

# Agriculture and Irrigation



## 2010 Work Progress Report

### 1- General Overview of the Agriculture Sector

#### Current state of the agricultural sector

Agriculture in Lebanon is based on individual initiatives, under a liberal and open economic system. During the past three decades, this sector has undergone major changes, among which:

An increase of 36% in the number of farm holders working in agriculture to reach 195 thousand agricultural investors; an increase of 155% in the area of irrigated lands to 100 thousand hectares of 248 thousand hectares of cultivated lands; the fragmentation of agricultural lands in such a manner that 75% of farming units do not exceed 1 hectare and represent 20% of the total cultivated area.

Even though the sector's contribution to the GDP is low (6.3%), it covers 17% of the value of exports, and it is either the sole or an additional source of income for a large portion of the Lebanese rural population.

Agriculture consumes 64% of available water supplies. Increased water needs result in additional pressure on irrigated agriculture, leading to an increase in the number of lands abandoned due to lack of water or to decline in investment opportunities and agricultural profits for smallholders.

The Lebanese agricultural production is mainly characterized by its high production cost and limited competitiveness in the context of

openness to international markets and to the signed trade agreements.

Nevertheless, Lebanon's geographical location, its diversified climate and its production are a strong asset if only it can seize available opportunities, make rational use of its natural resources, especially water, overcome the obstacles limiting its competitiveness, and preserve the environment.

#### The sector's main problems

There are two types of agriculture in Lebanon: commercial agriculture, generally efficient, modern, depending on adequate financial resources for investment and exploiting every profit possibility. This type of agriculture is practiced in around 35 thousand farming units and covers about 25% of total agricultural holdings. It is based on the integration of pre-production and post-production agricultural activities, and on openness to foreign markets. The second type is an agriculture mainly devoted to the preservation of cultural and family heritage. It is practiced in smallholdings with no investment or profit opportunities, and considered as extra income and as subsistence agriculture. Most rural farmers practice this type of agriculture.

It is therefore important to distinguish between means intended to support the rural community, and those destined for the economic activation of the agricultural sector, and which target farms able to respond

effectively.

As for agricultural markets, they are unstable and have an adverse effect on farmers' income due to the weakness and lack of transparency of marketing operations. This is also due to the marketing policies of operators in the agribusiness which are not usually in the farmer's interest. Therefore, structures for three types of markets should be established: (1) the local market for fresh produce, (2) a market for products intended for processing, (3) a market for fresh agricultural produce and processed products intended for export.

Agricultural and rural cooperative movement is characterized by a lack of transparency and a disparate application of laws, and is thus far from the desired goals of cooperative work.

The agricultural sector also lacks the state's active role in keeping pace with technical developments in the fields of agricultural research, training and extension. The state failed to activate its role and coordinate between administrations concerned with the agricultural sector. Moreover, the technical and marketing information related to agriculture is insufficient, despite some achievements in the context of the comprehensive agricultural census, and despite the support provided by the national program of agricultural export support, "Export Plus", launched by IDAL. Furthermore, the growing water demand in the upcoming years will require: (1) providing additional sources by building water storage dams, lakes and facilities, (2) rehabilitating and

modernizing surface water and groundwater facilities, (3) regulating water use in order to make it more efficient, by adhering to a suitable legal framework.

The Israeli war of July 2006 had a very negative impact on the Lebanese economy in general, including the agricultural sector which, in addition to its original problem of lack of outlets, incurred heavy losses that exhausted those working in it and increased Lebanese farmers' frustration. To face all these challenges, it was imperative to assess damages, make a quick contingency plan and provide the necessary funding for it, simultaneously with the initial plan intended for this sector.

### **A Vision for the Future**

The growing water demand will require setting an integrated development plan for using available water resources by rehabilitating existing facilities, finding additional water sources and building dams and lakes, and by rationalizing water use and management, including maintenance and operating.

The implementation of irrigation projects will increase the area of irrigated lands between 36 and 50 thousand hectares in the next thirty years, which will result in an increased agricultural production and improve farmers' income, provided that the agricultural produce has the competitiveness related to production and marketing factors, namely: selecting processed agricultural products with value-added features, ensuring continuous

market supply of quality products, in sufficient quantities and in the required times, and examining the development of investable farming units.

