Cooperazione Italiana allo Sviluppo
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Evaluation Office

LEBANON

Independent evaluation of three agricultural projects in Lebanon

2017 | Evaluation Report

FINAL REPORT

INDEPENDENT EVALUATION OF THREE AGRICULTURAL PROJECTS IN LEBANON:

SOCIAL AND ECONOMIC SUPPORT TO FAMILIES IN LEBANON'S PERIPHERAL OLIVE-GROWING REGIONS
AID N. 8241

NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE-FRUIT PHYTOPLASMA
AID N. 9527

ACHIEVING EUROPEAN QUALITY STANDARDS FOR COMPATIBILITY OF POTATO PRODUCTION – EULEBPOT
AID N. 9491

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ITALIAN MINISTRY OF FOREIGN AFFAIRS AND INTERNATIONAL COOPERATION
GENERAL DIRECTION OF DEVELOPMENTAL COOPERATION
OFFICE III - EVALUATION

Information

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.

The report was drafted on behalf of TIMESIS srl by Massimo Canossa, Technical Team Coordinator of the Evaluation Team, and by the Evaluation Team members Daniela Antonacci and Carlo Ponzio. The earlier stages of the report were carried out in collaboration with Ecocentra srl (Lebanon) with the help of experts: Lama Bashour (logistics and backstopping), Elias Chnais (plant protection expert) and Suad Abu Samra (socio-economist).

Sincere thanks go to those who collaborated in organizing and conducting the field mission, especially to Marwan Solh (Ecocentra srl) for organizing the mission logistics and agenda. Particular acknowledgment goes to people who are generally identified as Beneficiaries. These people welcomed evaluators to Lebanon during the mission, participated in individual and collective interviews, and shared their views on the topics concerned.

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.

Pisa, 27 October 2017

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LOCALIZATION OF INTERVENTIONS AND GEOGRAPHICAL DISTRIBUTION OF BENEFICIARIES AND STAKEHOLDERS

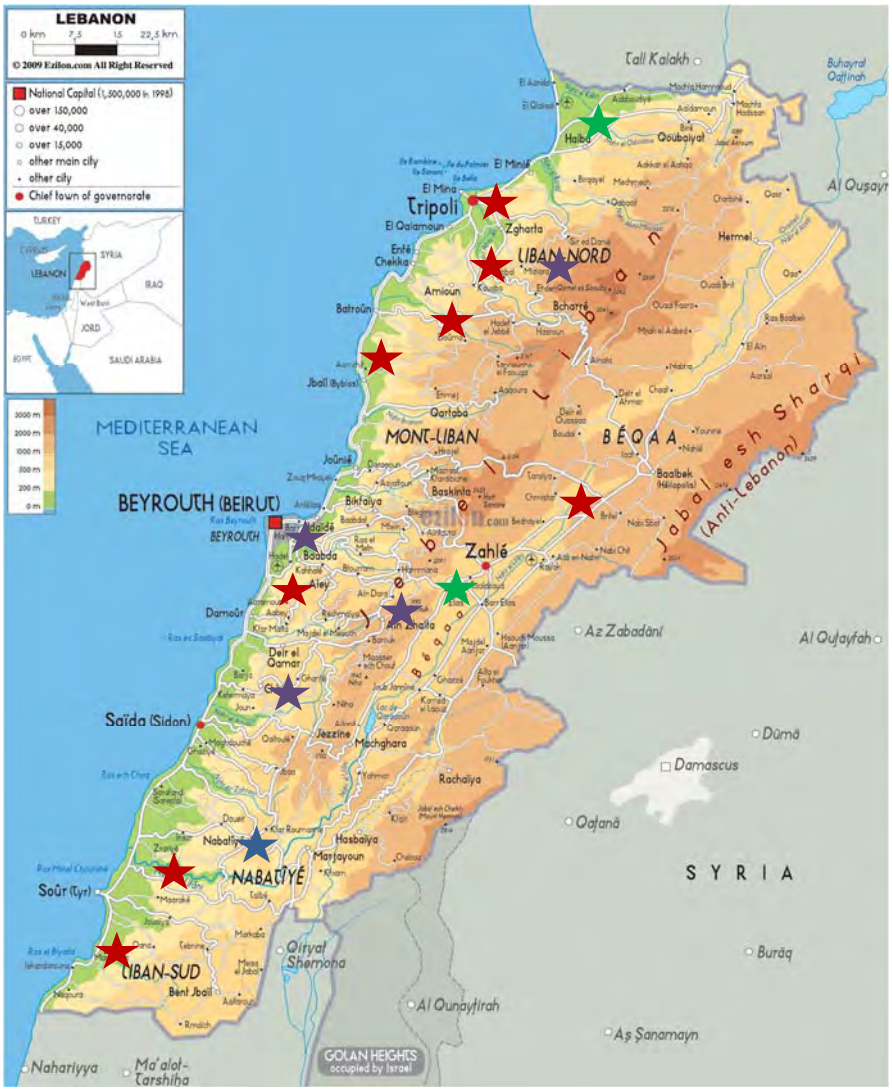

Figure 1-Visited regions: OO1 OO2 ★; Stone fruit protection (Drupacee) ★; EuLebPot ★. Not visited regions ★

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

OIL COMPONENT

SOCIAL AND ECONOMIC SUPPORT TO FAMILIES IN LEBANON'S PERIPHERAL OLIVE-GROWING REGIONS
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INDEX

Acronyms

AICS	Agenzia Italiana di Cooperazione allo Sviluppo
BDcoop	Co-perative Board of Directors
CC	Climate Change
CDR	Council of Development and Reconstruction - Libano
CIHEAM–IAM di Bari	Centre international de Hautes Etudes Agronomiques Méditerranéennes – Istituto Agronomico Mediterraneo - Bari
CNRS	National Council for Scientific Research – Libano
Coop.	Cooperative
DF	Demo-field
DGCS	Direzione Generale di Cooperazione allo Sviluppo
EEA	Education and Extension in Agriculture
EQ	Evaluation question
ET	Evaluation Team
FA	Financial Agreement
FR	Final report
GAP	Good Agricultural Practice
GGE	Greenhouse gas emissions.
GO	General Objective
HACCP	Hazard Analyses and Critical Control Point
ICU	Istituto di Cooperazione Universitaria
ILO	International Labour Organization
IOC	International Oil Council
IR	Inception Report
LARI	Lebanon Agricultural Research Institute
LBP	Lebanese Pound
LF	Logical Framework
MAE	Italian Ministry of Foreign Affairs (Ministero Affari Esteri – Italia)
MoA	Lebanese Minstry of Agriculture (Ministero dell'Agricoltura Libanese)
M&E	Monitoring and Evaluation
EM	Evaluation Matrix
EU	European Union
FR	Final Report
OO	Olive Oil
OO1	Social and economic support to families in Lebanon's peripheral olive-growing regions AIS n. 8241 – Olio del Libano 1
OO2	National program for the improvement of olive oil quality AID n. 9527– Olio del Libano 2
NGO	Non-Governmental Organization
SO	Specific objective
TO	Table Olives
PCU	Program Coordination Unit
PSC	Project Steering Committee
PRD	Plant Resource Directorate (MoA)
TA	Technical Assistance
ToR	Terms of Reference
TT	Training of trainers
UNACOMA	Italian Association of Agricoltural Machinery Manufacturers
UNDP	Unite Nation Development Programme
UNIPG	Università di Perugia
USAID	Agenzia di cooperazione degli Stati Uniti d'America

SUMMARY

Introduction

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).

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 that are partially organized in cooperatives to better access public subsidies, reduce service costs, and, partially, to promote marketing.

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. Hence the need to put in place the processes of improving household incomes in marginal regions and to create economic opportunities for rural communities through a sustainable process of modernization of the sector.

The projects addressed by the present evaluation are intended to start this process of modernization of the olive sector by supporting profitable activities in the olive sector and support producer families in the supply chain.

The two interventions are funded by the Italian Ministry of Foreign Affairs - Directorate General for Development Cooperation (MAE - DGCS). The first one is the project for **Social and Economic Support to Families in Lebanon's Peripheral Olive-Growing Regions (AID 8241), carried out in 2009 – 2012, carried out** by the *Centre International de Hautes Etudes Agronomiques Méditerranéennes* - Mediterranean Agronomic Institute - Bari (CIHEAM IAM-B) hereinafter called Olio del Libano 1 (OO 1).

The second, titled **National Programme for the Improvement of the Quality of Olive Oil** ('olive oil' component of action AID 9527), was carried out by the Lebanese Ministry of Agriculture (MoA) during the period 2011-2016, and hereinafter referred to as Olio del Libano 2 (OO 2). This second initiative consists essentially of the extension to four new regions (cazas) of supporting actions to olive oil producers (OOs), through the same components of the previous one.

According to the service ToR, the evaluation was carried out by assessing the criteria of relevance, efficiency, effectiveness, impact and sustainability. The evaluation process was structured in 3 phases: 1) the desk analysis, carried out in Italy during the first months of the service (March-April 2017); 2) the data collection, carried out in Lebanon during the first three weeks of May 2017. The field stage allowed a visit to all major public and private stakeholder stakeholders and involved 25% of the benefiting cooperatives. Finally, 3) The reporting phase, ended with the presentation of reports on September 2017.

EVALUATION RESULTS

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

[1] FAO / MoA, 2012.

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 overcomeactions 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.

Recommendations are related to future interventions for the development of the Lebanon olive oil chain. They focus on i) the need to define a specific development strategy for the olive sector, in coordination with key actors in the private sector, and ii) to consolidate and implement Governance measures through interventions.

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.

INTRODUCTION

Lebanon's current agricultural economy is mainly based on family-run and subsistence production activities. The resulting income opportunities are not sufficient to improve farmers' annual family income. The farmers' resulting emigration implies not only the abandonment of productive activities, but also the flight of people responsible for territory management. Processes must therefore be implemented to improve family incomes in marginal olive regions and to create economic opportunities for rural communities.

The actions covered by this evaluation aim to support profitable activities in the olive sector through support to producer families in the supply chain.

This analysis will evaluate two development cooperation initiatives. The first, funded by the Italian Ministry of Foreign Affairs - Directorate General for Development Cooperation (MAE - DGCS), is the Project for Social and Economic Support to Families in Lebanon's Peripheral Olive-Growing Regions (AID 8241), carried out in 2009 - 2012 by the Centre International de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute - Bari (CIHEAM IAM-B) hereinafter called *Olio del Libano* 1 (OO 1).

The second, titled 'National Programme for the Improvement of the Quality of Olive Oil' ('olive oil' component of action AID 9527), was carried out by the Lebanese Ministry of Agriculture (MoA) during the period 2011-2016, and hereinafter referred to as *Olio del Libano* 2 (OO 2). This second initiative consists essentially of the extension to four new regions (cazas) of supporting actions to olive oil producers (OOs), through the same components of the previous one.

The initiatives, proposed by the Italian and Lebanese governments and the Lebanese Ministry of Agriculture (MoA), aim to provide support to family-run olive growing activities. The main organization type being service cooperatives, they will receive measures aiming at improving the living conditions of this rural population on the long term.

In particular, the proposed activities aim to consolidate and capitalize existing co-operative organizations to enable them to achieve strong integration in the national olive oil sector. The programme also aims at creating the conditions for such national product to be competitive in the regional and European markets.

Training of human resources, especially women, through the consolidation of public (MoA) and private (cooperatives) technical assistance (TA) systems is ensured by a comprehensive innovation-driven knowledge transfer plan.

The project is part of the sectorial priorities defined by the national agricultural development plans and the cooperation agreements underpinning the MAE's "Socio-Economic Development Program" (Fight against Poverty) in Lebanon.

This evaluation is ex-post and focuses mainly on the validity of the intervention strategy and implementation model adopted, together with the proposals' effectiveness and sustainability with the public and private sector beneficiaries. The preparation phase (Phase 1 - Initial Activity, Documentation Review and Initial Report) was implemented in February, March and April 2017 and culminated in the presentation and approval of the Inception Report (IR) by the Office III Evaluation Division (DGCS) on 26 April 2017. The next field phase (phase 2 - data collection and field information, pre-analysis and return) was conducted in Lebanon during May (06 to 27 May 2017).

CHAPTER 1. CONTEXT AND LOGIC OF THE INITIATIVES

1.1. CONTEXT

1.1.1. 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).

In 2015, the Lebanese economy was characterized by low GDP growth (1.3% according to World Bank). For 2017, the GDP growth outlook is not encouraging, though not disastrous (estimated at about 2%). The slowdown in economic growth, which averaged 8% in 2007/2010, is attributable both to regional problems (regional instability and the situation in Syria since 2011) and to the severe internal institutional crisis (political institutional stalemate).

The Akkar and Bekaa regions (cazas) in the east (Hermel) have been severely affected by the conflict in Syria, mainly due to the massive influx of Syrian refugees. The Lebanese government estimates that, since the beginning of the Syrian conflict, more than one and a half million Syrians have come to Lebanon, accounting for over a quarter of the country's current residents. Lebanon hosts the most refugees in the world in relation to its population. Added to the 1.2 million refugees officially registered by UNHCR are about 42,000 Palestinian refugees from Syria, according to the latest UNRWA estimates.

The persistence of the crisis has generated devastating economic and social effects. National educational and health structures are collapsing, and the rise of poverty is the basis for the spread of other issues, starting with child labour. According to the World Bank estimates, Lebanon's GDP was reduced by 2.9% per year in 2012-2014; its unemployment rate doubled (over 20%), and the number of people who live below the poverty line increased, with about 170,000 Lebanese people being added to the category of highly vulnerable families. These events have made it difficult to implement development policies in the agricultural sector, especially in remote 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)2. Most farmers manage small family farms that are partially organized in cooperatives to better access public subsidies, reduce service costs, and, partially, to promote marketing.

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.

In general, the Lebanese farming sector is characterized by heterogeneity of crops and species. 27% of the Lebanese agricultural area is cultivated with fruits such as table grapes,

[2] FAO / MoA, 2012.

citrus, pome and stone fruits; 20% is dedicated to olive cultivation and the same proportion to cereal crops, while the remaining 32% of the agricultural area is planted with vegetables, industrial crops, legumes and oleaginous crops (Agricultural Census FAO, 2000). The olive growing industry is therefore strategic because it provides important income to poor rural households. With insufficient productivity of agricultural systems and insufficient surfaces, not enough income is generated to counter the rural exodus. Women account for 9% of producers.

The olive is the most important species of tree crops. Lebanon has about 13,105,250 olive trees distributed over 52,421 hectares (FAO, 2000). Most olive groves are located in the north and south of Lebanon, and less conspicuously in the areas of Mount Lebanon and Bekaa. Most of olives groves are rainfed. Two varieties are most commonly found in the North: Soury and Balady; while Ayrouni, Chami and Smoukmouki predominate almost exclusively in the South. They are all varieties with dual use except Smoukmouki, which is an oil variety, and Chamy, which has excellent characteristics for table olives (TO).

The annual average olive oil production is 60,000 tons, while that of TO is 12,000 tons. Of the amount of olives produced, 30% are intended for fresh consumption and 70% for processing (MoA). Productivity ranges from 3 tons to 1.3 tons of olive oil (OO)/ha.

The amount of oil produced varies between 12,000 and 15,000 tons and covers only part of the domestic need; the rest must be imported to cover the demand (20,000 tons per year), at a cost of about 120 million dollars[3].

FAO statistical surveys in 1997 and recent investigations (started in 1999 by the Ministry of Industry in Lebanon) indicate that there are already 485 mills; 15% use modern oil extraction technologies (automatic or semi- automatic), while 85% use discontinuous traditional methods. Oil extraction technologies are essentially of two types: the simple pressure extraction system (traditional and semi-automatic) and the 3-phase extraction system, where the oil, vegetation waste water and pomace are separated (new automatic systems). The 2-phase process (separation of oil and pomace with high water content) is beginning to be used in Lebanon and eleven 2-phase mills are currently operating with good results (Source: ICU). Regarding their location on the territory, 50% of the facilities are located in the north of the country, 21% in the Mount Lebanon area, 14% in southern Lebanon, and the rest distributed between Nabatyie and Bekaa (Reference: Traditional or Modern Units village survey '97 - MINAGRI/FAO). Integrated from new development projects implemented up to 2004).

Processing of TO is mainly carried out at a family level with subsequent retail sale of the products, in complete absence of a treatment phase.

Instead, the processing by-products (water and pomace) are discharged into the environment as they are. The direct disposal of this waste without appropriate treatment causes pollution and environmental degradation.

In particular, vegetation water pollutes surface water, groundwater and agricultural land. The main problem is the difficulty of breaking down the aromatic compounds (phenols and polyphenols) that are scarcely degraded by soil microorganisms due to the high concentration of organic carbon inhibiting their action. Another negative aspect associated with vegetation waste water is the intense coloration, high acidity and increased BOD (Biological Oxygen Demand) and COD (Chemical Oxygen Demand). These negative environmental aspects worsen further with the arrival of the first seasonal rain that leads to the pollution of surface water (rivers, streams, etc.). Recent research suggests incorporating vegetation waste water into the soil (vineyards, olive groves) 30 days after extraction, in different amounts depending on the type of soil and other geomorphological parameters (from 150 to 450 m3/Ha). Vegetation waste water is considered a natural herbicide and its apparent temporarily

[3] Value determined by economic studies and statistical analysis carried out by the Lebanese Ministry of Economy and Trade concerning 1997 olive oil imports.

negative effect is cancelled about 40 days after distribution. This therefore appears to be the most economical and feasible solution.
Further oil extraction from pomace induces co and CO2 emissions into the environment. In Lebanon, pomace is also used as an energy resource and for feeding livestock.

