

Agriculture and Irrigation



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 due to the 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 collaborative 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

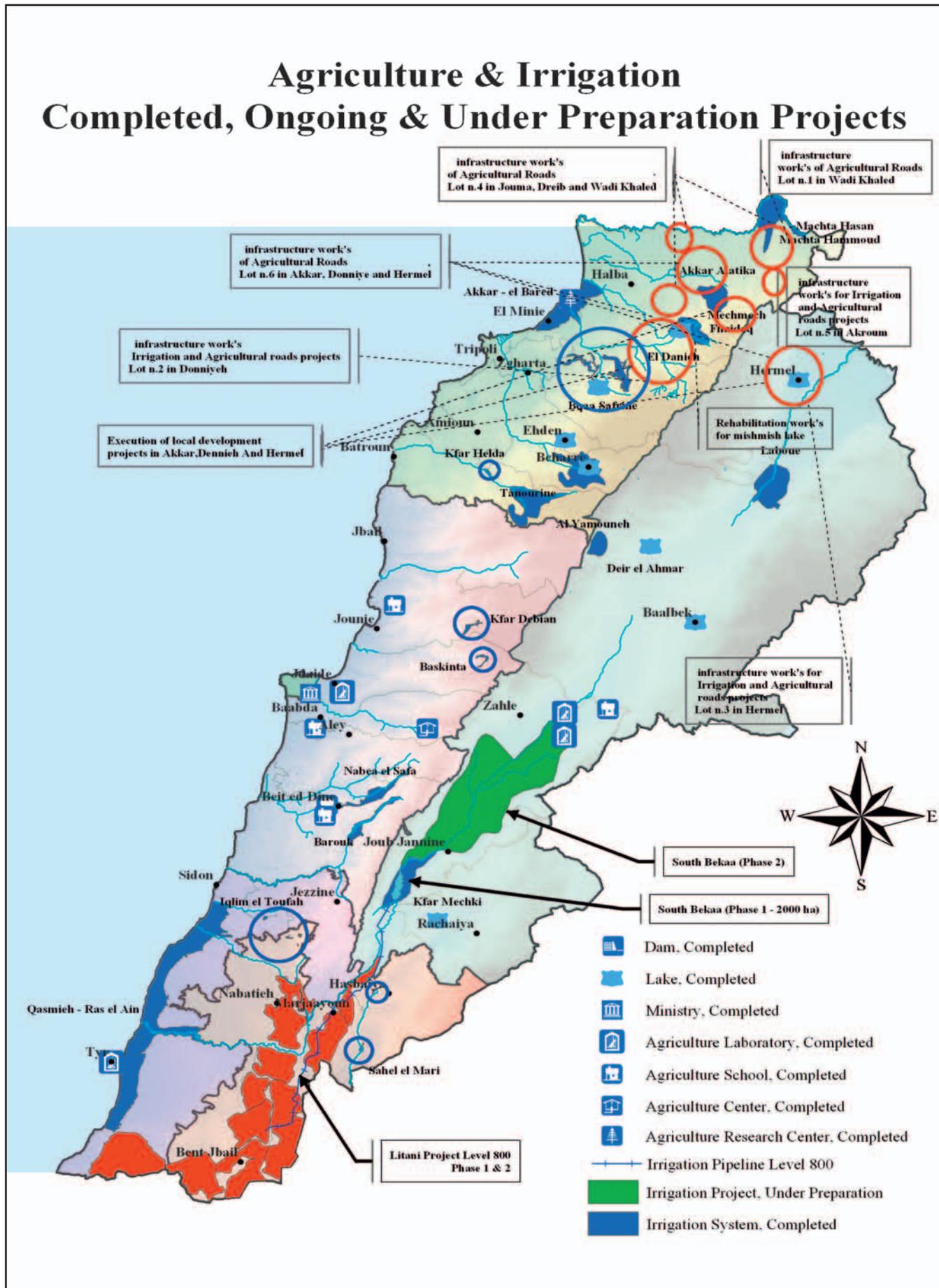
The growing water demand will require setting an integrated development plan for using available water resources by rehabilitating existing facilities, finding additional water sources and building dams and lakes, and by rationalizing water use and management, including maintenance and operating.

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 living allowances 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 until 2012

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).

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.

CDR also followed up with the olive cultivation development project in marginalized regions with the help of IAM-BARI, thanks to a grant allocated to the project by the Italian project, among many other projects.

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 provision of agricultural extension services in all areas of irrigated agriculture, through the implementation of advisory contracts with NGOs, as well as 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 As for the mountain lakes already carried out by the CDR through the IFAD loan, all related works concerning lakes in Bkaasfreen (Minieh-DiniyehCaza) and the lake of Bkoufa (ZghartaCaza) were delivered.

