

LEBANON

Independent evaluation of three agricultural projects in Lebanon

SUMMARY



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This evaluation report was written between 29 May and 28 October 2017, at the end of the fieldwork stage of the independent evaluation of the agricultural projects MAE/DGCS AID No. 8241 - 9527 – 9491. This report was discussed during the two workshops held at the Lebanese Ministry of Agriculture and the Italian Ministry of Foreign Affairs, respectively and finally approved by the Italian Ministry of Foreign Affairs and International Cooperation, Office III.

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The conclusions and recommendations contained in this report, although included within the evaluation commissioned by MAE/DGCS Office III, do not express official positions and remain the sole responsibility of the Independent Evaluation Team.

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1 GENERAL INFORMATION

LOCALIZATION OF INTERVENTIONS AND GEOGRAPHICAL DISTRIBUTION OF BENEFICIARIES AND STAKEHOLDERS



All the project regions were visited with the exception of Hermel, Akkar and Marjayoun/Hasbaya because of unstable security.

Figure 1-Visited regions: OO1 OO2 ★; Stone fruit protection (Drupacee) ★; EuLebPot ★. Not visited

The 3 projects “Social and economic support to families in Lebanon's peripheral olive-growing regions” (AID 8241), “National Program for the improvement of olive oil quality and actions to tackle the diffusion of stone-fruit phytoplasma” (AID 9527), and “Achieving European quality standards for compatibility of potato production – EuLebPot” (AID 9491) were funded by the financial instrument of the Developmental Cooperation of DGCS/MAE and carried out in Lebanon.

The objectives of the evaluation are:

- To implement in-depth evaluation of the 3 projects according to the criteria of Relevance, Efficiency, Effectiveness, Impact, and Sustainability, as well as cross-cutting issues regarding institutional coordination gender and environmental issues.
- To provide a judgement on the strategic approach of the projects and to analyse the validity of the projects' design that could be replicated in the frame of future Actions of National Policies.
- Identify and promote the lessons learned for each of the 2 projects and make recommendations to improve the quality of further actions in the olive sector in Lebanon and, more generally, of the Italian development cooperation.

FIELD MISSION

The field mission was carried out after a full review of the available documentation regarding the 3 projects (phase 1 – desk analysis). The mission in Lebanon took place from 6 to 27 May 2017 in the targeted regions. On site field visits, single and multiple interviews and additional review of documentation were done.

The mission was conducted on a good participation level and collaboration from all stakeholders. Therefore, it was possible to meet about 100 people between MoA officers and technicians, LARI researchers and technicians, Universities Professors, Civil Servants, agricultural producers, farmers and nurseries in the sector of olive oil, potato and stone fruit plants. In particular, 25% of the olive oil cooperatives (59 in total) were included in the data collection process.

2 NATIONAL AND SECTORIAL CONTEXT

Lebanon is a middle-income country that covers an area of 10,452 sq. km, with a population of about 5.9 million inhabitants. 85% of the population is concentrated in cities (half in the capital alone). The agricultural sector contributes marginally to the formation of the GDP (about 6%). The natural resources currently exploited are scarce, despite recent confirmation of substantial undeveloped hydrocarbon deposits. The industrial sector is poorly developed, while the service sector (banks, commerce, tourism, transport, etc.) contributes to about 73% of the GDP (World Bank).

Lebanon's agricultural economy is mainly based on family-run productive activities and subsistence. Income opportunities are not enough for the young population, resulting in emigration towards sectors that offer better opportunities in urban areas.

The agricultural sector situation is based on approximately 170,000 farms with a cultivable area of 231,000 hectares. Despite its modest contribution to the GDP, the agricultural sector employed 817,513 workers (30% of the active population) in 2012, on average 5 per farm (MoA - FAO)¹. Most farmers manage small family farms and are mostly organized into cooperatives to reduce the cost of services and partly to ensure marketing.

Most farmers manage small family farms, some organized in cooperatives to access public subsidy programs and reduce service costs.