In view of the leading role of technical, statistical and marketing data in the field of agricultural development, administrative utilities and professional organizations are expected to attach great importance to the creation of an information system that allows all those working in the sector, farmers in particular, to get the information they need, whenever they need it.

The future role of the state is to develop strategies and work plans. It will also have a legislative, follow up and control role, in consultation with private sector representatives. In this context, the 2010-2014 strategy of the Ministry of Agriculture focused on the main sectors with development potential (such as olives, grapes, certified seeds, flowers, organic agriculture and the development of the fisheries sector), and on projects involving the modernization of production and exports chains. It also focused on developing laws regulating the exploitation of agricultural lands, quality assurance and quality control, as well as laws on the work of agricultural and marketing organizations, taking into consideration the importance of providing agricultural extension services on all levels and in all the agricultural areas, in coordination with local authorities.

Moreover, rural development has become a necessity for balanced development. It is based on the

establishment of integrated anti-poverty programs taking into consideration the particularities of rural areas, and involving the development of social sectors and the provision of minimum basic services and job opportunities. The implementation of an integrated plan related to the preservation of environment and natural resources, and the coordination and integration with concerned parties, as well as the adoption of the principle of partnership with local communities, are therefore required.

## **2- Main achievements (1992 - 2010)**

CDR adopted the implementation of the agricultural projects it has been preparing over the past years within the scope of sectoral development programs such as the National Emergency Rehabilitation Plan (NERP) and in collaboration with the concerned ministries.

Before setting the agricultural strategy, CDR undertook the implementation of urgent projects that would contribute to the development of the infrastructure of agriculture and irrigation, in particular the rehabilitation of agricultural schools (Fanar, Ghazir, Abdeh, Baaqleen, Nasriyet Rizk and the Kfarshima silk factory) through a grant provided by the Saudi Fund for Development (SFD).

Moreover, a loan from the International Fund for Agricultural Development (IFAD) financed the implementation of projects aiming at strengthening the Ministry of Agriculture's

(MoA) capacities and institutions (the Green Plan and the Agricultural Research Center) through contracts for the supply of vehicles and necessary equipment and instruments, and contracts for the rehabilitation of agricultural extension centers in Sour and Abdeh, and the rehabilitation and equipment of laboratories and greenhouses for research institutes in Sour, Fanar and Tal Amara. Technical assistance, studies, training and maintenance necessary for these institutions were provided through advisory services contracts.

The IFAD loan also allowed the construction of small mountain lakes in locations specified by the Green Plan in Bcharre, Mechmech, Bkaasfreen, Bkoufa, Hermel, Deir el Ahmar and Kfarmishki, and the provision of agricultural extension services in all areas of irrigated agriculture, through the implementation of advisory contracts with NGO's.

In view of MoA's need for technical assistance in conducting sectoral studies and agricultural censuses, the financing and implementation of the agricultural planning assistance project was provided through CDR by a grant from the European Union which resulted in setting the elements of the agricultural policy and its master plan, in coordination with the agricultural census technical assistance project implemented by CDR through a contract with FAO partially financed by the World Bank's loan destined for this project. The result was setting the agricultural strategy and MoA's agenda for five years (2005 – 2009).

Concerning irrigation, around 27 thousand hectares of agricultural lands were rehabilitated through the World Bank's loan intended for the rehabilitation of irrigation projects in Qasmiyeh (3600 ha), western Bekaa (2000 ha), Yammouneh (4500 ha), Diniyeh (4400 ha), Akkar el Bared (1500 ha) in addition to medium and small projects in the North and Mount Lebanon (7500 ha) and in the South (3200 ha). This loan also served for financing contracts for the institutional support of the Ministry of Hydraulic and Electric Resources (MHER) and the Litani National Authority (ONL), and for the provision of vehicles, equipment, instruments, advisory contracts, training and studies that facilitated the implementation of these projects. A part of the advisory functions pertaining to the Litani Water - South Lebanon Conveyor water project which will supply irrigation and potable water (Canal 800) – Phase I, was implemented.