1.1.2. LEBANON'S POLICIES IN THE AGRICULTURAL AND OLIVE OIL SECTORS

Due to the strategic importance of the olive growing sector in Lebanese agriculture for reviving the Lebanese economy, in recent years the Government has encouraged olive oil cultivation through various initiatives by distributing pruning and harvesting machines, encouraging acquisition of more productive cultivars, and participating as an operational partner in various international development projects (EU / ICU, IFAD / ICU, MAE-DGCS / LARI, Coop FR, etc.). Nonetheless, it is largely acknowledged that the MoA (Ministry of Agriculture) must rely on scarce resources, especially for supporting the spread of good cultivation practices.
At the same time, Lebanese olive growers are also convinced of the need to update traditional production and processing methods in line with international quality standards to better address existing market competition.
The MoA 2010-2014 strategy, related to the initiatives, explicitly provided for updating the legislative framework (axis i), re-activation of the TS disclosure service (axis iv); and development of chains to increase global competitiveness (axis vi).
These priorities have not changed under the new 2015-2020 strategy. The following actions are envisaged in the intervention areas under evaluation to achieve the three strategic objectives of 1) food security, 2) increasing the contribution to the country's economic and social growth, 3) promoting sustainable management of natural resources:

- Modernization and development of the supply chains and dissemination of Good Agricultural Practice (GAP)
- Increase in exports
- Dissemination system development
- Reinforcement of the cooperative system

This strategy is maintained at very general levels and is not specific to the olive sector.

1.1.3. LEBANON AND ITALIAN COOPERATION IN AGRICULTURE

Food security and poverty reduction are among the main priorities of Italian cooperation in Lebanon. Development initiatives are based on an inclusive supply chain, innovation and business; in other words, integration into the most vulnerable population markets.
During identification and implementation of the initiatives, the cooperation policies referred to the areas covered by the Millennium Development Goals (Millennium Development Goals (MDGs), which presently evolved into the current Sustainable Development Goals (SDGs)
In the recent national context, especially with the massive immigration of Syrian refugees, the Italian cooperation's commitment to strengthen food security and small producers' incomes is increasingly important.
The 2016 - 2018 Triennial Programming and Directives Document identifies the thematic and sectorial priorities, starting with humanitarian aid, the top priority in the most fragile contexts (Syria, Iraq, Sudan, South Sudan, Yemen, Sahel, Horn of Africa, Palestine, CAR), which include agriculture and food security, education, training and culture, health, governance and the fight against inequities; another priority is opening up to new sectors, where Italy has expertise and added value to offer. The relationship between migration and local development is a major cross-cutting theme.

1.2. COOPERATION INITIATIVES UNDER EVALUATION

The Socio-Economic Support Project for Producer Families in Lebanon's Peripheral Olive Growth Areas (AID 8241) and the National Oil Quality Improvement Program (AID 9527 Oil Component).

1.2.1. NEEDS THAT THE PROJECTS INTEND TO MEET

The sector and producers in the Lebanese olive oil chain are affected by a variety of problems that limit their development. In particular, the chain's overall efficiency is greatly reduced due to the inefficiency of public or private policies and entities capable of providing useful services to operators, such as technical assistance (TA) in the production process, collection and processing of products, and marketing. Technical problems in the olive oil sector are obviously connected to other socio-economic structural variables. Below are the main problems that have been observed at different levels of the chain:

1) Poor technical and financial management skills of agricultural cooperatives.
2) Under-appreciated work by rural woman.
3) Young people are not integrated into the olive sector in key roles for innovation and provision of specialized services
4) Reduced size of olive farms.
5) Products and by-products of the supply chain are not fully used, causing negative environmental repercussions.
6) Lack of information/training at all levels of the chain. Most olive growers are not assisted or supported in their decisions, and the training of trainers (TT) needs further improvement.
7) Poor product quantity/quality despite high production costs.
8) Poor product promotion by the chain.
9) Lack of a subsidy system to support olive producer groups/cooperatives.
10) Lack of specialized technical staff at all levels (pruning, grafting, harvesting, business promotion, technical assistance, etc.) within villages/cooperatives.

1.2.2. THE ORIGIN OF COOPERATION INITIATIVES AND AGREEMENTS

Within past and present Italian cooperation policies in Lebanon, a priority intervention area is encouraging socio-economic development benefiting the rural population living in critical economic conditions. In Lebanon, olive growing is a sector of strategic importance since it is the only form of subsistence of the agricultural population in certain regions. The Lebanese Government, through the Ministry of Local Agriculture, has launched discussions with social partners and institutions aimed at defining actions to improve the living conditions of populations in olive cultivation areas.

Thus, on November 28, 2002, a "verbal agreement" was signed in Beirut between the Chairman of the Council for Reconstruction (CDR) and the Head of the Italian Office for Territorial Cooperation of the Italian Ministry of Foreign Affairs. This agreement provided for a donation to support the olive oil sector.

Following this agreement, the Lebanese Government addressed CIHEAM-IAM Bari (IAM-B), of which it is a member, requesting the technical assistance essential for the formulation of a project. In June 2004, the Lebanese MoA submitted to the Italian MAE the proposal for an olive sector support project, which was subsequently reformulated to comply with the "Socio-economic Development Program" (Fight Against Poverty). The Lebanese MoA proposal was definitively formalized in December 2004 (letter of 21 December 2004, No 7675/3) in the "Socio-Economic Support Project for Producer Families in Lebanon's Peripheral Olive Regions (AID 8241)" (OO 1). The action was carried out under the direct responsibility of IAM-B through a grant agreement signed with MAE (29/05/2006) for a total cost of €4,095,785 (MAE contribution of €3,299,258). The action was then developed

in 12 of Lebanon's regions (Akkar, Dinnieh-Menieh, Zgharta, Bcherri, Hermel, Rachaya, West Beqaa, Marjeoun, Hasbaya, Tire, Nabatieh and Bint-jbeil).
In 2010 (26/11/2010), the Lebanese MoA and MAE signed a financing agreement to extend the previous action (OO 1) into the other 4 key regions for sector development to implement the "National Program for the improvement of olive oil quality and actions against the diffusion of Phytoplasma" (AID 9527). The olive oil sector development component of this second action (hereinafter referred to as *Olio del Libano* 2 or OO 2), in addition to extending the same type of action to cooperatives in the regions of Baalbek, Batroun, Koura and Chouf, also strengthened its oil quality control capacity in line with international standards. Execution of OO 2 was entrusted to the MoA itself through a budget support mechanism governed by a bilateral agreement and subject to mandatory external evaluation.
Based on the identification and formulation report, the choice of governmental implementation of OO 2 initiative is based on the following observations:
a) the establishment of the executive in December 2009 allowed forming partnerships with government counterparts active in defining and implementing national medium-term policies
b) Government management and responsibility for the entire design process, in addition to ensuring the operation's sustainability, made it possible to capitalize on accomplishments of the OO 1 program managed by IAM-B.
c) the MoA was clearly adopting a sub-sectorial policy (Ministerial Declaration) aimed at improving agricultural products' quality according to international trade standards by improving the ministry's sectorial co-ordination and human resources capabilities.
The OO 2 initiative began formally with the signing of the financing agreement in November 2010, while the activities started in June 2011 for an initial period of 12 months, but lasted until June 2016 (60 months total duration). The total budget was €2,105,400, of which €1,775,400 was a grant from the MAE.

Table 1 – Duration and financial contribution of the projects

Project	Total costs (€)	Contribution from MAE (€)	Regions of implementation	Starting date	Ending date
OO 1	4.095.785	3.299.258	Akkar, Dinnieh, Menieh, Zgharta, Bcherri, Hermel, Rachaya, West Beqaa, Marjeoun, Hasbaya, Tyre, Nabatieh and Bint-jbeil	Dec 2008	Dec 2012
OO 2	2.105.400	1.775.400	Baalbek, Batroun, Koura, Chouf	Jun 2011	Jun 2016

1.2.3. INTERVENTION STRATEGY AND LOGICAL FRAMEWORK

La strategia di intervento
The two actions' strategic approach is essentially the same. The projects are based on the close collaboration of producer co-operatives (oil and olive products such as soap and TO) with NGOs, Lebanese MoA experts, and Italian institutions engaged for technical support.
The workstreams are focused on:
a) Business promotion and human resource training (including women) in excellence and innovation: product and by-product promotion, technical assistance, and commercial promotion skills to be developed among the beneficiaries. The actions responded to the need to disseminate crucial themes of technical innovation for farmers and to update trainers to achieve products that meet modern market needs and increase olive growers' competitiveness.
b) Capitalization of cooperatives to promote OO products and by-products.
In Lebanon, many olive-growing cooperatives have a low level of resources and lack production services for members. In most cases, the oil cooperatives' management capacity is insufficient. In the regions identified, cooperatives with complete infrastructure and

machinery for extraction are not the majority. As a result, the product-and-by-product promotion strategy is based on innovation and on specific subsidies.

c) Environmental Protection

The environmental protection strategy involves the application of standards already known at the Mediterranean and international level for: 1) spreading vegetation waters from the mills in olive groves; 2) management of pomace (composting and production of pellets for domestic combustion).

d) Sectorial governance of public institutions. The technical and business approach is complemented by identification of institutional support measures at the MoA and the national research institutes (LARI and CNRS) to tackle difficult problems mainly related to product promotion and quality control, the corresponding alignment of quality standards to the needs of domestic and international markets, and the process of propagation of certified plant material for the renewal of olive groves.

Logical Framework, Objectives, Expected Results and Project Indicators (For the LF, see Annex 7).

In the specific context, **the general objective (GO)** is to improve olive oil producers' economic conditions through technological innovation, sustainable agronomy, and human resource capacity along the olive cultivation chain.

Specific Objectives (SO).

Although the specific objectives of the two actions considered are basically the same, the two LFs are partially different. To facilitate systematic and comparative analysis of LFs, this evaluation exercise has reorganized the different outcomes and activities into three Specific Objectives (SOs) as follows:

Specific Objective 1: Improving and streamlining production processes.

SO 1 focuses on improving productivity and quality and reducing production costs of olive oil and its by-products. The actions strongly promote the improvement of individual producers' capacities (SO 1 in OO 1 and Results 1 and 2 of OO 2) with the aim of increasing production quantity and quality as well as reducing production costs, with the consequent improvement of the farm's net income.

Specifically, OO 1 - SO 1 addresses the problems associated with: a) low product quantity / quality with high production costs due to poor knowledge of production techniques and lack of mechanization, b) poor inclusion and encouragement of women's work (used only as a workforce for harvesting olives); and (c) insufficient skilled workforce.

Specific Objective 2: **strengthening the olive cooperatives.**

OS 2 essentially focuses on improving the level of co-operative management and increasing the cooperatives' capacity to provide services for production, processing (oil, soap and TO) and marketing through grants. SO2 of OO 1 focuses on improving existing producer organizations' (cooperatives) capacity by improving their management and planning capabilities (SO 2 of OO 1 and Activity 2.1) through staff selection and training (OO 1 results 1, 2 and 3) and allocation of grants. This takes place through careful selection of potential cooperatives (OO 1 - R 2), training of technicians (OO1 and OO2 - R 1) through an inclusive approach that favours the most vulnerable groups; e.g., women (OO 1 - R 8) and co-operative workers (OO 1 - R 4).

Specific Objective 3: **Institutional and environmental sustainability.**

Finally, the action has launched a number of crucial initiatives to improve MoA sectorial governance through a number of coordinated and coherent actions, focusing mainly on:

a) improvement of the legal framework (OO 1 Act. 1.3) and planning tools by developing a satellite map of the OO (OO 1 Act. 1.4);

b) strengthening the OO management capacity for quality control processes (OO 1 Act. 1.5 and OO 2 R 3) and traceability of producers (OO 2 Act. 1.3);

c) Varietal characterization and enhancement of plant propagation. The OO 1 action performed a varietal characterization (Act. 3.5) and the consequent system of conservation and certification of mother plants, as well as the creation of a national log for registration and quality standards for OO, TO and soap. Action OO 2 also promotes the establishment of a national system for traceability (Act. 1.3) and certification.
These governance actions, in both projects, have been included in several results, making this crucial aspect practically invisible in the overall LF economy. It is clear that the projects have duly considered the importance of this aspect without, however, giving it a prominent position on its own. For this assessment to make the analysis more effective and coherent, it collects those actions in OS 3.
Both projects also aim at improving the MoA capacity to ensure adequate agricultural extension services by increasing the technical know-how of the provincial level trainers (OO 1 R1 and OO 2 R 1).
The action also promotes olive industry by-products (OS 3 of OO 1 and R 3 of OO 2) to enhance their use and, above all, to reduce their environmental impact: a) pomace and pruning residues (b) residual water from transformation (vegetation waters), the so-called Waste Waters - WW (OO 1 - R 5).

Beneficiaries
The project's **direct beneficiaries** are:

- The OO producer families who have benefited from the technical assistance and training tools provided, acquiring the up-to-date information and tools necessary for a correct approach and management of the various stages of production, transformation and marketing. About 3,600 producers were trained in the two projects in question.
- These are 69 cooperatives of olive growers and technicians/workers (with a total of 990 members) that received managerial, technical and investment training focused on service provision and processing and marketing of products and by-products (see Annex 5).
- The Ministry of Agriculture (MoA):
  - Ministry of Agriculture technicians and **trainers** who have been involved in training activities and are oriented towards study activities, research and support planning for the development of the olive oil chain, have also benefited from these initiatives;
  - the units responsible for sectorial governance policies and quality control laboratories;
  - the unit responsible for MoA gender policies: The National Observatory for Women in Agriculture and Rural Areas (NOWARA).
- The Lebanese technical - scientific institutions responsible for research laboratories, varietal characterization and propagation of mother plants (LARI) and mapping olive growing areas (National Council for Scientific Research - CNRS).

The **indirect beneficiaries** are consumers and other actors in the chain (traders, catering services, tour operators, etc.) who can count on better product quality and presentation. Rural communities are also indirect beneficiaries that will see reduced pollution of the aquifers from mills' wastewater.

CHAPTER 2. OBJECTIVES AND METHODOLOGY

2.1. EVALUATION OBJECTIVES

The subject of the evaluation consists of 2 projects implemented through the financial instrument of the Development Cooperation DGCS-MAE in Lebanon: "Socio-economic support for the families of the peripheral olive-growing regions in Lebanon" (AID 8241),

and the "olive oil "component of the "National Program for the improvement of olive oil quality and actions against the diffusion of Phytoplasma" (AID 9527).
The overall objective of the evaluation, as envisaged by the ToR, is to assess the 2 initiatives according to the classic criteria of Relevance, Efficiency, Effectiveness, Impact, and Sustainability, with particular attention to additional Co-ordination and Consistency criteria and added value of interventions and cross-cutting issues of Gender Analysis and Environmental Sustainability.

The main objectives of this evaluation exercise are as follows:

1) Evaluate the two initiatives in depth according to the criteria listed in the ToR: Relevance, Efficiency, Effectiveness, Impact, and Sustainability. Other cross-cutting elements have been added to the aforementioned criteria: institutional coordination as well as gender and environmental aspects.
2) Identify and promote good practice and lessons learned for each of the 2 projects with particular focus on dissemination of results and their sustainability.
3) Make a judgement on the strategic approach of each of the two projects. The validity of intervention strategies allows assessing whether the initial policy assumptions formed in the specific goals are effective in achieving the proposed objectives. In addition, the assessment seeks to analyse the validity of project design that could be replicated in the frame of future Actions of National Polices.
4) ater national implementation actions of past and present policies.
5) 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.

The last goal is to address the 2016 - 2018 three-year programming and directives Document of the MEA-DGCS, which includes the thematic and sectorial priorities in fragile contexts (Syria, Iraq, Sudan, Sudan, Yemen, Sahel, Horn of Africa, Palestine, RCA) - agriculture and food security, education, training and culture, health, governance and the fight against inequalities. The relationship between migration and local development is a major cross-cutting theme.

2.2. APPROACH AND METHODOLOGICAL PRINCIPLES

The methodology followed the principles of "results based approach" comprising analysis of various sources of information and data derived from project documentation, monitoring reports, and interviews with government counterparts and project staff as well as with direct beneficiaries, both individually and aggregated in "focus groups".
The type of evaluation required is ex post. Therefore, its results are mainly focused on analysing the validity of the strategic approach and coherence of the execution design with the national context (relevance criteria and design quality), as well as the effectiveness and sustainability of the interventions.
Particular importance has been attached to the effectiveness and sustainability of innovation-led actions which, if appropriately replicated, can have a significant impact and constitute valuable elements for the formulation of future national policies and cooperation in the olive sector.
Institutional sustainability has been further analysed based on the effective capacity of the MoA and other public entities to ensure the continuity of sectorial governance measures (information systems, traceability, standard definition and quality control, phytosanitary monitoring, system for certification and propagation of commercial varieties, and maintenance of germoplasm of olive varietals).
The sustainability of actions for cooperative organizations was finally assessed based on the ability to offer better service to producers (TA, processing and marketing) and internal organizational management.

2.3. EVALUATION CRITERIA AND EVALUATION QUESTIONS

The project evaluation is structured according to the 5 OECD / DAC criteria (relevance, efficiency, effectiveness, impact and sustainability). The sustainability aspect has been complemented by analysing gender, environment, coordination / synergy with other sectorial programs and potential best practice replication with proven or promising effectiveness.

The analysis takes into account the information gathered based on the study of updated context and project documentation, field visits and data analysis collected to answer the evaluation questions and their indicators contained in the projects' Evaluation Matrix (EM). Evaluation questions were selected and sorted according to the evaluation criteria indicated in the ToR (relevance, design validity, efficiency, effectiveness, impact and sustainability, coherence and coordination, added value, gender analysis and environmental sustainability.

CRITERIA AND EVALUATION QUESTIONS (EQ):

Relevance (EQ 1a and 1b): Regarding this criterion, the evaluation primarily measures the degree of correspondence between the results and the project objectives with the national policies and identified problems or needs.