Concerning the lake of Mechmech (Akkar Caza), the CDR conducted the study related to the necessary repair works. 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.

Regarding the Litani Water -

South Lebanon Conveyor water project for irrigation and potable water supply (Canal 800) – Phase I:

- CDR signed an advisory contract with the combined group LahmeyerInt.GmbH/BJB Gauff/ingenieur/D.A.H "Shair& Partners", according to which the advisory group completed the executive studies of all the contracts. The advisory group also provided technical assistance for awarding the works contract.

In addition to the above, the works implementation project of the irrigation line in the town of Kham and rainwater drainage network in Nabatiyeh, as well as the rehabilitation of a water pond in BintJbeil (Nabatiyeh Province) and the implementation of agricultural roads in Arkoub, Yohmor and Al-Taybeh (Al-Taybeh Province), have been awarded, all through the European grant (ENP/2007/018-882) since 2010.

Moreover, the CDR continues the implementation of the "Local Development Project in Northern Lebanon", financed with a grant from the European Union, which it had started after the signature of the financing agreement on the 6th of July 2009;

As an initial phase, it resorted to a technical mission of experts from the European Union (Framework Agreement I and II) to set a list of priority projects for agricultural infrastructure and prepare the social development component of the project and its requirements. In a second phase, it signed a technical assistance contract with

the combined company (GFA-ELARD) on the 18th of October 2010 for a period of 33 months. The technical staff is currently proceeding with the implementation of the project's agricultural and social components under the supervision of the CDR.

It is worth mentioning that the technical staff is working at the MoA's office in Abdeh in the region of Akkar, according to a Memorandum of Understanding signed between the CDR and the MoA, through which the latter puts a part of its Abdeh office under the project's disposition, which in return rehabilitates and equips the building in order to allow its technical staff to undertake the implementation of the project's activities and be in constant contact with local authorities.

CDR also appointed a supervisor who is present daily at the project station in Abdeh, to oversee the management of the project, under the direct guidance of the CDR.

In the framework of the same project, the CDR has awarded the necessary studies and works supervision 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 mountain lakes for water harvesting. These projects had been set by the Framework Agreement I and examined by the technical staff; they are intended for all the rural areas situated at over 400m above sea-level in the AkkarCaza as well as the mountainous areas of the

Cazas of Hermel and Diniyeh, namely: Akroum, WadiKhaled, Kobayat, Dreib, Joumeh, Al-Qayteh and Al-Jurd, Hermel and Diniyeh.

Concerning the implementation of the process of awarding of the necessary studies and works supervision, the projects were combined in 6 groups, each including a list of agricultural projects. Group 6 only includes the preparation of detailed studies and the supervision of the projects of rehabilitation of agricultural roads, whereas Groups 1 to 5 include feasibility studies as a first stage, and detailed studies and supervision in a second phase for agricultural roads projects, as well as irrigation channels and mountain lakes, in all the areas



Agricultural Road - (ADELNORD)
Akkar

covered by the project.

Furthermore, as part of the ADELNORD project, and particularly its local development component, clusters were identified in 2011, and the elaboration of a Local Development Plan for each cluster started following a participatory approach between local authorities and civil society, with the support of the ADELNORD technical assistance staff and under the supervision of the Economic and Social Fund for Development (ESFD).

In addition to the above, and within the framework of the preparation of tender specifications for the development of a sustainable strategic plan for the Cazas of Akkar, Hermel and Diniyeh, the ADELNORD project, in coordination with the Ministry of Interior and Municipalities, and in cooperation with the administrations concerned with the development sector, suggested an initiative to establish a standard methodology for regional development plan studies, after several donors expressed their readiness to finance regional development plan studies. The CDR will adopt this methodology in its preparation of the tender documents of the strategic plan for the Caza of Akkar and the highlands of Hermel and Diniyeh.

And as part of the technical assistance provided for the creation of a national park in the mountainous areas of Akkar, ADELNORD project agreed with the Ministry of Environment on

the preparation of tender specifications for a technical study on the creation and management of protected areas in Lebanon, and the provision of a legal framework for them; a national park being part of the protected area, these steps will be preliminary to the creation of a national park in Akkar.

3 - Work Progress in 2012

In 2012, in the framework of the Hilly Areas Sustainable Agricultural Development project "Hasad", aiming at constructing mountain lakes for agricultural development in poor rural areas, the CDR embarked on securing the first phase of the OPEC loan for the Green Plan responsible for the project, noting that the total value of the loan is US 8.4 million, with a value date of May 25th 2012.