The structure of land ownership reflects great fragmentation and polarization. Most farms (75%) have less than 1 hectare. 95% of producers own fewer than 4 hectares (51% of the total area), while operators with more than 10 people work about 30% of the cultivated land. The country population suffers from its progressive aging, with farmers below age 35 cultivating 13% of the area, while the very young (under age 25) account for less than 2% of the total. The level of schooling is consequently low (most do not obtain an elementary education). In other words, advanced age and large fragmentation, combined with low levels of schooling, are major barriers to modernizing the sector.

Nevertheless, the productive potential of favourable agro-climatic conditions and a strong agricultural tradition coupled with an increasingly demanding and near-international urban and regional demand (regional and diaspora), mean that the contribution of Lebanese agriculture to national welfare could be considerably higher than the current one.

3 EVALUATION RESULTS PER EACH PROJECT (ACCORDING TO EVALUATION CRITERIA)

3.1 OLIVE OIL COMPONENT:

3.1.1 Social and economic support to families in Lebanon's peripheral olive-growing regions - AID 8241 - Olio del Libano 1 (OO 1) and National Program for the improvement of olive oil quality and actions to tackle the diffusion of stone-fruit phytoplasma - AID 9527 - Olio del Libano 2 (OO2)

The *General objective* is to improve olive oil producers' economic conditions through technological innovation, sustainable agronomy, and human resource capacity along the olive cultivation chain. The Specific objectives of the 2 projects are i) improving and streamlining

¹ FAO/MoA, 2012.

production processes; ii) strengthening the olive cooperatives; iii) promote institutional and environmental sustainability of the region.

The two projects were carried out in 2009 - 2012 by the *Centre International de Hautes Etudes Agronomiques Méditerranéennes* - Mediterranean Agronomic Institute - Bari (CIHEAM IAM-B) (executive agency of OO 1) and by the Lebanese Ministry of Agriculture (MoA) during the period 2011-2016(executive agency of OO 2).

The Relevance of the projects is high from the point of view of producers' needs and the sectorial development strategy and corresponding modernization of public institutions' governance mechanisms. The farm-level intervention strategy has proved to be appropriate and very effective. Projects have certainly contributed greatly to accelerating the process of modernizing Lebanese olive cultivation.

The strengthening of cooperatives has proven to be strategic, but, it has not produced a true transformation toward modernization of the business approach, with the necessary production of services for which demand grew, also thanks to the interventions under this evaluation. The non-cooperative private sector has not been sufficiently considered in the intervention strategy as a key actor for the development of the olive cultivation chain.

The initiatives to strengthen sectorial governance (included in this assessment in SO 3), identified and developed during the course of the actions, maintain a high level of relevance and are an essential element for sector development.

The **quality of the design is satisfactory**. The mechanisms and procedures for action implementation are generally consistent with the institutional context and the nature of the main beneficiaries. The governance of the OO 2 project and the establishment of a PCU within the MoA are certainly an important step in aligning with the country's policies and procedures and ultimately the appropriation of national institutions. Nevertheless, the PCUs coordination of the two projects with important units of the MoA did not always allow the necessary co-operation during the implementation phases, thus endangering the sustainability of the initiatives. Generally, **the LF is consistent with the intervention strategy**. However, the **LF structure does not allow a clear understanding** between SOs and results/activities, which should instead be implemented to achieve those SOs. Numerous activities related to sectorial governance are embedded in results not pertinent to the nature of the actions themselves' instead, they deserve to be seen in greater clarity and consistency. Indicators at all levels do not adequately reflect the objectives and outcomes envisaged and predicted, but focus on products of specific activities, making the LF in many cases self-referential and poorly used for planning, monitoring and, finally, evaluation of the actions. Moreover, the lack of a baseline reference does not allow for accurate estimation of the effectiveness of actions.

The Efficiency of activity performance is generally good. The operation of Project Steering Committees and Program Coordination Units was satisfactory. The resources allocated to strengthening cooperatives' capacity in service management are, however, clearly inadequate in OO 1 and virtually absent in OO 2. M&E is focused on activities and not on results and SOs (effectiveness indicators) with the positive exception of SO 1 of OO 1 indicators.