Validity of project design (EQ 2): the evaluation examines the degree of logic and coherence of the project design. The theory of change contained in the design of projects is identified and explained and the coherence of the progress of change is evaluated.

Efficiency (EQ 3): taking the results as a reference, this aspect allows evaluating how the project activities and implementation mechanisms have made it possible to transform available resources into results (how *inputs* have been converted to *outputs*), in quantitative, qualitative and time terms. Respect for the expected time and achievement of the expected results (monitoring system) are evaluated.

Effectiveness (EQ 4 and EQ 5): Based on this criterion, the degree of achievement of the specific objective is assessed. Efficiency here is divided into two criteria (short-term effectiveness and medium-term effectiveness) for a more accurate analysis. The short-term achievement of the specific objective concerns products and services. Medium-term effectiveness measures the level of change in beneficiaries. At this stage, the validity of the intervention logic identified in the analysis of relevance is finally verified

Expected Impact (EQ 6): under this criterion, the degree of achievement of the GOs' is assessed by measuring the long-term changes in the beneficiaries. With the ex-post approach, it is plausible to analyse the impact foreseen based on the effectiveness and sustainability of actions and external factors that may influence (increase or eliminate) the effect of the results achieved.

Sustainability (EQ 7): this assesses the capacity of a project to continue to benefit after its conclusion by examining the degree of political support and involvement of the national and local beneficiary institutions and considering the financial and economic sustainability as well as the technical and socio-cultural factors that allow the benefits to last.

Additional criteria in support of overall sustainability

Coordination / coherence (EQ 8): the criteria allow assessing whether the results obtained are seamless or complementary to those obtained from other interventions promoted by DGCS, local actions and the international community.

Indicators: Level of continuity and / or complementarity with other similar actions promoted by DGCS or other donors.

Target: The results achieved by the projects are embedded in a logic of continuity and complementarity with other similar initiatives funded in the country by the DGCS and / or other donors.

Environmental Sustainability (EQ 9). The issue of environmental sustainability appears among the cross-cutting *sectors* in all the Italian Cooperation initiatives and programs. Analysis has been performed on project strategies and methodologies adopted to reduce the

impact on the environment and ensure the efficient and sustainable management and use of natural capital.

Gender Equality (EQ 10). The project's approach to gender equality, the expected changes in the lives of women to whom the project contributed, the availability of gender-disaggregated data, and the allocation of gender equity resources were evaluated.

Added value and best practices (EQ 11): it was assessed whether there were any unexpected additional benefits stemming from co-ordination between initiatives, consistency of the activities (internal and external) and other factors that could lead to replicability of the intervention, multiplier effects, indirect beneficiaries not originally considered, etc.

The following cross-cutting criteria were considered:

Capacity building: it will be assessed whether and how the projects have contributed to the local development of the technical, financial, managerial and institutional skills and competences of the stakeholders in the sphere of intervention. The questions of effectiveness, sustainability and consistency can be linked to this issue as well.

Empowerment / ownership: Evaluation will be aimed at verifying that the projects have favoured a process that allows beneficiaries to: (a) make choices and pursue self-decision goals (self-management and / or self-government), (b) develop capacity and opportunities for participation and incidence on political entities (national or local) or civil society / private sector pertinent for the recognition of rights and eventual fulfilment of development goals. c) stakeholders' and beneficiaries' level of ownership of the initiatives.

2.4. TOOLS AND SOURCES

The methodology for collecting and analysing data in its final version was designed in the first phase of the evaluation process (see Chapter 3) after analysing project documents and interviews with institutions responsible for their implementation.

Data collection tools have been identified in accordance with the assessment questions and indicators indicated in the EM and by adopting a principle of stakeholder inclusion. The following are the main data collection activities performed:

Study of the documentation collected at the initial stage and during on-site visit (Lebanon) (policy documents, project documentation, monitoring reports).

The main groups of interest and sources of information identified are:

- officials of public institutions responsible for sectorial governance and the functioning of services (TA, laboratories, etc.)
- beneficiary cooperatives and their members (management committees, workers, technicians and producers)

The main data collection tools used were:

a) Field visits and open interviews were both collective (to olive cooperatives) and individual to respond to differing assessment questions depending on the stakeholder group to interview and thus the interview focus. Two semi-open structured questionnaires were prepared (Annex 4):
   - for co-operatives, directed to the representatives of the same/managing committees.
   - to cooperative members who have received TA directly from project engineers or MoA trainers or, indirectly, through demo plots (DP) or demonstration fields. Co-operatives were chosen based on the representativeness of the investments and the training activities promoted by the projects with a threshold of at least 20% of the total benefiting from the project (more details on the cooperatives visited are found in Chapter 3).

b) Other individual interviews were performed (but not structured) for:
   - all categories of MoA officials and other involved public entities (LARI, etc.),
   - other stakeholders (private sector, NGOs, etc.).

The EQs were addressed by **triangulating sources and methods** to strengthen the reliability of the information and the credibility of the results.

CHAPTER 3. THE EVALUATION PROCESS

3.1. THE STUDY OF THE PROJECT DOCUMENTATION AND THE INITIAL REPORT (IR)

The phase of obtaining and examining the documentation (see Annex 3 for the list of documents consulted) began in January 2017. In the same month (21/01/2017), a first meeting was held in Rome to learn about and plan the initial phase between the Evaluation Team (ET) and Office III - Evaluation Division of the MAECI-DGCS

The research and study of project and context documentation was smooth and efficient thanks to good coordination among all stakeholders (ET, Office III - DGCS, Italian Embassy in Beirut, IAM-B, ICU, Lebanese MoA, the Italian Agency for Development Cooperation (AICS) Lebanon Headquarters, and AVSI).

The Inception Evaluation Report and the provisional field visit schedule were presented at the scheduled time (first week of April 2017), and approved during the second meeting held at Office III - DGCS by the ET (Rome) on April 21, 2017.

In line with the methodological approach adopted, since the initial stage, the ET has invited and involved the MoA, which appointed Magida Mcheik, the current Councilor's adviser, as focal point for the preparation of the activities related to the field visit, an essential contribution, especially regarding institutional coordination of the public sector concerned at the central and peripheral level.

The field visit agenda proposal was coordinated with the MoA focal point and consulted and approved in advance (especially regarding the security aspect) by the Italian Embassy in Beirut.

3.2. MISSION IN LEBANON AND PARTICIPATORY SURVEY

The mission in Lebanon took place from 6 to 27 May 2017. Annex 1 indicates the locations and organizations visited, as well as the schedule and contacts of the persons met during field visits.

The mission began with the initial briefing at the central MoA with Mrs. Magida Cheik, the focal point designated by the Minister. The planned briefing with representatives of AICS Headquarters in Beirut did not take place due to the absence of managers in charge of monitoring the actions being evaluated. A separate Briefing was held with the Italian non-governmental Institute of University Collaboration ICU, which is involved in the execution of important project components.

The first week of the mission was devoted to the visit to the MoA officials responsible for the continuity of the promoted actions and to other public institutions involved in project implementation (LARI and CNRS), private entrepreneurs in the olive sector and the organization "Les amis des marionettes", responsible for an important activity of the OO1 promotion component).

The second and third week were dedicated to visits to interested cooperatives and institutions (LARI Tal Amara and LARI Kfarchakhna) located outside the capital. The questionnaires for cooperatives and producers were first tested during the first two days of the visit to three cooperatives in the Nabatieh and Chouf regions (after the test, the questionnaire was translated into Arabic). After this first test phase, the ET divided to use the time available with maximum efficiency. A first group covered the south, including the Bekaa region (Zahle) and a second went north (including Baalbeck). Each group was accompanied by an interpreter with high technical knowledge in the field (MoA trainer).

The selection of cooperatives was carried out based on their representativeness in the two projects in term of the investments made. The list of cooperatives was also discussed with

the MoA focal point. With the exception of Akkar, Hermel and Marjaioun/Hashbaya (excluded for security reasons), all 9 other regions affected by the projects were visited by the ET.
During the field visit, 17 cooperatives were visited, representing 25% of the organizations benefiting (59 in total), more than the 20% indicated in the initial report (Annex 5). In addition to the members of the board of directors, there were 38 producers, 2 for each cooperative. In view of the high uniformity of the producers' characteristics within the individual cooperatives, as verified during the questionnaire test phase, it was decided to reduce the number of producers to be interviewed (originally 5) and spend more time visiting the olive groves and infrastructures. Given the seasonality of processing and harvesting activities, it was virtually impossible to meet many of the mill operators directly. The information on these actors was thus obtained from an indirect source.
The field mission took place as originally planned with no problems, and all stakeholder involved were met. Below (Table 2) is the list of visited stakeholders (see Annex 1 for the list of persons met):

Table 2 - Visits made and types of actors interviewed

COOPERATIVES	PRODUCERS/COOPERATIVE MEMBERS	MOA DEPT (BEIRUT)	REGIONAL AGRICENTERS OF MOA	NATIONAL REASERCHER INSTITUTIONS	ACTORS OF PRIVATE SECTOR AND BREEDERS
17	38	6	9	4	2

The preliminary conclusions of the Participatory Survey were presented on May 26 in two summary presentations (*PowerPoint*) at the end of the field mission; the first occurred at the AICS Beirut headquarters with the participation of NGOs ICU and AVSI and the second conducted in the presence of the focal point and all the central MoA units.
For the list of cooperatives and the type of investments visited, see Annex 5 to this report.

3.3. DATA ANALYSIS AND DRAFTING OF THE PROJECT FINAL EVALUATION REPORT

The drafting of the Final Evaluation Report was in line with the DGCS guidelines, started after the return of ET to Italy. The ET cross-referenced the information gathered with that contained in the project documentation and processed the preliminary version of the report. The qualitative-quantitative analysis and comparison with the project indicators allowed answering the questions contained in the EM, structured according to the five OECD/DAC criteria: 1. relevance, 2. effectiveness, 3. efficiency, 4. impact and sustainability.

3.4. COMMUNICATION AND DISSEMINATION: WORKSHOPS

The draft evaluation report was submitted on July 17, 2017.
The final conclusions of the evaluation have been illustrated in a summary presentation (*PowerPoint*) to local stakeholders and AICS Beirut in Lebanon on the 12 September 2017 after integration of observations by the evaluation unit in Italy and the other units involved. Presentation of the final version of the evaluation report took place during a *workshop* held at DGCS, on the 22 September 2017.
For the list of participants in both final workshops, see Annex 6.
Following receipt of the comments to the preliminary report submitted, the Final Evaluation Report (FER) has been drafted in Italian and English and delivered by 28 November 2017.

CHAPTER 4. EVALUATION RESULTS

4.1. RELEVANCE

4.1.1. RELEVANCE AND QUALITY OF THE DESIGN

The coherence of the intervention strategy with national and sectorial policies (policies and programs).

The MoA 2010-2014 strategy, related to the initiatives, explicitly provided for updating the legislative framework (axis i), re-activation of the TA training service (axis iv); and development of chains to increase global competitiveness (axis vi).

Within the new 2015-2020 strategy, these priorities have not been altered; the areas of intervention are indicated among the actions envisaged to achieve the three strategic objectives, namely (i) food security; (ii) increased contribution to the country's economic and social growth; and (iii) promoting sustainable management of natural resources.

Among these, those pertinent to the evaluated actions are:

- Modernization and development of the supply chains and dissemination of GAP,
- Increase in exports,
- Dissemination system development.
- Reinforcement of the cooperative system

This strategic framework is perfectly consistent with the MoA's past and future intervention strategies.

It should be noted that the strategic documents remain very generic and do not clearly address the issues of major strategic crops such as olive cultivation.

THE COHERENCE OF THE INTERVENTION STRATEGY WITH THE NEEDS FOR STRENGTHENING SUB-SECTOR GOVERNANCE AND TECHNICAL ASSISTANCE / EXTENSION SERVICE OF THE MINISTRY OF AGRICULTURE (MOA)

The two initiatives have identified, in a very pertinent and synergetic form, the institutional strengthening actions required by the sector:

- cartographic update of the olive cultivation areas,
- alignment with the international standards associated with the quality control system,
- regulatory framework for increasing competitiveness (organic production, geographic indication) and reducing the environmental impact of the approximately 550 existing mills in the country,
- characterization and determination of the potential of local varieties to then advance with a certification system for plant production,
- strengthening the technical capacities of regional agricultural distributors.

A review of the activities carried out by OO 1 during the initial phase strengthened these actions. The OO 2 project followed and consolidated the quality control initiatives by providing for an important national laboratory for bio-organoleptic analysis of the OO.

THE COHERENCE OF THE INTERVENTION STRATEGY (VALIDITY OF POLICY ASSUMPTIONS) WITH THE NEEDS OF THE PRODUCERS

The needs of producers and cooperatives were accurately identified both during the identification and the implementation phase. The intervention strategy was designed according to identified needs, and subsequently organized into the Specific Objectives (SOs). In the Lebanese context, the expected results were obtained from the strategy of promoting modernization and intensive GAPs to increase the overall competitiveness of companies (SO 1) by continuing high-level TA operations, focusing on cooperatives and increasing the capacity of MoA (TT). The effectiveness and sustainability indicators verified during the field mission confirm significant improvements in all key variables.

Producers, despite a high average age and low level of education, have proven to be extremely receptive and proactive in innovation and the use of new techniques in a limited time span (2 to 3 production cycles). Consequently, demand for better access to services has increased considerably with respect to the pre-project period.
Lastly, it should be mentioned that the intensive practices promoted can lead many small businesses (olive groves less than 1 hectare or 10 dunums) towards a progressive economic marginality, especially those conducted by part-time producers. In fact, many of the GAPs require a more constant presence, a more intensive use of labour and relatively important investments when services are not ensured by their cooperatives. Given the incidence of this type of business, the modernization process could exclude important areas and slow down growth in the sector.
At the same time, the evaluated initiatives (especially OO 1) have strengthened the capacity of cooperative organizations (SO 2) through capitalization to improve producers' (partners and non-members) access to machinery and equipment essential to the implementation of GAPs promoted to managerial (management and marketing) and technical TA, the latter instrumental to the use of the equipment provided.
Strengthening co-operatives proved to be a winning strategy in terms of the increased range of services they provide and manage. Nonetheless, the strengthening of management was not continuous and did not focus precisely on the role of cooperatives as sustainable and competitive service providers with the local market. This limited the creation of new employment based on specialized workers (pruning, collection, treatment and processing).
This transformation process, desirable for this new and indispensable role, does not seem to fit all existing organized realities, many of which seem to be sufficiently linked to old welfare schemes and are generally lacking in human resources capable of assuming the challenges of modernization. In this context, the intervention strategy did not consider the essential role that the private sector could play in providing services (including financial ones) to producers and cooperatives, and thus speed up, rationalize and enhance the process of developing the olive oil chain and rural economy.
The strategy for enhancement, marketing and consumer promotion of quality products and by-products in the olive sector and in line with international standards has been pursued correctly. However, it seems that the enhancement of quality is linked to processes for changing the behaviour of producers and consumers that take much longer than the duration of the actions. The necessary quality controls are still very limited in practice at all levels of the chain.
The integration of women into producer organizations and production processes has been successfully pursued through the strengthening of sole women's businesses; however, the integration of the gender factor in olive growers' organizations collides with still very strong barriers. The project explored the issue only with groups of women, while the winning element to activate virtuous processes lies in the involvement of men. Although women producers represent only 5% of the cooperative members visited, they face specific problems, for example related to labour to perform certain farming operations (pruning, etc.), which have not been adequately identified.
The reduction of the environmental impact of production and processing (SO 3) has been addressed solely in relation to mill by-products (pomace and vegetation waste waters - WW) through a regulatory approach and the introduction of disposal technologies at pilot sites. The proposed use of pomace and vegetation WW treatment for fertilization has enormous potential for reducing pollution, restoring soil fertility, and mitigating climate change (carbon incorporation into soil organic matter).
Currently, the following major barriers limit the spread of these technologies: a) the lack of capacity of institutions to enforce WW treatment decisions; b) the alternative and cost-effective use of pomace in pellets for domestic energy production (which the same projects

have promoted in a quite contradictory manner with the stated objectives); (c) a detailed analysis of the conditions and investments needed to make these technologies sustainable based on the results of the projects implemented.

4.1.2. QUALITY OF THE DESIGN AND PLANNING

4.1.2.1. QUALITY OF THE LOGICAL FRAMEWORK

The Logical Framework (LF) of the projects was formulated based on the standards indicated for the methodologies applied to the *project approach* and based on the analysis built into the problem tree. Following the definition of the GO, the SO defines the intervention strategy which in turn directs activity and results and allocates corresponding resources.

The OO1 Project Coordination Unit (PCU) took the first months of the project to update the context of the country and target areas and eventually make the necessary changes to the 2005 design version. The update of the OO 1 project focuses on strengthening governance in the OO sector (an institutional committee was added to draft and follow up on a series of specific legislative proposals for the OO sector as well as the mapping of areas occupied by olives for traceability and policy planning). Following the update during the initial phase, the original logical framework (LF) was modified mainly at individual activity levels without modifying the structure and main content of the goals and results.

The intervention criteria for result R 4 of the OO 1 were changed during project implementation. In fact, the beneficiaries of R 4 were young unemployed people in rural areas. However, the project decided to concentrate the training activities envisaged to improve the professional skills of cooperative members responsible for managing the project investments (mills, machinery, etc.). The new strategy is clearly reflected in the LF - R 4 and related activities.

Finally, gender-oriented actions and consumer awareness have been improved. To this end, the project has started a constant cooperation with the National Observatory for Woman in Agriculture and Rural Areas (NOWARA) of the MoA.

OO 2 (AID 9527 olive oil component) did not undergo significant changes in the intervention logic during the implementation period.

In general terms, the LF is consistent with the intervention strategy (see details in Chapter 1.2). The review of the LF operated by OO 1 was relevant and firmly consolidated the MoA governance initiatives.