In 2012 as well, the works of the irrigation line in the town of Khiam and rainwater drainage network in Nabatiyeh were wrapped up, and a water pond was rehabilitated in BintJbeil and the implementation of agricultural roads in Arkoub, Yohmor and Al-Taybeh, was finished, after they had begun in 2010 all through the European grant (ENP/2007/018-882).

The CDR continues to supervise the implementation the Hydro Agricultural Development Project for Marjeyoun area officially launched mid-May 2010. This project lays down the infrastructure and facilitates 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 implemented by the MoA, among them:

- The committee formed to solve the issue of forbidden crops in Bekaa and propose alternative ones.
- The coordination committee for the “Economic and Social Development Project for Olive Producers in Poor Areas”.
- National Food Security Program committee in cooperation with the Food and Agriculture Organization of the United Nations (FAO)
- The guiding committee of the Hilly Areas Sustainable Agricultural Development Project “Hasad”
- The steering committee of the Lebanese Observatory for Agricultural Development.
- The guiding committee for the Coordination Project between the Ministry of Agriculture and

Italy.

- The steering committee of Promoting the Production and Marketing of Lebanese Agricultural Production.
- The coordination committee for the Agricultural and Rural Development Project (ARDP) funded by the European Union.
- The national coordination committee for FAO.

The main results of the implemented works, upcoming activities, problems and challenges will be revealed in due course.

As for the Canal 800 conveyor project – Phase I, conveying drinking and irrigation water from Litani to southern Lebanon, and after overcoming the administrative obstacles which faced the project, it was agreed to adopt the final version of the contract, in light of the outcomes of the negotiations with the Arab Fund, with regards to overseeing implementation works until 2017, in addition to providing technical assistance to reward the SCADA contract upon beginning the implementation works. In 2012, the CDR rewarded the implementation of the project to Kharafi/Veziroglu/Guris until year 2017;

In 2012 as well, CDR concluded the contract for providing institutional support and technical help to the Litani Authority to oversee the project which had begun in 2007.

Many agricultural and irrigation projects of municipal nature are also underway, through the work of the Social Development Fund

(SDF), funded by a grant from the EU and by contributions from relevant municipalities, especially in the South and Akkar.

In the framework of the “Local Development Project in Northern Lebanon” ADELNORD, funded by a European grant, CDR carries on the implementation works since 2010 in coordination with the technical assistance staff (GFA-ELARD) and the operational director, as well as the Economic and Social Fund for Development (ESFD) responsible for implementing different aspects of the project.

And during the implementation of this project, and in the framework of the agricultural infrastructure component, the CDR was assigned the mission of preparing feasibility studies and detailed designs for the rehabilitation of agricultural roads, as well as the rehabilitation of irrigation channels and the construction of mountain lakes for water harvesting, divided to six clusters of villages within the scope of the project, as defined by the CDR in 2011.

In 2012, the CDR awarded the infrastructure component composed of six clusters of rehabilitation of agricultural roads and irrigation channels, as well as the construction of mountain lakes for water harvesting, to a group of contractors, after duly carrying out tenders in accordance with the conditions and under the supervision of the EU. Advisory contracts were extended for those who prepared detailed designs to oversee the implementation works

in different areas of the project.

As for the local development component, and with the help of the technical assistance staff and under the supervision of ESFD, ADELNORD accomplished local development plans in 2012 for nine clusters of villages within the scope of the project, according to a participatory approach between local authorities and civil society. This resulted in nine economic and social development projects which express the needs of those areas. Accordingly, the CDR worked with all these organizations represented by local official activities to implement the nine projects.

Concerning the environmental component of ADELNORD:

- A sustainable strategic plan for the Cazas of Akkar, Hermel and Diniyeh is being developed, after the project prepared a conditions document for this activity in 2011 in coordination with a team of experts specialized in environmental and economic sciences, as well as civil organization and social development, assigned by the technical assistance team (GFA ELARD) for this purpose.

- In 2012, the project began carrying out a technical study on constructing and managing protected areas in Lebanon, within a legal framework; with one of them being a national park in Akkar, in close coordination with the MoA. The study resulted in a detailed technical report, a draft

law, and a draft applied decree, all of which are being reviewed by the MoA.

- In the context of fighting fire and protecting and managing forests, the project prepared in 2012 two executive plans for the forests of Andaket in Akkar and Safira in Diniyeh, with a conditions document for the management of forests including pruning, in close cooperation with MoA.

ADELNORD also worked with responsible parties to buy communication and advertisement material related to the project, through a tender carried out in accordance with laws in effect and under the supervision and with the approval of the European Union.