The Effectiveness is satisfactory. The actions evaluated have certainly played an important role, including at national level, in the dissemination of effective practices to increase the productivity and quality of olive oil and reduce production costs; this is completely consistent with the objectives established. All producers have demonstrated a high level of understanding of virtually all proposed practices and a significant increase in knowledge, especially in the field of plant protection control (including integrated pest control elements). These producers are generally highly demanding and attentive to innovation.

The numerous and relevant initiatives to consolidate the olive oil sector's governance have been identified, designed and implemented in due time and with the required quality: quality standards, logo and process for quality registration and quality control, sensory chemical analysis laboratories, GIS based information system on olive groves, characterization and certification of the genetic material multiplication process.

The Sustainability of GAPs and the capital management capability provided to cooperatives is generally good. In this context, the process of sustainable and competitive development of the olive cultivation sector is limited by the poor ability of the cooperatives and the public sector to meet the demand for services and TA and market factors such as the poor predisposition of operators and consumers to the quality of the OO.

Institutional sustainability is problematic and limits sector growth and its regional and international competitiveness. In general terms, the MoA has not consolidated the expected national OO quality control system. In this regard, there is no coherent and specific strategy with a vision of the future that can fully exploit the projects' main contributions.

The expected impact is promising in terms of overcoming those factors restricting access to producer services and institutional sustainability. The expected impact is promising to the extent that factors restricting access to producer services and institutional sustainability are overcome actions have created favourable and sufficient conditions to allow small and medium-sized producers to increase their incomes and be more competitive in a context strongly and negatively affected by poor quality oil imports.

The evaluation process has revealed the **validity of the intervention strategy of the two projects and the resulted good practices that can be replicated in the framework of new initiatives in the olive oil sector's.**

With reference to the strategic approach of future support actions for sector development, it is recommended to maintain the strategy based on high and intensive TA levels, combined with field demonstrations and integration of the national training system.

The approach based on the promotion and visibility of the “quality”, called 'From the field to the table', proved to be winning and should be pursued in every new sectorial development initiative. Strengthening cooperatives, although always strategic, should be incorporated into a new strategic approach, capable of delivering sustainable services to producers and promoting the quality of the members' production. Resources should therefore be concentrated in the organizations with the most potential and dynamism.

The design based on a Project Coordination Unit (PCU) has proven to be effective and its replicability is recommended in the next steps. Greater efficiency and sustainability can be achieved through active cooperation with ministries from the beginning of the project.

The design phase should fully integrate the institutional sustainability criteria and related risks. Concentrare le risorse sull'appoggio ai processi esistenti: approccio programmatico nel quadro di chiare politiche di sviluppo (da approccio progetto a programma).

The **Lessons Learned** mainly focus on converging resources to support ongoing processes, through a programmatic approach that contributes to clarifying the development Policies (from project-to-program approach). In addition, it has been highlighted the need for a clear identification of the themes of sector policy, and the resulting dialogue with the relevant authorities, during both the formulation, programming and start of interventions.

The development of the production chains could be more effective, quick and sustainable if the actions are directed at supporting all actors in the private sector involved (potential providers of better services and marketing), including, when applicable, consumers, and not just the subjects considered most vulnerable (direct beneficiaries).

Strengthening producer organizations is a key task, but it requires a long time and considerable resources that are often not adequately ensured during the programming phase.

The approach aimed at improving members' access to services should clearly defined within an entrepreneurial strengthening approach capable of rationalizing production processes.

Similarly, gender mainstreaming needs to be preceded by careful analysis aimed at defining realistic and measurable objectives (with intermediate process indicators) that will result in a corresponding allocation of project resources. The added value of women's creative work in the development of the rural economy is definitely underestimated, especially in the services sector.