Nonetheless, the quality of the LF does not always allow a clear cause / effect relationship, especially with relation to SO and results. As noted in Chapter 1.2 (the Logical Framework), there are three different SOs formally assembled in a single SO. The relationship between these SOs and the results is not always clear and straightforward. In other words, in the LF structure, there is no explicit relationship between the 9 results and the 3 SOs stated.

Again, in terms of clarity, in the LF, the numerous governance actions (see in detail in the Effectiveness chapter: 4.3.2 - Specific Objective 3) are embedded in various results and then fragmented, thus reducing the clarity and understanding of the objectives of the expected results and of the corresponding indicators.

INDICATORS: QUALITY AND FEASIBILITY OF THE ESTABLISHED TARGETS

The SO level indicators of the two projects are mostly a list of outputs that, in principle, should be associated with the results boxes, while the 10% increase in exports (of the 4 regions concerned) as set out in OO 2 would be much more relevant at the GO level. In any case, this indicator is difficult to detect due to the limited availability of data on exports by region.

Some indicators and, in some cases, their targets, are relevant to the three SOs stated (see Table 3 below). It is obvious that the indicators defined are not sufficient to appreciate the improvements from the activities envisaged and are, to a large extent, difficult to estimate.

While some valid indicators were identified for S O1 (productivity, OO quality, production costs), for the other two SO 2 and SO 3, practically no significant and measurable variables were identified, making the analysis of accomplished results more complex.

Table 3 - SO Report/LF Indicators in the two Projects

SPECIFIC OBJECTIVES (SO) OO 1 AND OO 2	SO INDICATORS FOR OO 1 AND OO 2
SO1-OO 1: Support and organize individual growers to increase the quality and quantity of their production while respecting the environment and reducing production costs. SO1–OO2: Olive oil production quality and quantity improvement in four production regions of the country according to European commercial standards and establishment of a national laboratory for olive oil quality certification. SO2-OO1: Reinforce and streamline the management and planning activities of existing olive oil cooperatives / target producer groups in Lebanon's poor olive-growing regions through training, technical assistance and grants in technical means "sub condicio" (under the terms). SO3-OO1: Promote supply chain products and their by-products, ensuring the attainment of production.	**Production** OO 1: Production increases of **20%** OO 2: no indicator **Quality of the OO** OO 1: Reduction of oil acidity by **0.3%** OO 2: chemical and organoleptic characteristics improved in 20% of virgin and extra virgin oil in four selected regions (Koura, Batroun, Chouf, Nord Bekaa) **Producer income** OO 1: reduction of production costs by 25% OO 2: no indicator OO 1: Net benefit of cooperatives supported No indicator

Likewise, the result indicators correspond exactly to the activities without indicating the expected changes based on the identified problems, thus making the LF merely a self-referential exercise.

Lastly, given the technical nature of the actions and resources available to update the design, it is surprising that no basic guideline has been defined for evaluating the results.

It is no surprise, therefore, that the actions' monitoring and evaluation system (M&E) has focused entirely or almost entirely on the accounting of the activities carried out, as it is shown in the final execution report.

4.1.2.2. CONSISTENCY AND ADEQUACY OF IMPLEMENTATION MECHANISMS WITH THE CONTEXT OF ACTION DEVELOPMENT

THE INSTITUTIONAL FRAMEWORK

The MoA is present throughout Lebanon with its regional training offices (Agricentres), representing the Ministry and responsible for monitoring olive oil production. The MoA's support in recent years has also involved olive oil cooperatives and individual farmers through the delivery of material aids to cultivation (sprayers, PPPs, etc.).

The MoA olive oil sector management is guaranteed by the Plant Resource Directorate (PRD) and its units responsible for plant protection and plant propagation.

The complexity of the actions has involved other key units such as Agro-industry (product quality control and olive by-products), Agricultural Education and Extension - AEE (extension activity in individual regions - cazas), Marketing and Trade, and Cooperatives.

All the actions promoted by the projects have specific units in charge of governance and therefore of their institutional sustainability. In this situation, it can be affirmed that the public sector institutional framework provided the stability guarantees necessary to ensure the project's required level of effectiveness and sustainability.

Table 4 - Lebanese and Italian institutions involved

OLIO DEL LIBANO (OO 1 AND OO 2)	SCOPE OF RESPONSIBILITIES/ACTIVITIES CARRIED OUT
Ministry of Agriculture	OO 1: General coordination of activities in cooperation with the entity responsible for execution (IAM-B).

	OO 2: Entity responsible for execution in coordination with IAM-B.
Institutional Board specifically created to define and improve the legal framework.	Legal framework, - OO 1 Act. 1.3 a) Vegetation Water Ministry of Environment b) Organic production c) MoA Geographic Indication d) HACCP for mill operators.
MoA central and territorial units (home-based agricentre) of the AEE service	Technical assistance (TA) to producers and cooperatives - demo plots (DPs) Phytosanitary Bulletin (OO 1 Act. 3.3
Div. Development of cooperatives	Cooperative training coordination (OO 1 and OO 2)
NOWARA	Gender and training policies for women / cooperative members (OO 1)
Kfarchima Laboratory	Analysis laboratory for national OO certification (OO 2)
Div. Agro-industry	Creation of the national logo and national quality registry for OO, soap and TO - OO 1 Act. 6.2 and OO 2 R 3 Sensory chemistry laboratory).
OO promotion office - Beirut	Promotion of quality OO consumption (internal market and export) - OO 1 Act. 6.1.
CNRS	Maps of areas cultivated in OO and database for traceability of olive growers (OO 1)
LARI- Tal Amara	OO variety characterization, olive tree certification system (OO 1 Act. 3.5)
LARI - Kfarchakna	Plant propagation centre for olive trees (OO 1)
Les amis des marionettes	School / consumer awareness on quality (OO 1)
University of Perugia (UNIPG)	Training in pruning and molecular - genetic variety characterization (OO 1)
"Aldo Moro" University of Bari	Use of vegetation waste water (WW) from mills (OO 1) - Technical training for Lebanese MoA operators (OO 1 and OO 2)
Basilicata University	Use of vegetation waste waters (WW) from mills (OO 1)
Italian Association of Agricultural Machinery Manufacturers (UNACOMA)	Mechanical pruning and harvesting machines (OO 1)
Agrifood Research Centre Bonomo (Adria)	Technical Training (OO 1)
Institute of University Collaboration (ICU) - Italian NGO expert in the olive sector in Lebanon.	Technical training service (service provider contracted by OO 1 and OO 2)
CIHEAM - IAM Bari	International entity, organizer of the OO 1 Project

ORGANIZATION OF IMPLEMENTATION

Responsibility for the implementation of the actions was entrusted to IAM-B for the *Olio del Libano* Project 1 (OO 1) and to MoA for the *Olio del Libano* 2 project (OO 2).
IAM-B implemented OO 1 through a financing agreement (29/05/2006) signed with the MAE, while the MoA implemented the OO 2 project through a budget support mechanism governed by a bilateral agreement and obligatorily subject to external evaluation.
The two projects' governance and implementation mechanisms are very similar.

A Project Steering Committee (PSC) was set up to guide the implementation of the action from a strategic point of view and having the following functions:

- Project guidance and supervision;
- General policies and direction of strategic choices;
- Exchange of experiences and facilitation of contacts;
- Integration with other activities;
- Approval of operational plans and technical and financial reports prepared and submitted for approval by the person in charge of implementation.

In both projects, the PSC was comprised of a representative of the MoA, a Representative of the Embassy of Italy in Beirut, a representative of MAE-DGCS, a representative of IAMB

and the Project Coordinator (IAM-B for OO 1 and MoA for OO 2), as an observer / technical secretary
The planning and execution of the activities was guaranteed by a Project Coordination Unit (PCU), with a permanent coordinator and organized into thematic units (promotion and marketing components, technical assistance, agro-industry, etc.) and geographical coordination.
The PCU has established numerous partnership and service agreements with public and private stakeholders, NGOs, and research institutes to provide the best technical expertise for the development of the numerous complex activities.
Due to the highly innovative nature of the two actions throughout the olive cultivation chain (choice of cultivars, pruning, fertilization, gathering and harvesting, reduction of production costs), the project has chosen to work with a remarkable number of expatriate and local experts since the qualified human resource specialization in olive cultivation clearly represented the key to the initiatives' success.
In this context, the projects established technical consultancy contracts with other relevant sector organizations, mainly ICU, an Italian NGO with proven experience in the olive sector in Lebanon, and UNACOMA for mechanized olive harvesting. IAM-B has devoted its specialized technicians and coordinated numerous partnerships with Italian universities (management of vegetation waters, molecular-genetic variety characterization).

INSTITUTIONAL AND SECTORIAL COORDINATION

The level of coordination with the entities responsible for developing sector policies and services has been appropriate. The MoA's inter-institutional coordination was developed in a relevant way with the regional level, mainly with the trainers of the Agricentres located in the regions involved in the interventions.

At the central level of the MoA, this coordination ensured the collaboration of various ministry experts on specific topics (agro-industry, marketing, cooperatives, and analysis laboratories). The projects benefited from the highly specialized skills of important public institutions: LARI (for characterization and propagation of varieties) and NCSR (for remote sensing mapping of olive groves).
Coordination among important MoA units with the project PCUs, however, was not always effective. In this regard, the responsibility for managing the Kfarchima analysis laboratory was transferred to the competent MoA unit (Agro-industry Div.) only in June 2016 (at the end of the project itself) and without a clear institutional mandate. Similarly, sustained project coordination and collaboration with the MoA economy and market service is insufficient.

Coordination and agreements with beneficiary organizations (mainly cooperatives and MoA) have been established. Nevertheless, the documents analysed do not contain specific conventions governing the terms of cooperation of cooperatives benefiting from the projects or conditions for use of distributed equipment.
The project's grant policy is based on equipment transfers and grant-based TA without clear conditions previously agreed with the beneficiaries. This lack of clear conditions is particularly important for the many essential governance initiatives implemented in favour of the MoA.
Indeed, the evaluation failed to analyse specific documents on agreements to ensure the continuity of institutional support actions for better governance, which go beyond a generic ministerial declaration to ensure institutional and technical/scientific sustainability contained in the "Handing over certificate" document of 19/11/2012.
Coordination with other cooperation interventions in the OO sub-sector was not documented by the project and therefore was not verified during the evaluation exercise. Many olive growing development projects were carried out in the years prior to the beginning of the actions. It has been possible to verify that in several co-operatives the projects

evaluated contributed by supplementing the capitalization of cooperatives initiated by the cited projects, now concluded (30% of the cooperatives visited had previously received support at the beginning of OO 1 and OO 2 projects).
Some NGOs and an important development program for the olive cultivation chain, ongoing with USAID funding (run by DAI), continue to assist the growth processes of some OO 1 and OO 2 cooperatives (50% of the cooperatives received external support after the conclusion of the evaluated projects).

4.1.2.3. SELECTION AND ANALYSIS OF THE CAPABILITIES OF KEY STAKEHOLDERS AND BENEFICIARIES TO PROFIT FROM AND MANAGE PROJECT SERVICES (INCLUDING PROJECTED ACTIONS TO IMPROVE EXISTING CAPACITIES)

The project document provides a detailed analysis of beneficiary needs that were verified and applied during the initial phase of the actions. During the initial phase, the actual capacities of the cooperatives and the various MoA units concerned were also evaluated.
The selection of the beneficiary cooperatives was carried out correctly, based on the actions' strategic criteria and through a well-structured methodological process (questionnaires and final evaluation in cooperation with the MoA).
The information gathered from evaluating the cooperatives and the MoA units also allowed assessing the need for training the ministry's human resources, the managerial staff and cooperatives' producer members.
Therefore, beneficiaries' the ability to take advantage of project actions, as well as specific measures to improve their capacity (also relevant to global sustainability), is generally established.
The resulting accompanying and supportive measures to improve the capabilities of MoA officials (Kfarchima's chemical-sensory analysts, technicians and panellists) have been properly identified and planned.
Regarding the cooperatives, the accompanying measures concerned almost exclusively the technical aspects (GAP, the use of transformation equipment, WW management and pomace management), while the ones that were managed by organizations themselves and those related to member service provision were largely underestimated.

4.1.2.4. RISK ASSESSMENT AND SUSTAINABILITY

Risk assessment associated with the LF, it was carried out in detail and with generally accepted criteria, with the exception of the institutional sustainability risk factors of the MoA and cooperatives.
The sustainability factors analysed and addressed by the project document and subsequent implementation of the activities mainly concern technical and environmental aspects. The inclusion of a number of MoA officials at all levels has ensured the formation of a major pull of public sector technicians engaged mainly in training activities.
Nevertheless, the risks inherent to institutional sustainability, although envisaged, have not been sufficiently evaluated, especially in the initial phase of defining the implementation agreements and during the final stage of implementation and delivery of the investments (oil quality control laboratory).
In this regard, many activities directly carried out by the sectorial governance projects and the responsibility for which the MoA was and is entirely responsible, have not been fully or were only belatedly integrated into the ministry structure (chemical-sensory laboratory, promotion activities). In general, sufficient resources have not been carefully evaluated and granted for ensuring their continuation.
Lastly, the substantial lack of clear policies and strategies for olive sector development has never been addressed with sufficient clarity by the PCU and the officials of the local technical unit (current AICS Headquarters).

With reference to cooperatives, sustainability risk factors, in general, do not concern organizations' management problems, which are mostly small, but rather their ability to handle services that ensure the rational and sustainable use of donated equipment and the consequent application of many of the GAPs related to their use (harvesting and pruning, processing and packaging, mills, etc.).

4.2. EFFICIENCY

4.2.1. CAPACITY TO MANAGE AND EXECUTE ACTIVITIES

L'*Olio del Libano* 1 (OO 1) began its activities in 2009 (as of December 2008) for a planned 3-year lifetime and a total 48-month lifetime (thanks to an extension of 12 months, granted on November 6, 2011) and with a budget of €4,095,785 (MAE contribution: €3,299,258, MoA contribution: €795,800). The action was then developed in 12 of Lebanon's regions (Akkar, Dinnieh-Menieh, Zgharta, Bcherri, Hermel, Rachaya, West Beqaa, Marjeoun, Hasbaya, Tire, Nabatieh and Bint-jbeil).

The OO 2 initiative began formally with the signing of the financing agreement in November 2010, while the activities started in June 2011 for an initial period of 12 months, but lasted until June 2016 (60 months total duration). The total budget of the oil component is € 1,667,000, of which € 1,341,600 is a donation from the MAE.

PSC operation

In both projects, the corresponding PSCs met regularly during the first three years of the activities, performing the assigned functions.

For the OO 1 action, the first PSC (12/03/2009) approved the first General Work Plan (2009-2011) and the extension of the actions to the Zgharta and West Bekaa regions. The subsequent PSCs regularly approved annual implementation reports and subsequent work plans. The third PSC also approved the extension of the duration of the OO 1 project, which was granted by MAE on 06/12/2011.

The OO 2 project CSP met regularly 4 times. The last session approved the allocation of remaining funds to complete equipment of the Kfarchima Chemical Analysis Laboratory and renew the TA contract with ICU, extending the project duration until 31/03/2014.

At the request of the MoA, the MAE granted subsequent extensions until 31/06/2016 (see Technical Note UTL Beirut of 07/12/2015).

PCU operation

The operation of PCUs was generally good. PCUs have regularly prepared an operational plan, then submitted them for PSC approval. Most of the MoA units participated in the programming and implementation of the pertinent activities. The participation of the agricultural trainers was regular and motivated.

The quality of the budget and the resources provided and their adequacy for the needs of the action

In general, the budget was built in a balanced way and meets the needs of the activities envisaged.

With regard to OO1, in view of the need to intervene in all aspects of the olive oil chain (from the dissemination of GAPs to processing and marketing), a large number of permanent experts were engaged (48% of MAE financial assistance and 39% of the total cost). 36% of the financial resources were devoted to investment in equipment and training events, while the remaining 16% covered administrative and operating costs.

The Lebanese partner's contribution, initially estimated at €795,800.00, was then downsized in the General Work Plan to € 414,600.00. This is basically derived from the contribution of personnel, infrastructure and operating costs and distribution of olive trees.

The total cost of the OO 2 project (oil component of the AID 9527 project) was estimated at €1,667,000, of which €1,341,600 was the MAE's financial contribution and the MoA contribution of staff and infrastructure for a total of €325,400.
In this case, only 10% of the total amount was used to cover the cost of permanent staff and coordination of activities. The remaining share was used in direct investments in external and local TA (40%) and new equipment (39%); the remaining 11% in the enhancement of MoA infrastructure.
According to the documentation received and analysed and the findings obtained during field visits, resource management and control did not pose any major problems. All actors contributed the necessary resources within the established times and the quality of human resources employed and contracted is in line with the required standards.
As observed in chapter 4.1.2.3 "Selection and analysis of key stakeholders" capacities", TA spending was focused on purely technical aspects, while cooperative training resources were largely under the OO 1 project and are absent in OO 2.

Performance of activities
The performance of the activities did not suffer any particularly significant delays in OO 1. A 12-month project extension was approved to continue technical assistance and product promotion in the production chain. In addition, the extension was used to offset delays in the acquisition of the equipment provided. The budget for the fourth year of extension amounts to €414,947 corresponding to approximately 10% of the total cost of the action.
The OO 2 project execution, on the other hand, has gone from the 12 months initially envisaged to 60 months of real implementation. This is partly due to the fact that in the design and formulation phase, the stability time was definitely insufficient with respect to the activities envisaged.
Slight delays were reported in the organization of training (events scheduled in 2011 but executed in 2012). A second aspect that greatly influenced the execution times was certainly related to the difficulties in the acquisition of equipment for the Kfarchima (MoA) chemical and sensory analysis laboratory.