4- Main Contracts Signed in 2012

Project	Estimated Value (USD)	Source of Funding
Pragmatic supervisor for the Local Development Support project in Northern Lebanon	33,000	CDR
Extending the deadline of the executive study and supervision, agricultural roads (Group n°6) in Akkar, Diniyeh and Hermel	-----	European Union (grant)
Extending the deadline of the preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Group n°2) in the highlands of Diniyeh	-----	European Union (grant)
Extending the deadline of the preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Group n°3) in the highlands of Hermel	58,032	European Union (grant)
Extending the deadline of the preliminary study, feasibility study and executive studies of irrigation projects and agricultural roads (Group n°5) in Akroum and Al-Jurd	36,036	European Union (grant)

4- Main Contracts Signed in 2012 - continue

Project	Estimated Value (USD)	Source of Funding
Implementation of infrastructure works: agricultural roads, irrigation and mountain lakes in WadiKhaled (Group n°1)	1,669,592	European Union (grant)
Implementation of infrastructure works: agricultural roads, irrigation and mountain lakes in Diniyeh (Group n°2)	1,513,510	European Union (grant)
Implementation of rehabilitation works of agricultural roads in Akkar, Hermel and Diniyeh (Group n°6)	1,528,416	European Union (grant)
Implementation of infrastructure works: agricultural roads, irrigation and mountain lakes in Hermel (Group n°3)	3,553,689	European Union (grant)
Implementation of infrastructure works: agricultural roads, irrigation and mountain lakes in WadiKhaled (Group n°4)	938,796	European Union (grant)
Implementation of infrastructure works: agricultural roads, irrigation and mountain lakes in Akkar (Group n°5)	2,355,197	European Union (grant)
Renewing the technical assistance contract for ADELNORD, to include many activities among them the development of a sustainable strategic plan for Akkar, Hermel and Diniyeh	645,000	European Union (grant)
Awarding of local development projects in Akkar, Diniyeh and Hermel	3,250,000	European Union (grant)
Buying the communication and advertising material for ADELNORD	48,347	European Union (grant)
Litani River Canal 800 Conveyor project to the South for drinking water and irrigation - Phase I	333,303,081	- AFESD - KFAED

5 - Main projects under preparation for 2013-2014:

The CDR will continue securing the OPEC loan valued at US 8.4 million for the Hilly Areas Sustainable Agricultural Development project "Hasad".

In the framework of the "Local Development Project in Northern Lebanon" ADELNORD, funded by grant n°ENPI/2008/019-623, the CDR is working on the following:

- Supervising the tender documents related to the works and executive functions of the infrastructure component, i.e. the rehabilitation of agricultural roads, as well as the rehabilitation of irrigation channels and the construction of mountain lakes for water harvesting, in light of the results of the feasibility and detailed studies carried in 2011.
- Preparing a sustainable strategic plan for the Cazas of Akkar, Hermel and Diniyeh.
- Supervising the implementation of priority local development projects in the different clusters under the supervision of the Economic and Social Fund for Development (ESFD).
- Continuing to collect media and communication material.
- Renewing the pragmatic supervisor's contract.
- Coordinating with the Ministry of Environment on approving and implementing the draft law of protected areas, as well as the applied draft decree.
- Coordinating with MoA for two executive plans for the forests of Andaket in Akkar and Safira in Diniyeh, with the "special conditions document" for the

management of forests including pruning, in the framework of fighting fires and protecting and managing forests.

As for the Canal 800 conveyer project – Phase I:

- The CDR will continue to implement the project which was awarded to Kharafi/Veziroglu/Guris in 2012.
- The CDR will continue overseeing the implementation of the project through the advisory contract with the combined group LahmeyerInt.GmbH/JBJ Gauff/ingenieur/D.A.H "Shair& Partners from 2003 till 2017.
- In 2014, the CDR will award the SCADA contract, with technical assistance from the consultant and in agreement with the Arab Fund.

It is worth mentioning that the implementation of this project will result in providing 90 million m³ 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 m³ 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).

Concerning the locally funded project of restoration of the lake of Mechmech in the Akkar Caza, the CDR is currently preparing the tender document in order to start the implementation after having received the study related to the necessary repair works.

The CDR with the coordination committees of the MOA will carry on the following up on the different agricultural projects as well as the main results of the implemented works, upcoming activities, problems, and challenges that will be revealed in due course.

Main projects under preparation (2013– 2014)

Project	Estimated Value (USD)	Funding Source	Starting	Expected completion
Restoration of the lake of Mechmech	300, 000	CDR	June 2013	September 2013
Pragmatic supervisor for the Local Development Support project in Northern Lebanon	33, 000	CDR	March 2013	February 2014
Litani River Canal 800 Conveyor project to the South for drinking water and irrigation– (Awarding SCADA Contract)	2,242m000	- AFESD - KFAED	February 2014	February 2016



Irrigation channels - (ADELNORD)
Akkar