill lakes and water harvesting reservoirs could offer a means to improve the availability of irrigation water in summer and hence would lead to more crop per drop. This however, should be accompanied by proper training of farmers on how to maintain and use this system in a sustainable way.

In addition, flash floods due to torrential rains have increased in recent years in North; at least 8 occurrences over the past 20 years, 5 of them occurred during the past 6 years. The floods cause enormous damages in agriculture, aqua farms and rural communities in general. Recent floods in May 2007 affected several aqua farms in Baalback-Hermel and resulted in the death of around 500 tons of fish. Flood protection practices in North Bekaa are not at an acceptable level; only local retaining walls have been executed on some rivers and were constructed to prevent collapsing of river's walls rather than to mitigate from floods.

The threats and damage caused by the floods in Baalback-Hermel area are expected to increase after the July conflict in 2006. This is mainly because of the direct and indirect damage that affected the forest and vegetation cover in that region (about 400 hectares of Junipers trees were partially affected by fires in this area). thus soil erosion is expected to increase and water retention by the vegetation to decrease, all what could potentially lead to more severe and erosive power of runoff water when torrential rain occurs since the roots of trees and crops hold the soil firmly together and prevent such erosion. Such floods result in the loss of the topsoil, the most fertile layer of soil needed for plant growth.

In this regard, the project will also work on the restoration of vegetative cover on the slope hills in Baalback-Hermel. Nurseries for propagation of forest trees endemic to the region will be established, priority should be given to wild fruit trees which are historically grown in the region such as wild

pistachio, wild almonds and wild pears. Efforts will be done to rehabilitate the pastures and organize grazing activities in the region. Forage drought tolerant shrubs such as *Atriplex* and others will be planted near the stone walls and contour bunds where soil moisture is expected to be more available.

5. Management Arrangements

Implementation Arrangements

The following implementation arrangements will be undertaken:

- 1- Preparation of a realistic and achievable project workplan in collaboration with all project partners.
- 2- Collection of information related to studies and surveys executed in North Bekaa. The project will collaborate with and build on the partnership between MoA, GTZ and ACSAD and the work they did in Al-Qaa to prevent floods, lessons will be learned and mistakes will be avoided.
- 3- New field surveys will be done only if needed with local and regional consultants and appropriate target sites and water sheds will be identified, followed by preparation of the technical study.
- 4- Similar field visits will be made to identify suitable sites for construction of hill lakes where there is a good potential for collection of rain water and snow melts and where beneficiaries are found.
- 5- In parallel, awareness workshops will be made for local communities on subjects related to flood prevention, soil erosion, desertification, maintenance of constructions and irrigation systems and importance of and protection vegetative cover.
- 6- Purchase of needed equipment including 4X4 vehicle, Backhoe loader, irrigation supplies, lake material etc..
- 7- Constructions of stone walls, contour bunds, check dams and collection lakes will be done in parallel in different selected sites (number to be specified by surveys and budget).
- 8- Construction of water reservoirs and irrigation systems in selected sites
- 9- Establishment of nurseries for wild fruit trees, Junipers trees and forage species.
- 10- Work in collaboration with municipalities and local NGO's if available on forestation, pastures rehabilitation and specify their roles and responsibilities in their maintenance and protection from grazing.
- 11- Continuous technical follow-up and monitoring by UNDP, MoA, MoEW and other project partners will be undertaken during the various implementation phases to ensure the objectives of the programme are met and lessons learned are documented.
- 12- UNDP will financially monitor and report on all disbursements of the programme and will ensure continued reporting to the Government of Lebanon and the Donor Country. Financial disbursements will be based on UNDP procedures.

Project Timeframe

The implementation of the proposed programme is 20 months.

Project Partners

The programme shall involve several concerned parties to ensure proper implementation of the programme's phases. These parties are the following:

- **Government of Spain:** Donor country and international technical backstopper to the proposed programme

- **United Nations Development Programme** : Implementation agency (technical, management, supervision) of the proposed programme
- **Ministry of Agriculture**: National project partner (supervision and execution through the NAP to combat desertification project).
- **Ministry of Energy and Water** : information sharing and coordination
- **German Agency for Technical Cooperation (GTZ)**: sharing of information and studies based on GTZ's similar experience in the project.
- **Local Experts** : Local consultants, focal points and supervisors
- **Municipalities and local communities** : National public institutes or entities and individuals benefiting from the proposed programmes

6. Analysis of risks and assumptions

The barriers and risks that could face the execution of the proposed project include:

- a- Landownership problems of selected sites and agreements among beneficiaries on sharing of water resources and benefits.
- b- Improper operation and maintenance of irrigation networks, reservoirs and walls.
- c- Low level of interest from the local communities in the proposed measures to prevent floods.
- d- Insufficient amounts of precipitation and snow fall during the rainy season.
- e- Insufficient government support and follow up to ensure sustainability after the termination of the project.
- f- Political instability
- g- Difficulties in securing enough labour workers for doing the constructions.

In order to manage and minimize these risks, the following measures will be done by the project:

- a- Project site selection will be done in consultation with the municipalities and local communities
- b- The project will ensure adequate amounts of training and awareness for local communities.
- c- Constructions and field work to be made during winter time and not to match with peaks of farming activities and harvest time.
- d- Ensure proper coordination among the relevant project stakeholders and partners.
- e- Intensify inputs and human resources to meet the deadline for work completion.

6. Project Budget

The budget would utilise the Standard Format agreed by UNDG Financial Policies Working Group.

| CATEGORY | ITEM | UNIT COST | NUMBER OF UNITS | TOTAL COST (USD) |
|--|------|-----------|-----------------|------------------|
| 1. Personnel Incl. staff and consultants | | | | 200,000 |
| 2. Contracts Incl. professional technical services | | | | 250,000 |
| 3. Training | | | | 50,000 |
| 4. Transport (local) | | | | 20,000 |
| 5. Supplies and commodities | | | | 50,000 |
| 6. Constructions, field work and equipment. | | | | 2,000,000 |
| 7. Travel | | | | 50,000 |
| 8. Miscellaneous | | | | 37,833 |
| 9. Agency Management Support (7%)* | | | | 186,048 |
| TOTAL | | | | 2,843,880 |

The above-mentioned budget of **2,834,880 USD (equiv 2,000,000 Euros)** will be fully funded by Government of Spain through direct contribution to the Lebanon Recovery Fund