4.2.2. MONITORING SYSTEM QUALITY/REPORT QUALITY
The M&E system of the two actions has been centred on the execution of activities; thus, it is not surprising that LF indicators reported at SO levels and results are largely produced by activities planned for each expected outcome.
The only exception found relates to the results and indicators actually measured at the SO 1 level of the OO 1 project and, as a reflection, of OO 2. In this regard, the systematic effort of the OO 1 project must be acknowledged to measure productivity gains, OO quality and lower production costs. Measures of the above variables were crucial to support and demonstrate the effectiveness of the GAP's application by cooperative producer members.
To this end, the project has systematically collected and analysed the results of the application of GAPs in 15 demo plots (DPs) for productivity variables, OO quality, and cost reduction basically derived from mechanical harvesting. These results are included in the final report and constitute the main source of information underlying and supporting the declared effectiveness of the TA on olive production processes.
The quality of the reports is satisfactory.

4.3. EFFECTIVENESS

ACHIEVEMENT OF OUTPUT (QUALITY AND QUANTITY) AND BENEFICIARIES' ACCESS TO SERVICES DEVELOPED BY PROJECT ACTIVITIES (EQ 4)
In general terms, the two actions concerned have achieved the products foreseen with the required quality. The beneficiaries also had full access to the services they developed.

As already mentioned in the Design quality chapter (4.1.2.3 "Selection and Analysis of Capacities"), the beneficiaries have been selected appropriately and in accordance with the actions' strategic lines.

Training of the network of olive sector technicians (activities related to SO 3)

Planned training events were successfully performed by highly specialized personnel and high-quality documents were produced. The technical guidelines are easy to understand, translated into Arabic. Based on the interviews conducted with the technical staff of the cooperatives and the MoA, the producers and members of the co-operative boards of directors (BDcoop), virtually all technical issues have been comprehensively understood and assimilated by all beneficiaries. Of course, as we will see in the next chapter (chapter 3.4.2), this does not mean that the level of adoption has been as high, but this lack is due to other factors not related to the quality of the TA or the training process.

The efforts of the actions focused on training all MoA dissemination providers (result 1 of OO 1 and OO 2) and other public institutions to become permanent benchmarks and capable of responding to the essential technical issues for rationalizing and modernizing production processes (in other words the performance variables linked to SO 1: productivity, quality of OO and costs) and to provide them with tools for TT. The systematic engagement of MoA dissemination technicians in all affected regions and with leading producers, has allowed significant improvement in the level of knowledge of the persons responsible for training.

Based on the project documents, a total of around 300 training events have been conducted in Lebanon and Italy for MoA and private sector technicians. Numerous TT events (about 20) were then held to consolidate the trainers' ability to transmit technical information.

Investments and TA for cooperatives (activities mainly related to SO 2).

The two actions produced investments in equipment and TA for 69 cooperatives (52 OO 1 and 17 OO2). Annex 5 show the actions taken by the two projects by investment type. Investments can be divided into machines and equipment useful to improve the supply of services (to members and non-members) for production, transformation and marketing of olive oil (OO), investments to improve the production of by-products (TO) and soap, and pilot investments for alternative use of vegetation waste water (WW) and pomace.

Investments are in line with project strategy and have been defined in full participation with cooperatives (demand-driven approach). Projects have supported cooperatives in more than one type of investment.

75% of the cooperatives requested and obtained subsidies for the purchase of machines and equipment to rationalize and mechanize crop operations, specifically harvesting, processing, plant protection and pruning. This choice clearly responds to a strong demand, also induced by the TA, to improve the decisive aspects of production processes to increase the competitiveness of olive production even in areas smaller than 1 ha, which is the situation of most producers (at national level, it is estimated that 75% of businesses own less than 1 hectare of Utilised Agricultural Area - UAA).

30% of the cooperatives have benefited from investments for improvement of the mills and provision of instruments for OO quality control: acidity and peroxides (20% of cooperatives). In all cases, investments to improve crusher conditions have been complementary to existing infrastructures (steel containers, generators, etc.).

The rest of the investments concern pilot WW and pomace management projects (20% of the cooperatives), including the production of energy-efficient blocks (large pellets), which affects 17% of cooperatives.

Finally, the OO 1 project developed a support line for sole women co-operatives, or for women who are members of traditional cooperatives. The support was particularly directed to the production of TO (6 cooperatives) and soap (4 cooperatives).

Technical training for cooperative members covered cross-cutting and common issues such as management and accounting (52 co-operatives involved in OO 1, including 25 women) and sensory quality of the OO (all co-operatives involved).
The projects then accompanied the investments funded with timely training for the MoA trainers and technicians responsible for the use of the machinery and equipment funded. Among the most important training activities are: pruning (OO 1: 74 MoA trainers and 169 producers); nursery (OO 1: 58 producers); marketing OO (OO 1: 63 co-operatives); quality control (all cooperatives); mechanical harvesting (OO 1: 429 participants).
Women organized in co-operatives were then trained for the production of TO (OO 1: 138 participants of 6 coop.); soap production (OO 1: 34 participants from 4 coop.); marketing (OO 1: 44 women trained in 11 coops) and entrepreneurial training (OO 1: 45 women trained).

Training of producers (activities related to SO 1)

Producer training activities were organized with the aim of spreading and demonstrating the effectiveness of GAPs, especially those most affecting the quality of OO (plant health control, integrated and post-harvest fight), productivity (pruning and integrated fight) and production costs (basically mechanical harvesting).
Training activities took place around 36 demo fields, which involved about 1,900 producers. These demonstration fields were then used (in number 15) to evaluate the efficacy of GAPs in quantitative terms during 2 production cycles. SO 1 indicators were estimated based on the results obtained.
In addition to the activities in the demonstration fields, seminars were held on GAP (OO 2: 1,472 producers trained) and thousands of individual or group TA visits were made (OO 1: 2,154).

Training of the network of olive sector technicians (activities related to SO 3)

The OO 1 project promoted and funded the promotion of the consumption of quality national products through participation in 13 national and international events (II and II implementation year).
The OO 2 planned visibility action focused on the reproduction of the technical training material prepared by OO 1 (3,000 brochures and DVDs), updating the website produced at OO 1 and organizing two dissemination seminars. Unfortunately, apart from reproduction of technical material (GAP) and production of a DVD (not distributed to the public), no other measures have been implemented. It is surprising that there has been no continuity in the numerous and positive activities developed during OO 1. Coordination with the MoA unit responsible for the promotion was largely inadequate.
In cooperation with the Ministry of Education, the OO 1 project has developed a dissemination strategy for elementary school students through the creation of a comic strip titled "The green gold - A magical journey" which was then performed in a puppet show by the Les Amis des Marionettes of the Lebanese Theatre Association.
The show was then presented with great success in 26 schools (41 shows with 9,000 viewers) and in some bookstores and other events (11 shows with 1,300 children).

Sectorial Governance (activities related to SO 3)

With respect to the results obtained from the sectorial governance activities managed by the MoA, it is noted that with the exception of the map of olive groves in 1: 3,000 scale (OO 2) and the training provided in Italy (Bari) for two "panel leaders" (this training was considered by the people trained to be totally inadequate for the role of leader), all the activities provided the products expected in due time and with the quality required according to the contract specifications.
However, the use of the products and processes involved did not yield the expected results. In this regard, refer to the analysis in chapter 4.3.2 (Achievement of the Intended Objectives - SO 3).

ACHIEVEMENT OF THE PROJECT PURPOSES (EQ 5)

EM indicators

The effectiveness assessment was focused on the indicators reported in the Logical Framework (LF) suitably completed with additional variables resulting from participatory surveys among cooperatives and producer members.

LF indicators considered were only those deemed pertinent to the specific target level (see Table 5), while other variables related to the activities other than the SO were analysed at the corresponding level (see output activity of EQ 4).

The final report of OO 1 reports the qualitative results achieved in productivity, quality of OO and costs. This self-assessment of production variables and oil quality was estimated based on data collected in 15 DFs (OO 1), while the reduction in declared production costs is based on the estimate of cost reduction obtained through the use of mechanical harvesting promoted and funded in 18 cooperatives (see final report OO 1 p. 69).

In this regard, it should be noted that while the projected cost reduction is mainly due to the introduction of mechanized harvesting, other recommended GAPs result in cost increases (plant protection and pruning) while at the same time increasing productivity. Therefore, an appreciation based solely on savings related to the harvest could be misleading and inaccurate. OO 2 Activity Report Information does not include data for deployed DFs.

Table 5 – Comparison between i) SO indicators included in the LF, ii) indicators included in the projects' final reports (self-evaluation), and iii) values obtained after the evaluation.

SO INDICATORS FOR OO 1 AND OO 2 DEFINED IN LF	EVALUATED INDICATORS IN FINAL PROJECT REPORTS	RESULTS OF THE EVALUATION (PARTICIPATORY SURVEY)
Production OO 1: Production Increases of 20% OO 2: no indicator. **Quality of the OO** OO 1: Reduction of oil acidity by 0.3% OO 2: chemical and organoleptic characteristics improved in 20% of the virgin and extra virgin OO. **Producer/Cooperative income** OO 1: reduction of production costs by 25% OO 1: Net profit of cooperatives supported OO 2: 10% increase in exports (of the 4 regions concerned).	Production **growth of 30% (data recorded on 15 demonstration fields).** Reduced acidity reached by **0.39%.** No data reported in the report (no baseline data). Reduction of production costs by 31% (only for cost reduction due to mechanized collection) No data included in the report (no baseline data). No data included in the report (no baseline data).	37% of producers declare productivity increases - marked production alternation in 80% of cases. 69% of the producers declare that the quality of the OO has improved (78% in the case of full-time producers) 66% of producers report significant cost reduction (estimated reduction about 30%) The coop. services policy, made possible by project support, does not allow the creation of revenues Relevant indicator at GO and impact level (see Impact chapter).

Specific Objective 1: introduction of GAP to rationalize and make production processes productive in olive plantations.

SO1 focuses essentially on increasing OO productivity and quality and reducing production costs.

In view of the complexity of the evaluation process, especially in a context with absolutely no statistical data at the farm level (campaign booklet, etc.), the evaluation process was based on the criteria of:

- Acceptance of production performance, quality and reduced cost of mechanical harvesting due to the application of GAPs as a result of meticulous data collection on 15 demonstration fields of OO 1 (the OO 2 assessment in 2016 indicates that data collected in 9 demonstration fields does not seem totally reliable);

- Acceptance - as a baseline - of a situation in which none of the proposed practices was applied (hypothesis verified in interviews with cooperative members);
- Check the GAPs adoption rate (producer questionnaires) and then be able to infer the effectiveness of the actions based on the indicators measured and indicated in the final report of OO 1 (see point 1 above)
- Assessment of the evaluations made by the producers themselves (in the questionnaires) on the production variables, the quality of the olives and the oil obtained, and on the production costs associated with the application of the GAPs.

The producers met are all members of the cooperatives and thus benefited directly from the effective TA and the cooperative machinery and equipment to increase the supply of services. 63% have an olive area of less than or equal to 1 ha (10 dunum); and only one third considers olive cultivation as the main source of income (in this group, the average surface is 2.4 ha). In general, only 10% have irrigated surfaces. Plant density is typically low, rarely exceeding 25-30 plants per dunum (250-300 plants per hectare) without irrigation. This is in line with national data where only 16% of olive groves are under 10 years old, while 36% are more than 50 years old.

The yields are strongly variable, from 500 to 1,000 kg of olives / dunum (5-10 tons, corresponding to about 1 to 2 tons of oil / ha), and are consistent with the averages reported in the national statistics. Nonetheless, a marked and still widespread production alternation causes very low yields of less than 1 ton of OO in the worst years. In this regard, only 20% of the producers declared stable yields in the two previous years (2015 and 2016), while the remaining ones reported a high variability due to flies, freezing (in the Baalbeck area) and drought. All producers state, however, that olive growing remains a generally profitable activity, especially in areas without irrigation.

Below is the analysis of the evaluation, following the tracing of the indicators reported in the EM.

Level of adoption of GAPs (and any barriers to their adoption by producers)

The major GAPs promoted by the projects have been designed to modernize agronomic practices and achieve the goals of increasing productivity, OO quality, and cost savings.

The level of adoption, 5 and 3 years after project end for OO 1 and OO 2 respectively, is very satisfactory. Regarding application of plant protection treatments for major diseases and harmful insects, 77% of the producers surveyed adopt a treatment plan based on their increased knowledge. Of these, 55% make use of integrated pest control techniques (strongly promoted by the MoA through the distribution of fly pheromone traps).

Annually 95% practice and have improved a pruning technique that is executed manually (there is still little information on the mechanical option). 79% use mechanical harvesters with great labour savings and reduced harvest time, a crucial aspect to improve oil quality.

The adoption of superficial or "no tillage" work (associated with the use of herbicides) has reached 65%, which is definitely a significant figure, also in terms of cost reduction compared to traditional deep-sowing processes and reduction of greenhouse gas emissions (GGE) due to the mineralization of soil organic matter.

Traditional fertilization practice (based on the use of manure) has not undergone major variations in the use of complementary chemical fertilizers (26% of manufacturers apply them).

As it is logical to expect, the level of adoption of GAPs by producers wholly or almost entirely supporting themselves by agricultural activity is slightly higher than that of "part-time" producers; that is, those performing other economic activities outside the farm.

Verify the potential of GAPs in increasing productivity and OO quality and reducing production costs and potential environmental impact

Productivity. The estimate of productivity growth was based on the statements of the producers themselves; 37% of them state that it has significantly increased, while the rest do not express or have not seen significant increases. It should be noted that the strong and widespread production alternation (80% of total producers) does not help in estimating the overall trend. It should also be considered that major practices that may affect the phenomenon of alternation, such as pruning and plant health control, require more time for appreciation of any effects. Another factor that definitely affects productivity is low application of chemical fertilizers (26%).

Production costs. 66% of the producers declare that the costs have decreased thanks mainly to the mechanical harvesting which largely compensates for the increases in other GAPs (i.e., treatments, fertilization and pruning). However, it should be noted that most producers did not use these practices before the implementation of the two projects. In contrast only 3 producers complain about increased costs, two of whom continue with traditional harvesting practices. The cost reduction percentage estimate is about 30%, the same figure as the OO 1 project estimate reported in the final report (31%). Although the project computing process and the evaluation to arrive at such data is obviously not comparable, it is interesting to note that the end result is very similar.

Olive Oil Quality. 69% of producers and 57% of cooperatives' board of directors members declare that the quality of their oil has increased thanks to the application of GAPs and post-harvest practices. Full time producers are experiencing a marked improvement in 78% of cases: this is positively correlated to the high degree of GAPs adoption by this type of producer. Lastly, the appropriate storage mode (in stainless steel containers, glass, galvanized iron) is adopted by 57% of producers; this is still insufficient given the low investment required to improve this important quality factor. It is the evaluator's general opinion that the data is significant and fully reflects the level of GAPs adoption found.

Unfortunately, it has not been possible to collect qualitative and quantitative data on acidity and peroxide variables, as only 16% of farmers make regular analyses (even when projects have provided analysis kits to cooperatives). Producer declarations on the type of oil produced contradict the verified poor ability of 76% of respondents to technically define the corresponding quality standards.

Effectiveness of TA for producers and members of cooperatives (workers) in applying the proposed innovations (pruning, mechanical harvesting, qualitative analysis of the OO, etc.) and the level of employment and wages of workers handling the services.

The high level of adoption of GAPs is certainly evidence of the effectiveness and good quality of the TA practices adopted. The projects used an effective combination of knowledge transfer methods: seminars, demonstration fields (36 in total), individual field visits and TT.

The TA trained an effective TT network among MoA (agricultural distributors) and cooperative members. Thanks to the TT method, the capacity of cooperative producers and distributors has been improved in continuing TA activities (see Sustainability Chapter). This was possible thanks to the high level of experts involved, both national and local.

Some aspects still require further analysis and action efforts to improve productivity indexes and productivity stability.

Pruning, although practiced by 95% of farmers, remains a poorly established technique in terms of correct application and cost reduction. The quality of the pruning of many of the visited olive groves indicates wide margins for improvement. It is not surprising that 50% of respondents point to pruning operations as still problematic from the point of view of knowledge and access to appropriate equipment. The use of mechanical equipment is still not widespread, and skilled pruners are rare.

The restoration and/or increase of soil fertility, after years of cultivation, is in most cases entrusted to the supply of SO in unidentified quantities. The use of chemical fertilizers is low and the techniques proposed at OO 1 pilot level to fertilize with vegetation waters and composted pomace did not yield the hoped-for results in terms of diffusion.
Lastly, producers still strong resist the necessary quality analysis of their oils. As mentioned above, only 16% of producers directly perform quality analyses, while 76% do not know clearly the quality standards of the oil grades that they claim to produce.
This situation also reflects the fact that this service is not offered by, or even requested from private mills, which 66% of the producers use. Only two out of five oil mill cooperatives claim to carry out quality analysis. In some cases, it is mentioned that the brokerage itself analyses the OO quality; this clearly indicates an underestimated quality demand. The low propensity to check the quality of OO in accordance with the standards recognized by the market certainly does not help producers identify factors that have a negative impact during the production and post-harvest process; furthermore, this does not strengthen their negotiating position in the marketing phase (see also considerations in the Impact chapter).
Concerning the effectiveness of the TA in creating jobs as a specialized labour force, cooperatives have little provision and capacity for providing services, while Syrian labour is highly available and mobile, non-specialized and thus difficult to train. Producer members themselves are generally observed using the pruning and mechanical harvesting equipment distributed by the projects.
Finally, it should be emphasized that the most advanced cooperatives offer the most constant and important demand to continue with the modernization process begun with the projects. In particular, more training is required in marketing and sales strategies. 65% of cooperatives consider strengthening their marketing skills to be of the utmost priority.