The Recommendations are subdivided based on the categories of stakeholders to which they are addressed:

Lebanese Ministry of Agriculture

- Define and consolidate within the framework of national financial planning instruments a specific development strategy for the olive sector in coordination with key players in the private sector.
- Consolidate and implement sectorial governance measures designed through project actions. In particular: plant certification system, legislative framework (geographical indication, organic production) and quality assurance system (including Kfarchima laboratory commissioning).
- Officially approve the OO panellist group and complete, with the help of the remaining funds, the equipment set up to initiate the IOC accreditation process. It may be appropriate to promote the integration of panellist groups from the business and professional sectors. Laboratory functions could also include the promotion of quality standards in the cooperative sector to overcome the current major shortcomings in the field. Sustainability of laboratories could be ensured by the possibility of offering paid services to cooperatives and the private sector, currently not allowed by the current MoA legislation.
- Cooperative Development Units: Promote the processes of organizing and strengthening producer organizations through a business approach based on cooperative services.

Education and Training Unit

- Increase the human resources needed to implement a TA plan with precise priorities defined on a regional basis. Give priority to practices that have shown greater potential for increased competitiveness (see pruning and mechanical harvesting).

Economics and Marketing Units

- Quality promotion for producers and consumers should be developed permanently by public and private sector institutions. The services provided should be appropriately strengthened. A quality certification system for exported products should be made obligatory.

NOWARA

- Conceive and above all promote a gender policy in the establishment of the MoA and in the rural sector. Raise NOWARA status to a unit integrated into MoA services.

MAE-DGCS-AICS

Future programs with governance sectors entrusted to the MoA should integrate at the design stage the following project governance measures:

- Precisely define policy measures instrumental in achieving the goals and their institutional sustainability.
- Include such measures in conditional terms in the "cooperation agreements" signed by the local authorities and the competent Italian cooperation bodies (AICS / DGCS) and model appropriately the implementation agreements between the entities responsible for implementing the actions.

- Establish a "road map" indicating the chronology of policy measures to be adopted (propaedeutic) consistent with the nature and timing of planned governance initiatives. The process will then be followed by and supported by the project Steering Committee (the constant presence of Italian cooperation representatives at the highest possible level must be assured at least during the initial phase of the activities).
- Introduce the baseline as a binding condition for project approvals (including acceptance of the admissibility of corresponding expenditures).
- Introduce into the project design a precise impact analysis of the actions in terms of adaptation and mitigation of climate change and measures taken to mitigate any negative impacts.

MAE-DGCS-AICS Beirut in coordination with the MoA:

- Ensure that the pre-conditions for governing the implementation of the "Olio 3" project are met.

"Olio 3" project managers in coordination with the MoA:

- Select the most promising cooperatives to develop an entrepreneurial growth strategy based on quality, marketing and service offerings.
- Studying the existing quality niches in the domestic and international market (Lebanese diaspora, organic production, etc.).

Some topics need further analysis and research:

- Fertilization (combined use of SO and chemical fertilizers and demonstrable cost benefits to producers).
- Conversion of conventional farms to organic (agro-climatic conditions, business size, etc.)
- Gender strategy for cooperative organizations' producer members.
- Appropriate processing technologies for processing residues for fertilization purposes (necessary investments and costs/benefits).

3.2 PLANT PROTECTION COMPONENT

3.2.1 National Program for the improvement of olive oil quality and actions to tackle the diffusion of stone-fruit phytoplasma - AID 9527

The *General objective* of the project is to contribute to improving the country's food security through the upgrading of agricultural production according to international standards and to promote national actions to counter the spread of phytopathology that threaten the productivity of stone fruit.

The *Specific Objective* relating to the "phytoplasma fight component", is to provide the Lebanese Ministry of Agriculture with instruments for monitoring phytopathology that threaten the national production of stone fruit (in particular almond) by developing research on the insect vector of "*Candidatus Phytoplasma Phoenicium*".

The project has been carried out by the Lebanese Ministry of Agriculture in collaboration with the Italian NGO AVSI, responsible for the technical activities.