In addition to the above, CDR has contributed to the provision of external funding for the implementation of the Agricultural Infrastructure Rehabilitation project in favor of the Green Plan/MoA, which includes land reclamation, agricultural roads and support walls. It also contributed to the provision of local funding, from its own budget, for the project of rehabilitation of livestock production for smallholders in Bekaa. CDR also participated, through coordination committees, in the implementation of agricultural support projects provided in the framework of the

Italian/Lebanese Protocol (1997) and (1998 – 2000) signed with the CDR, of which a part was allocated to the Baalback- Hermel agriculture development project and to the certified plant production project.

The CDR also secured US \$ 4 million of the IFAD loan and US 8.4 million of the OPEC loan to finance the Hilly Areas Sustainable Agricultural Development project "Hasad" aiming at constructing mountain lakes for agricultural development as an additional irrigation source during summer in poor rural areas where water is scarce.

### **3- Work Progress in contracts awarded before 2010**

The advisory contract with the combined group Lahmeyer Int.GmbH/BJB Gauff/ingenieur/D.A.H "Shair & Partners" ended in favor of CDR after 66 months of work, during which the advisory group completed the executive studies of all the contracts related to the Litani Water - South Lebanon Conveyer water project which will supply irrigation and potable water (Canal 800) – phase I. The advisory group also provided technical assistance for awarding the works contract. Its remaining function is providing technical assistance for the awarding of the automatic control contract which will take place after the start of the project's execution, and supervising works implementation which was delayed due to an increase in the project's implementation cost after the tender, compared to the initial cost estimated when studying the project.

There is hence a need to modify the advisory's functions in light of the measures that will be adopted for the implementation of the project. Furthermore, institutional support was provided to the Litani River Authority by extending the advisory services and technical assistance contract until mid-August 2010.

As for the mountain lakes already carried out by the CDR through the IFAD loan, all related works concerning lakes in Bkaasfreen (Minieh-Diniyeh Caza) and the lake of Bkoufa (Zgharta Caza) were delivered. Concerning the lake of Mechmech (Akkar Caza), the CDR conducted the study related to the necessary repair works.

Moreover, the Hydro Agricultural Development Project for Marjeyoun area was officially launched mid-May 2010. This project will lay down the infrastructure and facilitate the implementation of the irrigation water distribution network in the Northern part of Marjeyoun, which it will benefit from in the framework of the Canal 800 conveyor project. The project also provides training courses on modern irrigation techniques and proposes new cropping patterns that are socio-economically feasible. It covers an area of 522 ha and 1,259 households in the region are expected to benefit from it. This initiative is financed by the Spanish Government through the "Lebanon Recovery Fund" which was established after the July 2006 war. It is managed by UNDP in close cooperation with the Litani River Authority

and the Association of the Friends of Ibrahim Abd El Al (AFIAL). Moreover, the CDR, through its participation in coordination committees, is following up projects related to the promotion of agricultural production and marketing and the national observatory of the agricultural sector, as well as the national food security program implemented by the MoA with the assistance of the FAO, and the Hilly Areas Sustainable Agricultural Development project "Hasad", funded by the OPEC and the IFAD. The CDR also follows up the project of promoting the culture of olive in marginalized areas with the assistance of the IAM-BARI funded by the grant of the Italian government.