Effectiveness of TA in increasing incomes and women's integration into the OO chain and participation in cooperative organization.
Only 5% of olive oil cooperative members are women and no women are members of coop boards of directors. There are still very high cultural barriers to making the few women-only training sessions effective.
The situation of cooperatives composed only of women is different. These organizations have greater social acceptance and play an important role in the production of TO. In this case, the effectiveness of the technical assistance associated with investment in equipment has been positive. In this regard, please refer to the following chapter (SO 2 analysis).

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Only 5% of olive oil cooperative members are women and no women are members of coop boards of directors. There are still very high cultural barriers to making the few women-only training sessions effective.
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Specific Objective 2: Support to producer cooperative organizations.
SO 2 mainly concerns strengthening the management capacities of cooperatives and their partial capitalization to improve the quality of olive production, oil pressing, oil preservation and marketing.
The indicator reported in OO 1 LF explicitly refers to the net benefit received by the beneficiary cooperatives as a result of the distribution of new equipment and TA, provided that they can apply a sustainable service policy to members and other sector operators by

improving the functionality of existing mills and providing equipment for the mechanization of crop operations.
With the exception of a series of OO 1 training activities on cooperative management, all TA activities have been instrumental in ensuring the good use of the project funded investments.
Annex 5 presents a brief description of the equipment funded in terms of donation to the 69 cooperatives benefiting from the two projects.
Given the characteristics of the cooperatives benefited and the nature of service-oriented activities, the net benefit; e.g., the indicator proposed in the LF, does not appear to be a significant variable of the expected results. Indeed, the indicators that most reflect the effectiveness of the actions are the quantity, quality and economic viability of the services.
The 52 Cooperatives involved in OO1 were trained through a cycle of events on accounting, management, strategic planning (business plan) and feasibility studies. It was observed that the topics discussed had little impact on the cooperatives concerned, since these latter small structures, often operated by a family or clan, have virtually no fixed (even part time) staff and are mainly active during harvesting and without ambitions for expansion and / or revenue creation.
The projects have led to a considerable increase in demand by members for both TA and the services required to adopt GAPs (mainly all mechanization services). 71% of the members feel that they have insufficient access to the mechanization of harvesting operations and 74% are interested in more specific TA interventions on one or more GAPs. It also seems that the major management activities, resulting from equipment received from projects and other later cooperation initiatives (USAID, NGOs, etc.) have led to the need to improve management capacity and market information in 57% of olive grower cooperatives.
In this context, the financing of equipment capable of enhancing the capacity to offer services could have been the opportunity to introduce or strengthen the conceptual bases of modern cooperative organizations, namely the approach to services, and on this basis, formulate a business plan.
Without doubt, project investments have improved the overall offer of services in all olive-growing cooperatives.
With regard to management of service provision, it is found that for the pruning, mechanical harvesting, plant protection and soil treatment, only 37% of the visited cooperatives apply a cost to the members for equipment use. Of these, only 21% apply a differentiated price to non-members.
If we consider all services (including milling and marketing) only 43% of cooperatives apply different service costs for non-members.
TA is offered in 86% of cases through the organization of seminars with the participation of MoA or other projects, and in all cases at no cost to members.
To conclude, only 14% of organizations provide oil quality control services. Lack of attention to OO quality not only reduces the overall competitiveness of the producers but also poses a threat to consumer health due to the consumption of very acidic, old, rancid and poorly preserved oils (only 57% of cases use appropriate containers for storage).
The effectiveness of the actions for improving soap production was partially verified as three out of four beneficiary cooperatives are in areas inaccessible to the assessment team for security reasons (Hermel, Kfarkila and Margeiyoun). The cooperative visited in Deir Aamar received a soap-making tub, but afterward it was revealed to be too small and is currently unused. Soap quality has improved thanks to the project's TA. The external appearance of the soap product, however, remains very traditional and unattractive for urban consumers.
Alternatively, the soap production section of the Baakleen Cooperative (Chouf) benefited from the project, but not in this sector. The soap production has been supported by a UNDP project and is run by women. In this case, the product has better presentation features and

is also suitable for selling in supermarkets. This experience is highlighted as an indication that there is a real potential for promoting soap and to support the validity of support actions for women along the olive cultivation chain.
It was possible to visit two women's cooperatives dedicated to TO production, the Zgharta women's cooperative and the Rashin cooperative (which inherited the equipment funded by the Aitou cooperative, closed before the end of the OO 1 project). In both cases, the high quality of the product and the good market presentation were observed. In view of the competitiveness of industrial products, cooperatives have had to carve out a high-quality niche market and to work based on demand.
Production of TOs is able to offer permanent employment only to a part of women (25%) while for the others it represents a secondary but not insignificant source of income (25-30% of the total).

Table 6 – Cooperative Investments in the frame of both OO 1 and OO 2

FINANCIAL INVESTMENTS (EQUIPMENT AND TA)	OO 1	OO 2	TOT
OO quality control (QC): acidity and peroxide analysis tools	14	1	15
Improved TO production	6	0	6
Improvement of soap production (SP) with *lampante* oil or of low commercial value	4	0	4
Marketing (labels, logos, bottlers, etc.)	2	2	4
Demo field (DF): demonstration fields for the demonstration and dissemination of GAPs	27	7	34
Management of olive groves: tools for pruning, mechanization of processing and treatment, etc.)	24	8	32
Olive harvesting: mechanical harvesting machines, nets, etc.)	20	0	20
Improvement of mills (steel containers, complementary equipment to existing mills)	7	13	20
Distribution of olive plants for new facilities	2	0	2

Specific Objective 3: Institutional and environmental sustainability of the national olive sector.

The third specific objective of this assessment (see Chapter 1.2 The Logical Framework - SO 3) combines two essential components to consolidate the sustainability of the olive sector.
The first concerns the governance of the sector by the MoA and therefore the necessary institutional sustainability of initiatives started by the two projects aimed at implementing OO quality control and promotion systems to make national olive cultivation competitive in the domestic and international market.
The second aims to reduce the environmental impact and the improve economic promotion of by-products of transformation.

SECTOR GOVERNANCE

Legal framework

The Legal Framework was developed to regulate the following aspects (OO 1 Act. 1.3):

Matters addressed	Responsible institutions
Vegetation waste waters from mills	MoA in coordination with the Min. of the Environment
Organic production	MoA
Geographic Indication	MoA Min. Business and Economics
HACCP (for mills)	MoA

The situation found reveals that after initial success in the regulation of vegetation Waste Waters (WW) by Decisions of the Min. of Environment no. 100,101,102 of 08/07/2010 (Official Journal # 34 of 15/01/2010), laws and regulations concerning the governance of organic production (certification, disciplinary productions, etc.), HACCP and Geographic Indication remained at the level of proposals and are currently not part of the priorities of the responsible institutions.

Decision 100/1 requires WW treatment prior to disposal, indicating possible options. The same decision also allows the use of treated WW for irrigation purposes by specifying the necessary conditions that the mills must meet. Again, regarding the use of WW for irrigation, Decision 102 specifies new conditions and application rules.
Despite these decisions, vegetation waters are disposed of without treatment in three of the five cooperatives with a mill.
Particular importance in the national context could be held by the promotion of organic farming directed towards tourism and the many local urban consumers with high purchasing power. There is no specific unit devoted to the subject, but there is a cross-cutting technical group consisting of several MoA units. Currently, at the national level, 17 companies produce organic oil, of which only one is a cooperative.

Mapping of olive groves.
A map of olive groves based on satellite thematic scale 1: 10,000 was produced by the NCSR (CNRS - Remote Sensing Centre) within the activities of the OO 1 project (Act. 1.4 This map was considered an essential tool for improving sectorial planning and characterizing olive groves with geographic and agro-climatic data useful for identifying possible areas of origin and / or 'terroir'. The olive thematic map was updated on a scale of 1: 20,000 in 2016 with funds from the CNRS itself. The OO 2 project provided mapping of the same areas in 1: 3,000 scales (Act. 1.3), a scale deemed useful for the establishment of a national traceability system for olive groves.
These actions are part of a broader set of synergic and coordinated initiatives to establish a national quality control system and corresponding product traceability (see next point: the OO quality control system).
The evaluation mission was able to verify that the 1: 10,000 scale map has practically not been used by MoA for its intended purpose and the map provided by OO 2 was never made. The only cartography product user appears to be CNRS, which makes auxiliary use of it in the context of national thematic and global studies. In fact, the use of the mapping tool is closely linked to the development of specific policies and / or quality control systems, which, as we shall see, have not been fully developed.

The national olive oil quality control system.
The two actions have planned and developed coordinated activities for the establishment of national quality standards for OO, TO and OO soaps compatible with international standards (OO 1 - Act. 6.2). For this purpose, a Lebanon OO and sub-products logo has been registered. In addition, a membership protocol, a logo usage policy, and traceability rules have been produced.
The previous actions were then completed by an assessment of the national OO quality assurance capabilities (OO 1 Act. 1.5) and the subsequent establishment of a national laboratory at the Kfarchima MoA site (at the Beirut pesticide analysis laboratory), able to carry out all the necessary analyses to ensure the physical and chemical quality of the oil for export and domestic consumption. A Panel Group was also created to assess organoleptic qualities of oil in accordance with international standards. To be fully operational the Panel group must obtain IOC (International Oil Council) accreditation.
To date, institutions have not given the activities described the necessary attention and therefore the OO service process and quality control based on international standards and use of the logo are not functional. Although Kfarchima's chemical laboratory has been equipped with the technically suitable equipment, it remains unused; the chemical reagents have expired. Furthermore, the laboratory does not have permanent staff, and the trained staff is not operational. The responsibility for managing the Kfarchima analysis laboratory was transferred to the competent MoA unit (Agro-industry Div.) only in June 2016, but without a clear institutional mandate. As already noted in chapter 4.2 (efficiency), the

laboratory installation work was not carried out with the necessary collaboration of the aforementioned responsible Div. (Agro-industry).
The OO sensory analysis laboratory OO is still in operation mainly thanks to the voluntary activities of 20 panellists since 2006 (two of whom were trained by OO 2 for one week, a time considered by the panellists themselves to be quite insufficient). Indeed, the MoA did not provide official recognition of the group, a condition necessary to begin the accreditation process at the IOC.

Characterization of the germplasm of olive varieties and olive tree production certification system.

The OO 1 project (Act. 3.5) coordinated with LARI the phenotypic characterization (LARI Tal Amara) of 18 varieties of olives and propagation of their relative mother plants (LARI Kfarchakhna) with the ultimate aim of establishing a plant production certification and corresponding plant health control. The two actions were successfully executed. Nevertheless, the existing certification system, still voluntary, has greatly limited the use of certified vegetative material for the production of olive trees necessary for the creation of new facilities.
The University of Perugia (UNIPG) continues the molecular characterization (genotypic) activity, in coordination with LARI. The evaluation of the productive potential of the local varieties was carried out through collaboration between UNIPG, LARI, University of Bari and IAM-B (see further details in the Impact chapter).
In the northern part of the country, only one nursery uses material from the Kfarchakhna station's mother plants. A volunteer system was established in the Bekaa valley area run by LARI Tal Amara, while in the south an attempt at a propagation plant was promoted by the MoA in alliance with a group of local nursery operators with little chance of giving the expected fruit (the on-site visit verified the state of insufficient maintenance of the station, which does not seem to guarantee the future production of quality material).
Lastly, the Lebanese oil promotion office, opened with the help of the OO 1 project (Act. 6.1), did not continue the activities after its end.
The systematic engagement of MoA dissemination technicians in all affected regions and with leading producers has allowed significant improvement in the level of knowledge of the persons responsible for training.

Effectiveness of the exploitation of oil processing by-products: pomace and vegetation waters.

Of the 5 co-operatives visited with an autonomous oil mill, only one uses vegetation water for irrigation. Three fertilize with mature pomace but without applying the composting techniques promoted by OO 1. The economic feasibility analysis carried out by the OO 1 project (IAM-B) shows conflicting economic results and assumes low profitability conditions for many Lebanese cooperatives.
The use of olive residues for making domestic energy production pellets, however, has experienced considerable success because there is a real market that makes the business profitable (the Darbashtar cooperative claims a net gain of about $50/ t of pellets). Four of the five cooperatives visited and equipped with mills produce pellets; the remainder (without oil mills) buy the pomace from private mills. The use of pomace to produce energy is common in central Lebanon and in the northern areas.
In this respect, it does not help that many of the 69 cooperatives benefiting from OO 1 and OO 2 do not own a mill (only 35% of those visited).

4.4. EXPECTED IMPACT

Ex-post evaluation does not focus on impact measurement but infers the real prospects for long-term changes or effects directly or indirectly attributable to the action (EQ 6).

The two actions (OO 1 and OO 2) clearly define the impact of economic (OO 1) and food security (OO 2) improvement initiatives. The increase in producer income is therefore understood as the overall result of the application of best manufacturing practices (GAPs) by producers and service management and the subsequent processing and marketing operations of the cooperatives.
Based on the efficiency results, the GAPs adopted by most producers, especially those devoted entirely to agricultural activity, lead to a general increase in quality, productivity and cost reduction, which are key elements in the definition of net income. It is therefore possible to say that the projects have contributed significantly and lastingly to the increase in producers' income.
External factors that can undermine this virtuous process are found in barriers that restrict access to mechanization services (pruning, harvesting, etc.) and TA on issues still considered weak (pruning, plant protection control, fertilization). In other words, the future impact will depend primarily on external sustainability factors related to the activity of cooperatives and the rest of the private sector (services and TA) and MoA (TA).
On the marketing front and regarding producer prices, the situation is more complex. 92% of the cases are adapted to local market prices (individual people and small shops) where 77% of the producers sell. On one hand, the main depressing factor seems to be the uncontrolled imports of poor quality oil from Syria and the low-quality culture of consumers, reducing producers' tendency to invest further.
On the other hand, there is a significant minority (23%) able to better integrate into the supply chain (wholesale, restaurants and export through intermediaries), which results in better prices based on quality criteria. It is commonly accepted that a quality oil may peak at about 30% (from $100 to $130 / $150 per tank of 18 litres).
On the level of cooperative organizations, the impact of the projects was positive as it increased members' expectations and strengthened their role as service providers essential to their members' competitiveness. The challenge lies in these organizations' future ability to adapt to market needs. In this regard, the projects' efforts to improve the contribution of cooperatives in promoting OO quality did not have the desired impact.
An interesting indirect impact is represented by the fact that some NGOs carry out projects to support the growth of some OO 1 and OO2 beneficiary cooperatives (50% of the cooperatives received further external support after the completion of the evaluated projects) --(see also an important ongoing development program for the current olive oil plant, with USAID funding and executed by the DAI firm).
The OO 2 action also indicates the increase by at least 10% of OO exports, due to better quality reached in line with European trading standards (this indicator, in the OO 2 LF, is related to the specific purpose; however, this evaluation considers analysing it under the impact assessment and not as effectiveness (that is the benchmark of the SO) as the result of the combined effects of all project actions.
The projects have created indispensable conditions for increasing country and farm competitiveness. The sector has been equipped with governance tools to improve quality control and appropriately direct TA on quality and productivity issues to cooperative companies and producers. Cooperative companies and partners have been informed about how to achieve long-term quality standards that are compatible with the requirements of the international and local urban market. Again, the prospects for impact depend on institutional sustainability and cooperatives. In any case, based on the observations made during the evaluation, the process of obtaining increased exports is still long.

4.5. SUSTAINABILITY

The evaluation focuses on producers' and cooperatives' ability to continue the services promoted by the projects. In addition, the current measures taken by public institutions (mainly the MoA) have been examined to give continuity to funded initiatives.

In general terms, despite the fact that they did not undertake a clear business-oriented approach to service provision, co-operatives were able to manage the equipment provided by the projects in a sustainable way, even in cases when the cost of the service applied for its use was very low or even nil. This policy, which could be termed "paternalistic", could obviously give rise to problems in recovering the capital received at the end of its useful life.

A second aspect of sustainability is linked to organizations' poor ability and willingness to promote sustainable membership growth in a context of high demand for project-led services. In fact, 71% of respondents find it difficult to access services, while 74% share the same view of access to TA. Most of these are small cooperatives, often with the aim of receiving state subsidies and whose members are over age 40 (67% of the cooperatives visited).

Regarding MoA's provision of TA, the projects have greatly increased the technical capacity of the trainers. Unfortunately, the ministerial training system often has only one technician per region, who must cover all MoA intervention areas, with the result that TA demand from producers remains largely unfulfilled. The trainers' work is limited to organizing a few annual meetings on the general GAPs issues coinciding with the free distribution of pheromone traps. Nonetheless, 42% of producers and cooperatives benefited from the MoA's TA services after project completion.

In this context, it is not surprising that the OO 1 initiative to provide information on the phytosanitary situation (a regional newsletter was produced and widespread) was interrupted after the funding ceased.

Regarding the MoA's ability to give continuity to governance of the olive sector, the following considerations are given below.

In general terms, MoA has not consolidated the expected national quality control system. In this regard, there is no coherent and specific strategy with a vision of the future that can fully exploit the main contributions of the projects. The Kfarchima Lab is not in a position to certify OO quality according to international and national standards, and therefore the registered logo can not be used.

The MoA Agro-industrial Div. has proposed an OO promotion plan (still very general and incomplete) through the launch of a national campaign and a competition for best-quality producers. It is also proposed to reactivate Kfarchima's chemical and sensory analysis laboratories. To this end, a technical committee was set up in March 2017, which should identify the measures needed for reactivation. A factor limiting the economic viability of the laboratories is certainly the current prohibition of providing paid services to the private sector.

The MoA does not have a compulsory plant production certification system (there is a draft legislation on this subject but on stand-by) and the olive is no exception. Decision No. 528 of 2011 provides for a voluntary certification system that the nurseries can observe. However, this protocol is weak and only offers the guarantee of varietal (but not phytosanitary) purity.

There is a nursery registry (Decision 526) with three quality categories based on production processes. Of the 444 registered vineyards, only 34 meet high quality standards and only 15 of them are subject to voluntary certification (none for olive trees).