The Relevance of the project is high from the point of view of the needs of the MoA, the fruit growers and the sectoral development strategy. The planned intervention strategy has been consistent with the past and ongoing objectives of the MoA strategies.

The **quality of the design is satisfactory**. Generally, **the LF is consistent with the intervention strategy**. The initiative did not undergo significant changes in the intervention logic during the implementation period, although a new result - a logical consequence of positive disease monitoring - has been added; e.g., eradication of the disease in some "focus areas" of significant fruitful economic interest, through the destruction of thousands of infected fruit trees. Specific objectives and performance indicators are generally consistent

with the same, but with some exceptions. Regarding the appropriateness of the intervention logic with the development context of the action and with the capacity of the Ministry of Agriculture, all the actions promoted by the project have specific units and thus institutional sustainability. In this situation, it can be confirmed that the public sector institutional framework provided the stability guarantees necessary to ensure the project's required level of effectiveness and sustainability.

The Efficiency of activity performance is generally good. Operation of the Project Steering Committees and the Scientific Board, chaired directly by the then Minister, was satisfactory, because it allowed taking timely operational decisions.

The budget is balanced and aligned with the needs and nature of the goals.

The activities related to the initiative took place in the period 2011-2013, more or less within the time frame specified. All actors contributed the necessary resources within the established time frames and the quality of human resources employed and contracted is in line with the required standards.

The monitoring of the action consisted essentially of technical reports on the state of progress of the activities, produced at the end of 2012 and the end of 2013 by AVSI. Nevertheless, no monitoring/evaluation reports have been made by the MoA (not even a final report), with explicit reference to the LF-defined outcome indicators.

The Effectiveness is satisfactory. The action achieved the products foreseen with the required quality. These products and services were available to the beneficiaries throughout the project duration:

- An abundant database, as a result of disease monitoring surveys;
- 12 georeferenced thematic digital maps, made available to the MoA;
- trained dozens of farmers, nurseries and MoA technical communicators;
- diagnostic protocol and identified some host plant species hosting the phytoplasma and some insect vectors, which do not exhaust knowledge about the eco-physiology of *Candidatus Phytoplasma phoenicium*.

Finally, not planned but logically connected to the results achieved, the project has carried out an extensive eradication campaign, with the destruction of thousands of infected plants in both nurseries and on farms.

The expected Impact is satisfactory, in fact the project has created a best practice, ranging from the ability to identify the disease through its distinctive outward symptoms to the participatory/subsidiary mode of elimination of diseased plants, as an effective form of prevention. It is the opinion of the evaluator that the demonstration and implementation of good practice has in fact led to a change in the beneficiaries' behaviors (MoA's extension officers, farmer, nursing) in relation to phytoplasmosis. However, it is clear that a larger scale impact can happen only if the Lebanese Government institutions decide to contribute, with the necessary continuity and all available resources (human, scientific and technical materials) necessary for the implementation of the good practice above.

The Sustainability of the project (entirely dependent on the institutions) **is unsatisfactory.** It is evident that the MoA did not keep up with the products and services developed by the project. The disease monitoring, and the visual and molecular symptomology that was accurately defined by the project, was discontinued at its end. As a result, geo-referenced phytoplasma diffusion maps were last updated at the end of 2013, and their digital version is no longer in use by MoA's competent technical offices. Training activities for MoA extension officers, on disease recognition and management of infected plants or further disease eradication campaigns, have not been carried out anymore.

The search for cheaper and easier-to-use tests is still ongoing by the AUB.

The **Lessons Learned** are important to frame the problem of serious phytopathology that cannot be treated but only prevented by continuous territorial monitoring, which modern technology (satellite imagery, geo-referencing, etc.) makes effective and relatively inexpensive.

Monitoring is the first step towards quantifying and locating the disease, so it is functional for joint eradication actions with all relevant actors in the sector. It is therefore necessary to have a very efficient ministerial steering cabinet and to include scientific institutions in the decision-making process. It is also essential to adapt the legislative system and make it compatible with the above-mentioned objectives (see compulsory plant health certification for nursing material).