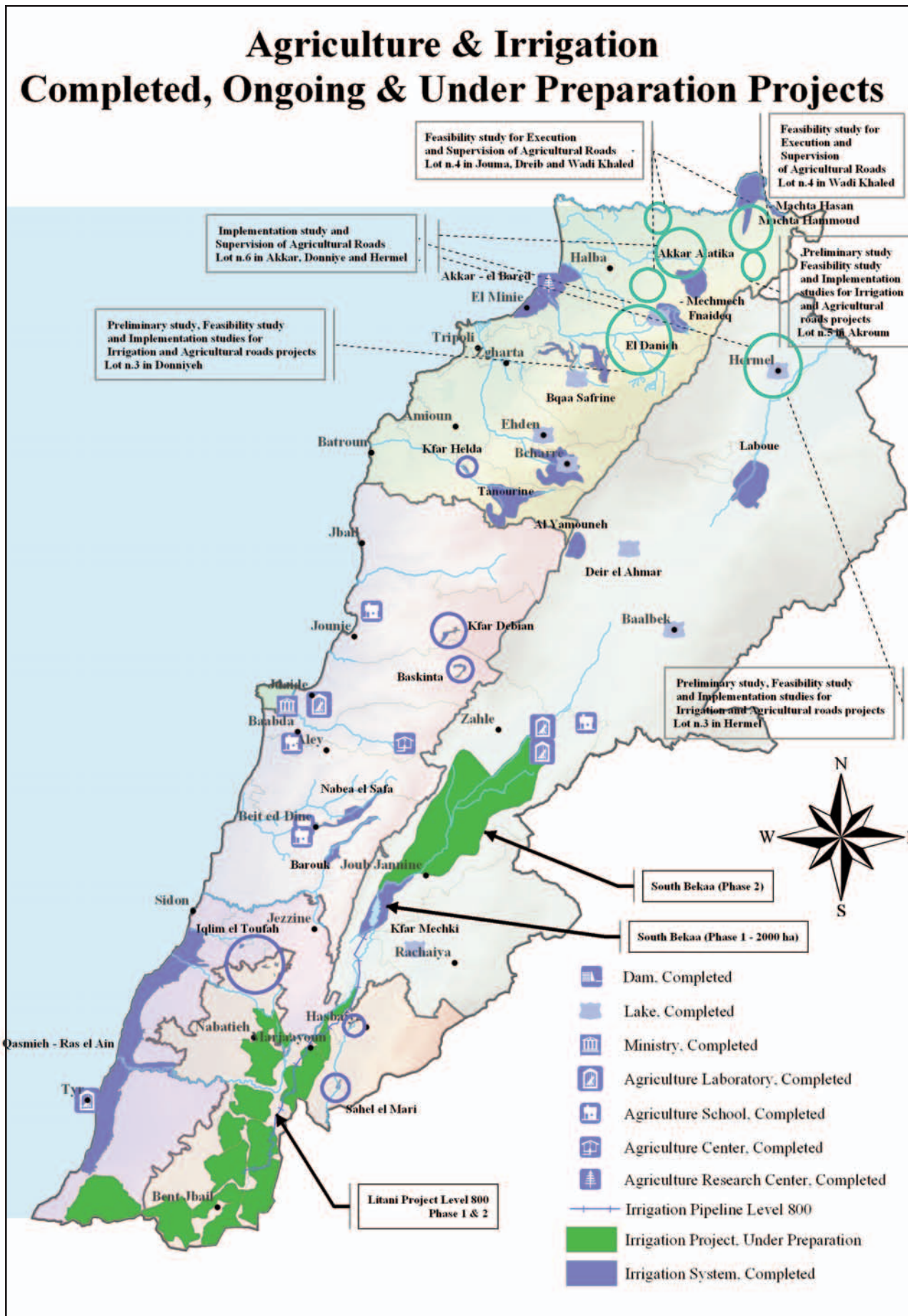
In the context of the Kuwaiti participation in the form of a grant to implement the construction of a packaging and refrigeration plant for agricultural produce in the Shamra area in Akkar, the community is working on the expropriation of the land where the plant will be constructed for the benefit of the federation of the municipalities concerned with this project.

Several domestic agricultural and irrigation projects are still under implementation through the Social Development Fund, financed by a grant from the European Union and by contributions from the municipalities concerned with these projects, especially in the South and in Akkar.

### **4- Main Contracts Signed in 2010**

After the president of the CDR signed, on the 6th of July 2009, a





financing agreement related to the implementation of the "Local Development Project in Northern Lebanon", the CDR started the implementation of this project which is financed with a grant from the European Union.

In this regard, a technical assistance to prepare the social development component of the project and its requirements was provided through a framework agreement II to be executed by the European Union.

In this context, a joint venture technical assistance contract was signed with a the company (GFA-ELARD) on the 18th of October 2010 for a period of 33 months, during which it will contribute from its duty station in Akkar to the implementation of the project's agricultural and social components funded by the allocated European grant.

Through the Memorandum of Understanding signed with the CDR, the MoA also contributed by putting a part of its Abdeh office under the project's disposition, which was rehabilitated and equipped in order to allow the technical staff of the project to undertake the implementation and the follow-up, and to be in constant contact with local authorities.

Furthermore, and in the framework of the implementation of the project, an invitation to tender was launched in order to appoint an operation manager to be present daily at the project station in Abdeh, and who works under the supervision of the project management in the CDR.