Phenotypic varietal characterization by LARI Tal Amara is under completion, along with the genetic characterization coordinated by UNIPG (Prof. Franco Famiani). Two publications in scientific journals in 2014 and 2015 highlight the potential of some local varieties for the

production of oil with chemical characteristics compatible with the international standards established by the Olive Council Trade Standard.
As mentioned earlier, the MoA did not continue the olive sector promotion activity, which the evaluator considers an important activity for the sustainability of the previous actions and the development of the sector itself. One of the factors that limited institutional sustainability could be identified in the lack of coordination and collaboration sustained by the project with the MoA Economic and Market Service. The head of this unit was not involved in the design phase of "Olio 3", a project recently approved by MAE – DGCS.

ENVIRONMENTAL SUSTAINABILITY

The actions have promoted major environmental sustainability initiatives related to the use of by-products from processing: pomace and vegetation waters.
Two Decisions of the Ministry of the Environment have been produced for vegetation waters, but they do not appear to be applied with the necessary firmness by the institutions. Of the five cooperatives with mills, only 1 treats waste waters properly.
Promotion of fertilizer use of pomace and waste water from pruning and vegetation is also crucial not only to reduce water pollution but also to promote carbon fixation in the soil (with the effect of mitigating climate change - CC) and the recovery of its fertility. Unfortunately, these practices need strong initial capital subsidies and compete with the traditional and profitable activity of using pomace for domestic energy production.
In general terms, GAPs lead to more intensive olive management, which results in higher consumption of potentially polluting chemicals (fertilizers, herbicides, etc.) and higher GHG emissions into the atmosphere. However, GAPs such as the integrated pest control and no tillage farming have a reverse effect. The first leads to a net reduction in the use of PPP, while no tillage farming reduces GGE from the organic matter oxidation and preserve soil fertility.
Promotion in OO 1 of organic biotechnology legislation and protocols could have had an interesting impact on the environment and a major potential in traditionally managed (very intensive) olive groves; unfortunately the proposals made did not continue the necessary path for their final approval.

4.6. GENDER ISSUES

The projects did not have a gender promotion strategy. The OO 1 project has a result dedicated to the integration of women into cooperative organizations and the chain, but with indicators that are not consistent with the goals set. The OO 2 project makes no mention of this.
The experiences of the ET confirm the great potential of businesses managed by women alone, while integrating them into the management of strictly olive-growing cooperatives is certainly limited by a conservative rural culture.
It is noted that the gender aspect is not considered as a unit in itself in the MoA. The NOWAA organization of the MoA, which has worked in cooperation with OO 1, is responsible for numerous training events for women's cooperative members. NOWARA works as a cross-cutting and informal network. This fully reflects the importance given to gender policies by the institutions.
The Nowara is a 2007 Program by the TerCom project "Activation of Mechanisms to Support Rural Territories and Communities in Lebanon", funded by MAE and carried out by CIHEAM-IAMB in collaboration with MoA with technical support from the National Observatory for Female Enterprise and Labour in Agriculture (ONILFA) of the Italian Ministry of Agriculture. It exists in the MoA as a program that is exclusively outsourced (through other projects).

NOWARA is the only reality existing in Lebanon that specifically addresses women involved in agriculture and rural development in order to improve empowerment, access to services and equal opportunities.
At present, the objectives of the program are to: a) gain recognition and thus be able to access ministerial funds like other units and increase decision-making power and the possibility of developing specific programs; b) to support the reform of the labour law relating to workers' rights in the agricultural sector, which has no recognition yet and has no access to the social security system. A reform law bill was submitted by the Ministry of Labour to the Council of Ministers. At present, everything is stalled due to the upcoming elections.
About 48% of women living in rural areas are employed in agricultural jobs. However, this work is not recognized as a real job as it is considered as one of the normal home management activities. No woman appears in this category on the lists of the "Securité Sociale" statistics centre.
Women's positions in the agricultural sector relate to food processing. Meanwhile, men and women are fairly divided into harvesting, weeding and post-harvest activities. Plant health control and fertilization are the exclusive activities of men.
Generally speaking, the performance of women's co-operatives has been positive because it has offered and offers the following benefits: economic (contributing to family income), and social position (greater respect inside and outside the family).
The OO 1 project contributed to the objectives of the NOWARA Program and favoured continuity with the TerCom project on training activities in the management and organization of cooperatives (administrative and technical) as well as the establishment of the cooperative itself through the development of a business plan, which is one of the essential requirements for obtaining funding for the start of the cooperative from the Ministry of Agriculture.
After the end of the project, the initiative launched in the Oil 1 program, the "NOWARA award" began in the next year, 2013. A prize was established to encourage women's entrepreneurship and novel initiatives in the agricultural sector. The prize is open to individuals, associations and cooperatives.
Additionally, from the end of the project, NOWARA has cooperated with the association Les Amis de Marionettes and the Italian non-profit organization CTM in international projects through communication and education activities that were initiated under the Oil 1 project (shows and information laboratories on issues related to the olive cultivation chain).
Chapter 5 - Conclusions and Recommendations

CHAPTER 5. CONCLUSIONS AND RECCOMENDATIONS

5.1. CONCLUSION ACCORDING TO EVALUATION CRITERIA

DESIGN RELEVANCE AND QUALITY

RELEVANCE

The actions' relevance 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. However, this process could lead the smallest companies to a marginal situation that would foster the exclusion of important olive groves from the market.
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 projects have promoted important change processes towards promoting olive product quality, the integration of women into the supply chain and the alternative and sustainable use of transformation by-products (pomace and WW). The interventions have generally been managed properly, but the processes of change require long times, while the strategies need to be further refined to increase their effectiveness.
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.

QUALITY DESIGN AND PLANNING

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.
In general terms, the LF is consistent with the intervention strategy (see details in Chapter 1.2). The review of the LF performed by OO 1 was relevant and firmly consolidated the MoA governance initiatives. 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.
Cooperation agreements between MAE, project managers and beneficiaries do not clearly define the conditions for sustainable management of financial investments. This puts the corporate and financial sustainability of cooperatives at high risk.
The resulting accompanying and supportive measures to improve the capabilities of MoA officials (Kfarchima's chemical-sensory analysts, technicians and panellists) have been properly identified and planned.
Regarding cooperatives, their selection responds to the project strategy, while the accompaniment measures to increase investment utilization skills have focused almost exclusively on technical issues. The management aspects and those related to the provision of shareholder services have been largely underestimated.

EFFICIENCY

The efficiency of activity performance is generally good. The operation of PSCs and PCUs was satisfactory.
The budget is balanced and aligned with the needs and nature of the goals. The resources allocated to strengthening cooperatives' capacity in service management are, however, clearly inadequate in OO 1 and virtually absent in OO 2.
The incidence of operating costs and permanent staff of the PSCs directly managed by MoA (OO 2) is significantly lower than the costs of OO 2. Comparison of the two actions in terms of cost / benefit efficiency is difficult, however, since OO 1 has developed many more

activities (promotion, TA management, women's training, pilot projects, etc.) in 52 cooperatives against 17 of OO 2; as well as the TA methodology that was then taken over by OO 2 was successfully designed and consolidated.
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, which is certainly a good practice and a reference methodology for other similar actions.

EFFECTIVENESS

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 evaluation has confirmed that the GAPs promoted have been effective in improving the quality of oil and reducing production costs. These results are in line with the final report of the OO 1 project and the final evaluation of the OO 2 project.
Greater productivity was found in about a third of the producers. The problems of widespread and marked variation in plant production are likely to be related to pruning and inadequate treatments (despite the high level of adoption) and the low level of application of fertilizers (chemical and organic). All this requires further analysis of the factors that keep productivity levels low.
The good quality and effectiveness of the project TA has produced the desired changes in the production and post-harvest phases. It has also greatly increased the ability of MoA divisions and cooperative members to offer TA quality and validity recognized by the producers after the end of the initiatives.
Among the GAPs promoted, pruning remains poorly understood technique in terms of correct application and contribution to cost reduction. Pruning quality also greatly influences the effectiveness of mechanical harvesting. The same can be said about the practice of controlling the oil quality, the utility of which has not yet been understood by a large part of the cooperative sector. There are potential public health risks associated with the consumption of poorly preserved and rancid oils.
Fertilization practices still remain weak and largely understood, but the necessary increase in productivity greatly depends on them. In other words, there is a need to better understand how to increase soil fertility by means of sustainable and effective techniques, also from a cost/benefit point of view, especially in non-irrigated olive groves.
It should also be noted that using by-products from mills and pruning for fertilizing, if they are treated with the techniques recommended and tested in the pilot actions, did not produce the expected effects also because of more profitable alternative uses (pellets production from pomace).
All of the cooperatives visited, also thanks to the projects, could significantly increase the volume of services offered to the members. In general, they are in a financial equilibrium situation but with little strategic vision geared to services, the demand for which, thanks to the projects, has also increased considerably. Consequently, managing service provision to members is carried out informally, with insufficient profitability criteria and low propensity for investments; this greatly limits the growth capacities of cooperative companies as required by the modernization process in place in the industry. Of the 17 cooperatives visited, only one (Darbashtar, Koura) has systematically adopted a market-oriented vision of the services and product quality required by current consumer standards.
For the above reasons, potential job creation, even seasonal, for skilled labour is very limited and certainly less than expected.

The promotion of small-scale by-products such as soap and TO have great potential in niche markets that appreciate and recognize quality. Women's cooperative organizations demonstrate great management skills at all stages of entrepreneurship.
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. Currently, the effectiveness of these measures is very limited, mainly due to the lack of institutional sustainability (note that these observations coincide with the conclusions of the OO 2 assessment in 2016).
Finally, the OO 1 project has effectively promoted to consumers the importance of using healthy and quality oil, which is a virtuous precedent for cooperation with other institutions (Ministry of Education) and civil society organizations.

IMPACT

The 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 impact on cooperative organizations has been significant as the actions have highlighted their crucial role in modernizing and increasing the competitiveness of members and the industry in general. A greater impact can be achieved to the extent that the cooperative system can evolve towards a culture of services and quality promotion in an increasingly demanding market.
The impact on sectorial policies and the country's competitiveness is still insufficient, due in particular to the interruption of the efforts undertaken by the initiatives evaluated by the public institutions responsible for sector development.

SUSTAINABILITY

The sustainability of GAPs and the capital management capability provided to cooperatives is generally good.
The promotion of intensive practices in a situation characterized by a small business size and the lack of incentives cause producers' high dependence on external services and will inevitably lead to the marginalization of many small businesses (less than 1 ha) conducted by aged farmers little receptive to innovation.
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 and the massive imports of poor quality Syrian products.
At the level of BDcoop, there is increasing interest and demand for marketing training, probably induced by the processes of introducing intensive practices. OO quality awareness raising actions are demanded by the domestic (urban and tourism areas) and international (Lebanese diaspora) market.
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 lack of a sustainable development strategy and a mandatory certification system for olive oil production greatly limits the effectiveness and sustainability of project-funded actions. The voluntary certification scheme for olive plants is applied in a limited form and often with insufficient quality.

The reduced inter-institutional coordination between the project implementation units and the crucial MoA market and agro-industry departments has greatly limited the institutional sustainability of sectorial governance actions related to the promotion of OO quality and the construction of the product certification system (OO and by-products).
With regard to the environment, GAPs lead to a general intensification of olive cultivation management, resulting in increased GGE. These higher emissions are offset by other practices promoted by projects ('minimum / no tillage' and integrated pest control) including the use of mill by-products as fertilizer. There is great potential for mitigation achievable by the incorporation of the soil organic matter of by-products into the soil, but the technological proposal advanced by OO 1 does not seem to be fully suited to local conditions.
Regarding the gender aspect, the OO 1 project worked with the NOWARA ministerial program with the positive effect of reinforcing the program itself. NOWARA is the only reality existing in Lebanon that specifically addresses women involved in agriculture and rural development to improve empowerment, access to services, and equal opportunities. NOWARA is currently hosted within MoA as a Program and does not represent an independent unit at any level, as a Directorate or as a Service, an element that does not play in favour of institutional sustainability.

5.2. RECOMMENDATIONS

5.2.1. RECOMMENDATIONS ON NEW DEVELOPMENT ACTIONS OF THE LEBANON OLIVE OIL CHAIN

MDA

- 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).

VALIDITY OF THE INTERVENTION STRATEGY AND GOOD PRACTICES THAT CAN BE REPLICATED IN NEW INITIATIVES FOR DEVELOPMENT POLICIES IN THE OLIVE OIL SECTOR

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 initiative approach with strong visibility components (especially OO 1), called 'from the field to the table', proved to be a win and should be pursued with great force in every new industry 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.
Adopt new production chain development strategies focused on cooperation among all stakeholders and not just small producers ("Market4Poor – M4P" type approach). In the Lebanese context, this means promoting the integration of the non-cooperative private sector as a provider of production services (including financial services) and brokerage in supply chain development. The cooperative growth process could take too long and only one part brings together the conditions to play an active role in providing services to producers.
Along with the principles of the M4P, promoting agribusiness formulas among private cooperative sector actors (see Cooperative Darbashtar) and those outside (see Baino-Akkar's Olive Trade firm), capable of including small marginal companies run by part-time producers, at the same time guaranteeing high quality standards.

GENERAL VALIDITY OF PROJECT DESIGN AS A REPLICABLE MODEL FOR IMPLEMENTING SUB-SECTOR POLICIES/STRATEGIES IN THE OLIVE OIL SECTOR

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. In this regard, some measures could be considered:
Initiate a process of dialogue between MAE and MoA policies during the project action identification phase, and in any case prior to the approval of cooperation actions. This process should set out a "road map" of sectorial policy and governance measures essential to initiatives' overall sustainability.
Always in order to provide a framework of favourable sectorial policies, the project steering committee (PSC) should assume an institutional coordinator role to sustain the application of sectorial policies instrumental to the actions' objectives. In other words, the PSC must go beyond mere approval of the general plans, annual reports, reports and any budget changes.
The design quality should also be improved through:
Upgrading the context and activities during the initial phase (as done by OO 1).
Establishment, in the LF, of specific indicators related to the SOs (outcomes), and not just predominantly for activity outputs.
Establish a permanent relationship and close cooperation with the non-cooperative private sector.

5.3. LESSONS LEARNED

5.3.1. LESSONS LEARNED TO FORMULATE NEW ITALIAN DEVELOPMENT COOPERATION INITIATIVES IN LEBANON AND THE WORLD

Focus the resources on supporting existing processes: a programme based approach within clear development policies (project-to-program approach). It was verified that in several cooperatives the evaluated projects contributed by supplementing the capitalization of cooperatives initiated by the projects, now concluded (30% of the cooperatives visited had previously received support at the beginning of OO 1 and OO 2 projects).
Clear identification of the themes of sector policy with the competent authorities before proceeding with the formulation and start of the activities.
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.

PLANT PROTECTION COMPONENT

THE NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE-FRUIT PHYTOPLASMA AID N. 9527

INDEX

Acronyms

AICS	Agenzia Italiana di Cooperazione allo Sviluppo
AUB	American University of Beirut
AVSI	Associazione Volontari per il Servizio Internazionale
DGCS	Direzione Generale di Cooperazione allo Sviluppo
EEA	Education and Extension in Agriculture
EPPO	European and Mediterranean Plant Protection Organization
EQ	Evaluation question
ET	Evaluation Team
FAO	Food and Agriculture Organisation of the United Nations
FR	Final Report
GAP	Good Agricultural Practice
GDP	Gross domestic product
GO	General Objective
ICE	Istituto per il Commercio Estero
IR	Inception Report
LARI	Lebanese Agricultural Research Institute
LF	Logical Framework
MAE	Italian Ministry of Foreign Affairs (Ministero Affari Esteri italiano)
MoA	Lebanese Ministry of Agriculture
NGO	Non-Governmental Organization
PCU	Program Coordination Unit
PSC	Project Steering Committee
SO	Specific objective
TA	Technical Assistance
UNIMI	Università degli Studi di Milano
UNITO	Università degli Studi di Torino

SUMMARY

Introduction

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).

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 that are partially organized in cooperatives to better access public subsidies, reduce service costs, and, partially, to promote marketing.

The actions covered by this evaluation aim to support profitable activities in the fruit-growing sector through monitoring of a disease that is lethal and devastating to stone fruit, in this case peaches and almonds. The disease is called "almond witches'-broom" and is caused by the phytoplasma "*Candidatus Phytoplasma phoenicium*"; it is an emerging problem in the Euro-Mediterranean countries.

The action implemented to counteract the disease is the **National Program for the Improvement of Olive Oil Quality and actions to tackle the diffusion of stone fruit phytoplasma ('phytoplasma' component of the AID 9527 project)**. It was carried out by the Lebanese Ministry of Agriculture (MoA) during the period 2011-2013 (but the whole program lasted from 2011 to 2016).

The project is part of the sectoral priorities defined by the national agricultural development plans and the cooperation agreements underpinning the MAE's "Socio-Economic Development Program" (Fight against Poverty) in Lebanon.

According to the service ToR, the evaluation was carried out by assessing the criteria of relevance, efficiency, effectiveness, impact and sustainability. The evaluation process was structured in 3 phases: 1) the desk analysis, carried out in Italy during the first months of the service (March-April 2017); 2) the data collection, carried out in Lebanon during the first three weeks of May 2017. The field stage allowed a visit to all major public and private stakeholder stakeholders and involved 25% of the benefiting cooperatives. Finally, 3) The reporting phase, ended with the presentation of reports on September 2017.

EVALUATION RESULTS

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

[1] FAO / MoA, 2012.

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 beneficiries' behaviors (MoA's extentionists, 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.