Therefore, new initiatives sponsored by the International Cooperation should invest synergistically both in the operational and scientific aspects, encouraging the creation of international knowledge networks between Lebanese Government and other Countries

The Recommendations are subdivided based on the categories of stakeholders to which they are addressed:

Lebanese Ministry of Agriculture

- Resume disease monitoring across the country.

Prioritize:

(i) areas where the disease is considered endemic; (ii) the most important fruit-cropping areas (e.g. West Bekaa); (iii) areas found infected but excluded from eradication projects during the project due to lack of security (but no longer so); (iv) new areas of recent disease reporting.

- Update the original database with new monitoring data and generate georeferenced maps for a rapid assessment of the state of spread of the disease in the country.
- Reconstructing a Direction Cabinet for Programming Preventive Measures and Control of Almond Phytoplasmosis. The Cabinet must obviously be directed by the Minister of Agriculture with full involvement of the phytosanitary and agricultural education departments, enhancing the technical skills acquired by the project.
- The Cabinet must also include representatives of Lebanese scientific institutions (public and private) that still have high expertise in biological parasitic cycles.
- The Direction Cabinet shall process an action plan for timely eradication of the diseased plants, using the participatory approach developed by the project (which also involves the involvement of municipalities and compensation for destroyed plants).
- Update the legislative framework, making the phytosanitary certification of plant material from nurseries mandatory. It is currently managed on a voluntary base and limited to ensuring only virus-free plants. The role of LARI Tal Amara is crucial to defining all the practical aspects of this action.
- The new legislative framework for "phytoplasma control" should also include rules to make compulsory, yet compensated, the eradication of diseased plants, with particular attention to the situation of nurseries.
- Establish strategic alliances with other Mediterranean countries where the disease is present, and with countries where it could spread, given the importance of the fruit sector. Such a networking action could be supported by international cooperation funding, particularly those countries that are more at risk of spreading phytoplasma.
- Continue international research on the biological cycles of the parasite, in particular on host plants and insect vectors in agro-ecosystems in the affected countries. This action could also be supported by international Mediterranean cooperation.

MAE-DGCS/AICS

As for future programs with components of sectoral *governance* entrusted to the Lebanese MoA, which should integrate at the design stage the following project *governance* measures:

- Precisely define policy measures instrumental to achieving the goals and their institutional sustainability;
- Include such measures as conditions in the "cooperation agreements" signed by the local authorities and the competent Italian cooperation bodies (AICS / DGCS) and model appropriately the implementation agreements between the entities responsible for implementing the actions;
- Establish a "road map" indicating the chronology of policy measures to be adopted (propaedeutic) consistent with the nature and timing of planned governance initiatives. The process will then be followed and backed by the project Steering Committee (in this regard, the constant presence of representatives of Italian cooperation at the highest possible level must be assured at least during the initial phase of the activities);
- Introduce the baseline study as a binding condition for project approvals (including acceptance of the admissibility of corresponding expenditures).
- Introduce into the project design a precise impact analysis of the actions in terms of adaptation and mitigation of climate change and measures taken to mitigate any negative impacts.

3.2.2 Achieving European Quality Standards for Compatibility of Potato Production (EuLebPot) - AID 9491

The *General objective* of the project is to increase the level of food security and increase producers' incomes by improving the quality of the potato produced by the introduction of good agricultural practices and appropriate varieties to meet the demands of the European market contained in the Lebanon-EU Free Trade Agreement (Lebanese-EU association agreement).

The *Specific objective* is to improve the quality and quantity of potatoes produced in accordance with European export requirements.

The project has been carried out by the *Centre International de Hautes Etudes Agronomiques Méditerranéennes* – Istituto Agronomico Mediterraneo di Bari (CIHEAM IAM-B) in collaboration with the Lebanese Ministry of Agriculture.

The Relevance of the project is high from the point of view of the needs of beneficiaries i) of MoA and LARI for access to standards for quality production procedures; ii) of producers, for access to new export market channels such as Europe. The planned intervention strategy has been consistent with the past and ongoing objectives of the MoA strategies.