The works implementation project

of the irrigation line in the town of Khiam, as well as the rehabilitation of a water pond in Bint Jbeil and the implementation of agricultural roads in Arkoub, Yohmor and Al-Taybeh, have been awarded, all through the European grant (ENP/2007/018-882).

### **5- Main Projects under preparation for the (2010 – 2012) period**

The CDR signed a loan agreement of a value of US 8.4 million with the OPEC fund, which will provide the additional external funding needed for the implementation of the Hilly Areas Sustainable Agricultural

Development project "Hasad".

And in the framework of the implementation of the Local Development Project in Northern Lebanon funded by grant n° ENPI/2008/019-623, the CDR is preparing the tender documents related to the necessary studies for the implementation of the infrastructure component, which includes the rehabilitation of agricultural roads, as well as the rehabilitation of irrigation channels and the construction of hilly lakes for water harvesting. Currently, the documents related to the preparation of the necessary studies prior to the implementation are being set based on the preliminary study already conducted, following which a list of projects was developed for all the rural areas in Northern Lebanon situated at 400m above sea-level, which were divided into nine comparable areas benefitting from the project: Akroum, Wadi Khaled, Kobayat,

Dreib, Joumeh, Al-Qayteh and Al-Jurd, Hermel and Diniyeh.

And to facilitate the contracting process, the projects were combined in 6 Lots, each including a list of agricultural projects.

Currently, the tender documents related to Lot n°1 are being prepared; it includes the preparation of detailed studies and the supervision of the projects of rehabilitation of agricultural roads in the regions of Akkar, Diniyeh and Hermel in Northern Lebanon. The contract is expected to be awarded in May 2011.

Moreover, the tender documents related to agricultural roads and irrigation channels projects, which include feasibility studies as a first stage, and detailed studies and supervision in a second phase, for Lot n°2 and Lot n°3, which cover the areas of Joumeh, Dreib and Wadi Khaled, are being prepared. The tender is expected to be launched in March 2011 and the contract to be awarded around the middle of the year 2011.

Tender documents for the remaining Lots are also being prepared concerning irrigation infrastructure projects which include preliminary studies and feasibility studies as a first stage, and executive studies in a second phase, for Lots n°4, 5 and 6 covering the highlands of Diniyeh and Hermel, as well as the area of Akroum and Al-Jurd in Northern Lebanon. The tender for the three Lots is supposed to be launched in April 2011 and the contracts awarded in July 2011.

AS for the Canal 800 conveyor project – Phase I, conveying

drinking and irrigation water to southern Lebanon, it was agreed to adopt the final version of the contract, in light of the outcomes of the negotiations with the Arab Fund, and after overcoming the administrative obstacles which faced the project.

It is worth mentioning that the implementation of this project will

result in providing 90 million m<sup>3</sup> annually by gravity irrigation for around 13,000 ha between the 800 m and 400 m levels of the Qaraoun Lake, in addition to providing 20 million m<sup>3</sup> annually of drinking water. The project will be financed through two available loans, the first provided by the Arab Fund for Economic and

Social Development (AFESD) and the second by The Kuwait Fund for Arab Economic Development (KFAED).

#### **Main projects under preparation (2010 – 2011)**

Project	Estimated value (US\$)	Source of Funding	Starting	Expected completion
Restoration of the lake of Mechmech	300 000	CDR	July 2011	September 2011
Technical assistance – pragmatic supervisor for the Local Development Support project in Northern Lebanon	33 000	CDR	March 2011	February 2012
Executive study and supervision, agricultural roads (Lot n°6) in Akkar, Diniyeh and Hermel	260 000	European Union (grant)	June 2011	February 2014
Feasibility study, implementation and supervision of agricultural roads projects (Lot n°4) Joumeh, Dreib and Wadi Khaled	260 000	European Union (grant)	June 2011	February 2014
Feasibility study, implementation and supervision (Lot n°1) in Wadi Khaled				
Preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Lot n°2) in the highlands of Diniyeh	260 000	European Union (grant)	July 2011	February 2014

Preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Lot n°3) in the highlands of Hermel	260 000	European Union (grant)	July 2011	February 2014
Preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Lot n°5) in Akroum and Al-Jurd	260 000	European Union (grant)	July 2011	February 2014
Litani River Canal 800 Conveyor project - Phase I	240 million	- AFESD - KFAED	May 2011	September 2015