The **Quality of the Design is satisfactory**. The mechanisms and procedures for action implementation are generally consistent with the institutional context and the nature of the main beneficiaries. Institutional framework provided the stability guarantees necessary to reach foreseen level of effectiveness and sustainability.

Generally, **the LF is consistent with the intervention strategy**. The formulation of the indicators is sometimes inconsistent with the attributed level (activity, result or impact).

The level of project Efficiency is high in terms of the ability to transform available resources into expected outputs. Project management was adequate in terms of distributed resources and responded to the needs of the project.

The level of project Effectiveness is high in terms of high quality products and services delivered to the foreseen n. of beneficiaries.

At institutional *Governance* level, the legislative framework of the MoA referred to the phytosanitary control, monitoring and traceability of the potato sector is aligned to European

standards of quality. The designed protocols and procedures for control, monitoring and phytosanitary traceability were transferred to MoA relevant offices and LARI laboratories. Human resources were trained in the application of the aforementioned procedures. Awareness-raising activities on the conduct of the surveys, IPM and the European regulations and the symptoms of disease reached a huge number of beneficiaries among inspectors from regional offices of Akkar and the Bekaa Valley contributed to spreading knowledge of the issues.

The updated IPM list has been drafted and is consistent with EU requirements.

Direct intervention toward potato producers through demonstration activities (introduction of GAP and new potatoes' varieties) has been effective in the short term and has improved the production and quality of potatoes.

Considering the level of achievement of the specific objective, the project was partially effective. From the end of the project, no potatoes were exported to Europe due to increased production costs and consequent lowering the level of product competitiveness on the European market.

On the other hand, the project contributed putting bases for new market opportunities (including Europe) by: i) the obtaining of the derogation from Directive 2000/29/EC allowing Lebanon to export to Europe 50,000 tonnes per year without paying a duty; ii) Adoption of a plant-monitoring, monitoring and traceability system; introduction of GAP (IPM, fertilizers and irrigation) to improve potato quality and new potato varieties to meet needs of consumers.

The Expected Impact is satisfactory. The quality procedures introduced by the project have contributed significantly to change of the behavior by MoA officers and producers in terms of application and respect of procedures aligned with European standards, which may also be useful for export to non-European countries. However, significant efforts are needed to improve and harmonize the system through the redistribution of roles and powers of the potato chain in order to have a more competitive product on the markets and an increase in impact.

Synergies with other Programs at national and international level is high.

The TERCOM project of 2007 (funded by the MAE) and the *Green Corridor Agreement* signed between the Lebanese, Egyptian and Jordanian Governments in 2004 provided the basis for the EuLebPot project through actions to strengthen the capacity of MoA phytosanitary inspectors, improve GAP (potato production and IPM) for potato production, strengthen the ability of LARI technicians for quarantine analyses and preliminary state-of-the-art analysis on the potato chain. The Agriculture and Rural Development Programme (ARDP) (2011-2015) funded by the European Union and executed by the MoA has developed the procedures currently in use for the certification of export potatoes, starting with the traceability and control procedures produced under the EuLebPot project.

The Sustainability of the project is weak. The sustainability strategy of the control and traceability system appears weak and unstructured. MoA has not consolidated the expected national quality control system. Since 2015, the phytosanitary monitoring system introduced by the project has seen a drastic reduction in field inspections managed by the MoA. The analysis carried out by the LARI laboratories is active and mainly aimed at obtaining the export certifications imposed by the protocols adopted by the MoA.

Traceability is only ensured for export products for obtaining certification.

As for **financial sustainability**, the main source of maintenance of procedures (payment of human resources involved in control, monitoring and traceability, as well as equipment and supplies provision) is represented by international donor aid through the development of International Cooperation interventions. **Technical sustainability** is high, particularly referring to the acquired capacities by MoA and LARI staff to be transferred.

Sustainability in terms of export opportunities to foreign markets, such as Europe, is also ensured by the signed and still existing international agreements (WTO, EFTA, EU-Lebanon Agreement etc.). Finally, the EuLebPot project has contributed to **environmental sustainability** through the introduction of GAP related to IPM, the rational use of fertilizers and irrigation water.

Despite the improper use of fertilizers and pesticides, the level of awareness gained by beneficiaries on the benefits of having a healthy product and in line with European consumer demands can contribute to greater environmental protection.

The **Lessons Learned** help identify weaknesses on which to focus future interventions for the development in Lebanon's potato production and export sector. Existing phytosanitary control and monitoring processes should be ensured through a programmatic and continuous approach in the framework of clear development policies.

The potato value-chain and national and international supporting bodies (MoA, Chambers of Commerce, International Donors) could be more effective and sustainable if the relationship between the actors was organized according to the real demands of the local and international market. Finally, the quality of the Lebanese product needs to be valued in terms of product visibility on highly competitive markets (Europe and GCC).

The Recommendations are subdivided based on the categories of stakeholders to which they are addressed:

Lebanese Ministry of Agriculture

Consolidation of measures for sectoral *governance* refers to: a) phytosanitary and monitoring system, ii) chain traceability system, iii) quality certification in accordance with international requirements.

- Consolidating, within the framework of national financial planning instruments, a specific development strategy for the potato sector in coordination with key public-sector actors (research centres and chambers of commerce) and private (suppliers, distributors, exporters).
- Increasing human resources and facilities (e.g. means of transport) needed for regional offices, in line with the needs of the control region, for the implementation of the TA plan and phytosanitary controls.
- Promoting the process of strengthening small-enterprise organizations through TA and training programs through a business approach based on cooperative services.
- Strengthening the dialogue with the private sector of the potato production chain (small and medium-sized producers, exporters, packaging managers, distribution chains) for the application of the traceability system throughout the supply chain.
- Enhancing the phyto-sanitary control, monitoring and traceability measures to eliminate the practice of using local seed of unprotected seed potatoes, possibly due to the different production seasons in the Bekaa and Akkar regions.
- Integrating the export certification protocol with information on chemical residues on tubers (due to inadequate use of pesticides). Aligning the certification system with the fruit and vegetable production standards shared and accepted by the major European distribution groups (e.g. GlobalGAP certification).
- Promoting TA programs to all categories of producers for the transfer of GAP with particular attention to: a) the rational use of pesticides (through an IPM review), ii) the more rational adoption of rotation of crops and the use of fertilizers, iii) the introduction of new varieties resistant to quarantine pathogens to ensure the maintenance of PFA.
- Encouraging knowledge of new marketing opportunities for non-exported products through the promotion of marketing programs for the processed product (chips, frozen food).

LARI

Adopting a homogeneous and standard collection and management system for sampling data and analyses conducted at laboratories. We recommend the use of a computer system that provides complete sample information and the purposes of the analyses conducted.

IAM B

Improving the formulation of LF indicators for activity, result, and target categories to ensure greater design relevance and more efficient monitoring of the project during its implementation.

MAE – DGCS/AICS

As for future programs with components of sectoral *governance* entrusted to the Lebanese MoA, which should integrate at the design stage the following project *governance* measures:

- Precisely define policy measures instrumental to achieving the goals and their institutional sustainability;
- Include such measures as conditions in the "cooperation agreements" signed by the local authorities and the competent Italian cooperation bodies (AICS / DGCS) and model appropriately the implementation agreements between the entities responsible for implementing the actions;
- Establish a "road map" indicating the chronology of policy measures to be adopted (propaedeutic) consistent with the nature and timing of planned governance initiatives. The process will then be followed and backed by the PSC (in this regard, the constant presence of representatives of Italian cooperation at the highest possible level must be assured at least during the initial phase of the activities);
- Introduce the baseline study as a binding condition for project approvals (including acceptance of the admissibility of corresponding expenditures).
- Introduce into the project design a precise impact analysis of the actions in terms of adaptation and mitigation of climate change and measures taken to mitigate any negative impacts.