Given these factors regarding the low level of sustainability, the evaluator's **Recommendations** are directed primarly to MoA to fully resume the actions and services set up by the project and strengthening the issue of phytoplasma prevention. Additionally,

the phytoplasma will be shortly included in the EPPO list as quarantine pathogens, producing very serious economic consequences on the internal fruit market in Lebanon.
Finally, with regard to future intervention in Governance sector addressed to Lebanese MoA it is recommended to integrate in the cooperation agreements specific measures that link the grant to the results and their continuation after the end of the project.
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

INTRODUCTION

Lebanon's current agricultural economy is mainly based on family-run and subsistence production activities. The farmers' resulting emigration implies not only the abandonment of productive activities, but also the flight of people responsible for territory management. Processes must therefore be implemented to improve family incomes, also through protection of the national fruit heritage.

The actions covered by this evaluation aim to support profitable activities in the fruit-growing sector through monitoring of a disease that is lethal and devastating to stone fruit, in this case peaches and almonds. The disease is called "almond witches'-broom" and is caused by the phytoplasma "*Candidatus* Phytoplasma phoenicium"; it is an emerging problem in the Euro-Mediterranean countries. It has been found today in Iran and Israel, and over the last two decades this disease has decimated the almonds in northern Lebanon. In southern Lebanon, the phytoplasma has produced significant damage also to peaches and nectarines.

The action implemented to counteract the disease is the National Program for the Improvement of Olive Oil Quality and actions to tackle the diffusion of stone fruit phytoplasma ('phytoplasma' component of the AID 9527 project)". It was carried out by the Lebanese Ministry of Agriculture (MoA) during the period 2011-2013 (but the whole program lasted from 2011 to 2016).

The project is part of the sectoral priorities defined by the national agricultural development plans and the cooperation agreements underpinning the MAE's "Socio-Economic Development Program" (Fight against Poverty) in Lebanon.

This evaluation is ex-post and focuses mainly on the validity of the intervention strategy and implementation model adopted, together with the proposals' effectiveness and sustainability with the public and private sector beneficiaries. The preparation phase (Phase 1 - Initial Activity, Documentation Review and Initial Report) was implemented in February, March and April 2017 and culminated in the presentation and approval of the Inception Report (IR) by the Office IX Evaluation Division (DGCS) on 26 April 2017. The next field phase (phase 2 - data collection and field information, pre-analysis and return) was conducted in Lebanon during May (06 to 27 May 2017).

CHAPTER 1. CONTEXT AND LOGIC OF THE INITIATIVES

1.1. CONTEXT

1.1.1. NATIONAL AND SECTORAL 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 land dedicated to agriculture is about 231,000 hectares. Nearly 200,000 households live from agriculture either directly (50%) or indirectly (50%). Despite its modest contribution to the GDP (6%), the agricultural sector employed 817,513 workers (30% of the active population) in 2012, on average 5 per farm (MoA - FAO)2. Most farmers manage small family farms that are partially organized in cooperatives to better access public subsidies, reduce service costs, and, partially, to ensure marketing.

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 farming population suffers from progressive aging. Producers younger than age 35 cultivate 13% of the surface, while the young (younger than age 25) account for less than 2%

[2] FAO / MoA, 2012.

of the total. The level of schooling is consequently low (most do not obtain an elementary education). Advanced age and large fragmentation, combined with low levels of schooling, are major barriers to modernizing the sector.
Lebanese agricultural production is represented by about 30% from animal production, strongly linked to dairy processing, while the remaining 70% is plant production. The latter is characterized by great heterogeneity. 33% of the Lebanese agricultural area is cultivated with fruits such as table grapes, citrus, pulp fruits and stone fruits; 26% is dedicated to olive cultivation and the same proportion to cereal crops. The remaining 41% is planted with vegetables, industrial crops, legumes and oleaginous crops (Agricultural Census; FAO, 2000). Women account for 9% of producers.
In 2012, the Gross Saleable Production Value of the main Lebanese fruit plants was the following (ICE data, in millions of USD): Bananas (93.3), Grapes (85.6); Apples (80.1); Citrus (63.7); Peaches and Nectarines (16.4), Cherries (13.3), Pears (12.5), and Almonds (9.3).
The stone-fruit sector in that year represented approximately 10.5% (in commercial value) of the entire fruit sector.
In 2015, the Lebanese economy was characterized by low GDP growth (1.3% according to World Bank). For 2017, the GDP growth outlook is not encouraging, though not disastrous (estimated at about 2%). The slowdown in economic growth, which averaged 8% in 2007/2010, is attributable both to regional problems (regional instability and the situation in Syria since 2011) and to the severe internal institutional crisis (political institutional stalemate).
The regions (cazas) of Akkar and Bekaa in the east (Hermel) have been severely affected by the conflict in Syria, mainly due to the massive influx of Syrian refugees. The Lebanese government estimates that, since the beginning of the Syrian conflict, more than one and a half million Syrians have come to Lebanon, accounting for over a quarter of the country's current residents. Lebanon hosts the most refugees in the world in relation to its population. Added to the 1.2 million refugees officially registered by UNHCR are about 42,000 Palestinian refugees from Syria, according to the latest UNRWA estimates.

The persistence of the crisis has generated devastating economic and social effects. National educational and health structures are collapsing, and the rise of poverty is the basis for the spread of other issues, starting with child labour. According to the World Bank estimates, Lebanon's GDP was reduced by 2.9% per year in 2012-2014; its unemployment rate doubled (over 20%), and the number of people who live below the poverty line increased, with about 170,000 Lebanese people being added to the category of highly vulnerable families. These events have made it difficult to implement development policies in the agricultural sector, especially in remote areas.

1.1.2. LEBANON'S POLICIES IN THE AGRICULTURAL AND OLIVE OIL SECTORS

The MoA has produced two consecutive strategies for agricultural development in Lebanon (2010 - 2014 and 2015 - 2019). The programme in question was included in 2010-2014 global strategy that included, in the tree priority areas:

- Priority Area A: Ensure availability of safe and nutritious foods and strengthen national capacity for better food security;
- Priority Area B: Promoting agricultural production, increasing competitiveness and improving food systems and livelihoods;
- Priority area C: Sustainable management and use of natural resources, fisheries resources and aquaculture for food security.

It should be noted that the Lebanon strategy remains at a very general level and is not specific to the stone-fruit sector.

1.1.3. LEBANON AND ITALIAN COOPERATION IN AGRICULTURE

Food security and poverty reduction are among the main priorities of Italian cooperation in Lebanon. Development initiatives are based on an inclusive supply chain, innovation and business approach as tool for the integration into the markets by most vulnerable population. During identification and implementation of the initiatives, the cooperation policies referred to the areas covered by the Millennium Development Goals (MDGs), which presently evolved into the current Sustainable Development Goals (SDGs), set out by the United Nations.

In the recent national context, especially with the massive immigration of Syrian refugees, the Italian cooperation's commitment to strengthen food security and small producers' incomes is increasingly important.

The 2016 - 2018 Triennial Programming and Directives Document identifies the thematic and sectoral priorities, starting with humanitarian aid, the top priority in the most fragile contexts (Syria, Iraq, Sudan, Sudan, Yemen, Sahel, Horn of Africa, Palestine, CAR), which include agriculture and food security, education, training and culture, health, governance and the fight against inequities; another priority is opening up to new sectors, where Italy has expertise and added value to offer. The relationship between migration and local development is a major crosscutting theme.

1.2. COOPERATION INITIATIVES UNDER EVALUATION

The National Program for the Improvement of Olive Oil Quality and actions to tackle the diffusion of stone-fruit phytoplasma ('phytoplasma' component of AID 9527 project)

1.2.1. ORIGIN OF THE INITIATIVES, NEEDS THAT THE PROJECT INTENDS TO MEET AND COOPERATION AGREEMENTS

Food and nutrition security is among the priorities of the Directorate General for Development Cooperation (DGCS) in the framework of the poverty reduction and food insecurity strategy. The cooperation approach addresses initiatives aimed at integrating innovation and research along the agri-food chains. In this context, the intervention was also designed with the aim of improving the protection of biodiversity within existing farming ecosystems.

This project was originated by a specific request from the Lebanese Ministry of Agriculture to take action against the diffusion of stone-fruit phytoplasma, a disease that severely affects almonds in many parts of the country but which has also proved to be lethal on the peach (nectarine).

An agreement was signed on 26/11/2010 between the Government of the Italian Republic and the Government of the Lebanese Republic, entitled "National Program for the Improvement of Olive Oil's Quality and Action against the Spread of Stone Fruit Phytoplasma" - AID 9527.

The national program, managed directly by MoA, had two distinct components:

a) Improvement of the olive oil sector (quality and quantity);
b) Development of technical tools for studying and monitoring the epidemiology of stone fruit phytoplasma throughout the country.

Component b), implemented by the Italian NGO AVSI from 2011 to 2013, was in fact the continuation of two similar initiatives, both implemented by the same Italian organization.

The first, held in collaboration with AUB and the University of Milan from 2009 to 2010, had the title "Lotta integrata al fitoplasma delle drupacee in Libano" (Integrated Fight against

Stone Fruit Phytoplasma in Lebanon). The project was funded with the ROSS emergency programme[3] - Phase 3.
The second, from 2011 to 2012 - partially overlapping with the project being evaluated - with the support of the Interuniversity Centre for Development Cooperation (University of Milan, University of Pavia, University of Brescia) had title "Lotta al fitoplasma 'Candidatus Phytoplasma phoenicium' attraverso la valorizzazione della biodiversità in frutteti di pesco e mandorlo in Libano" (Fight against phytoplasma *Candidatus Phytoplasma phoenicium* through the enhancement of biodiversity in peach and almond orchards in Lebanon). The project was funded by the City of Milan.
The cultivation of stone fruit (almonds, peaches, nectarines, apricots, cherries, and plums) is spread throughout the Lebanese territory. Since 2006, especially in the southern regions of the country, farmers have made important investments for specialized and semi-intensive cultivation of these species. However, the low level of technical knowledge of farmers and the lack of specialized Technical Assistance (TA) (in particular plant protection products) are among the causes of limited economic development in the sector.
One of the most stringent issues is also the question of the stone fruit phytoplasma (*Candidatus phytoplasma phoenicium)*, responsible for a disease called "almond witches'-broom". This disease has caused considerable damage to almond producers since 2000 and, more recently, has seriously threatened the production of peaches and nectarines, which are widely cultivated in many Lebanese regions. The disease had never been adequately controlled in Lebanon because of insufficient technical skills of most farmers and field technicians in the MoA to recognize its symptoms. The disease maintains high spreading potential in almost all the cultivated areas of the country, with the risk of seriously damaging the economic conditions of almond growers, becoming a danger to the national production of peaches and nectarines. It is estimated that in the years 2000-2003 about 100,000 almond trees died due to this disease. During the years 2008-2009, the Italian NGO AVSI, in collaboration with AUB and the University of Milan, identified extensive contaminated fruit areas in four regions.
In summary, the main problems identified in the Lebanese stone fruit cultivation at the time of drafting the project proposal were:

- Limited competence of agricultural support services provided by the MoA at regional level (Extension services);
- Medium-low technical knowledge by farmers and lack of TA in the field of (i) the choice of plant protection instruments / strategies and (ii) technical instructions for the timely application of agro-treatment. Similarly, lack of technical advice was highlighted in the pruning, orchard management and harvesting of products;
- Inadequate tools for the monitoring of plant health status;
- Lack of information on the phytoplasma epidemiology, which, if not properly controlled, could become highly damaging to Lebanese orchards.

The overall design action (including the two Oil components and fight against phytoplasma) began formally with the signing of the financial agreements on 26/11/2010. The project was to last 12 months, with a total cost of €2,105,600.00 (Italian donation of € 1,775,400). However, the repeated time extensions granted during the contract period led to postpone the closure phase of the overall project to 30/06/2016 (Technical Note of the Italian Embassy in Lebanon of 07/12/2015). However, it should be noted that the "fight against phytoplasma" component was completed within the expected time; e.g., by the end of 2013.

[3] ROSS Emergency Program (2007). TA and budget support by the Lebanese state, especially in the social, agricultural / environmental sectors and promotion of local development.

1.2.2. INTERVENTION STRATEGY AND LOGICAL FRAMEWORK

For LF, see Annex 7.

The project's strategic approach remained the same throughout the implementation period.

The General Objective (GO) 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 (SO), 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 action promotes the creation of a national Geographic Information System (GIS) to monitor the spread of the disease in orchards and nurseries (R4). This result is attained first with the arrangement of all the data collected during monitoring of fruit orchards in the previous actions (all the data collected from 2009 was georeferenced).

To this is added the information collected during the action and their digital mapping that shows the geographic distribution of the disease. Collected and analysed data includes (non-exhaustive list): the farmers contacted, the orchards located and visited, the number of infected plants found, suffered economic damage, origin of cultivated plants, year symptoms appeared, socio-economic surveys distributed, etc.

It is also planned to develop a disease diagnostic protocol with the support of scientific research for the identification of insect vectors and secondary hosts (host plants) of the phytoplasma (R5). The activities envisage the definition of visual symptoms - for field recognition - and numerous advanced analytical determinations to be carried out at the Lebanese and Italian research institutes collaborating in the project.

Finally, the action aims to complete the monitoring of disease spread at national level, including nurseries in the country. Specific training is also provided for nurseries, sector farmers and MoA technical staff (R6). To achieve this result, surveys in Lebanon's nurseries and farms will be carried out with visual and analytical health checks. Suspect or infected samples will be collected, to be analysed at the laboratories of Lebanese science partners. Original information material is produced, to be distributed among all stakeholders (MOA personnel, nursery workers, and farmers in the sector).

Beneficiaries

Direct beneficiaries of the action:

- public institutions, individuals and businesses with access to services generated by the project: MoA staff at the national level, responsible for the prevention of stone fruit phytoplasma;
- farmers (producers of almonds, peaches and nectarines);
- owners and operators of nurseries.

Partners of the initiative:

Private/public Institutions with a significant past and present role during project implementation and sustainability of its products; NGOs; Italian research institutions:

- Lebanese universities and research institutes, including: the American University of Beirut, Saint-Esprit University of Kaslik, the Lebanese University and the Lebanese Agricultural Research Centre (LARI Tal Amara);
- - Italian universities: University of Milan and University of Turin;
- - the Italian NGO AVSI.

Project partners

- Ministry of Agriculture through a Program Coordination Unit (PCU) and a Project Steering Committee. The entire program had a general coordinator, while a specific

coordinator was assigned to the activities of the "phytoplasma component". A Scientific Committee was also established;

· The Italian NGO AVSI, which technically managed the activities of the "phytoplasma component".

The **indirect beneficiaries** are the consumers and other actors in the chain (fruit processing and trading operators, exporters, etc.) who can rely on healthy, high quality fruit products.

CHAPTER 2. OBJECTIVES AND METHODOLOGY

2.1. EVALUATION OBJECTIVES

The object of the evaluation consists of the "Fight against stone fruit phytoplasma" of the action "National Program for Olive Oil's Quality Improvement and Action against Diffusion of Stone Fruit Phytoplasma" (AID 9527), financial instrument of DGCS - MAECI for Development Cooperation in Lebanon.

The general objective of the evaluation, as envisaged by the ToR, is to evaluate the initiative according to the classic criteria of relevance, efficiency, efficiency, impact, and sustainability, with particular attention to additional coordination and consistency criteria, and added value of interventions.

The main objectives of this evaluation exercise are as follows:

1) Evaluate the initiative in depth according to the criteria listed in the GO: Relevance, Efficiency, Effectiveness, Impact, and Sustainability.
2) .
3) Make a judgment on the project's strategic approach. The validity of the intervention strategy allows assessing whether the initial policy assumptions defined in the SO are effective for achieving the overall objective. In addition, the assessment intends to analyse the validity of design that could be replicated in later national policy implementation actions.
4) Identify and promote the lessons learned and make recommendations to improve the quality of further actions in the fruit and plant health sector in Lebanon and, more generally, of the Italian development cooperation.

The last goal is to address the 2016 - 2018 three-year programming and directives Document of the MEA-DGCS, which includes the thematic and sectorial priorities in fragile contexts (Syria, Iraq, Sudan, Sudan, Yemen, Sahel, Horn of Africa, Palestine, RCA) - agriculture and food security, education, training and culture, health, governance and the fight against inequalities.

2.2. APPROACH AND METHODOLOGICAL PRINCIPLES

The methodology followed the principles of "*results based approach*" comprising analysis of various sources of information and data derived from project documentation, monitoring reports, and interviews with government counterparts and project *staff* as well as with direct beneficiaries, both individually and aggregated in "*focus groups*".

The type of evaluation required is ex post. Therefore, its results are mainly focused on analysing the validity of the strategic approach and coherence of the execution design with the national context (relevance criteria and design quality), as well as the effectiveness and sustainability of the interventions.

Particular importance has been attached to the effectiveness and sustainability of innovation-led actions, which, if appropriately replicated, can have a significant impact and constitute valuable elements for the formulation of future national policies and cooperation in the fruit and plant health sector.

Institutional sustainability has been further analysed based on the effective capacity of the MoA and other public entities to ensure the continuity of sectoral governance measures (plant-health monitoring systems and effective disease control actions).

2.3. EVALUATION CRITERIA AND EVALUATION QUESTIONS

The project evaluation is structured according to the 5 OECD/DAC criteria (relevance, efficiency, effectiveness, impact and sustainability).
The analysis takes into account the information gathered based on the study of updated context and project documentation, field visits and data analysis collected to answer the evaluation questions and their indicators contained in the projects' Evaluation Matrix -EM (see Annex 2).
Evaluation questions were selected and sorted according to the evaluation criteria indicated in the ToR (relevance, design validity, efficiency, effectiveness, impact and sustainability, coherence and coordination, added value, gender analysis and environmental sustainability.

CRITERIA AND EVALUATION QUESTIONS (EQ):

Relevance (EQ 1a and 1b): Regarding this criterion, the evaluation primarily measures the degree of correspondence between the results and the project objectives with the national policies and identified problems or needs.
Validity of project design (EQ 1c): The evaluation examines the degree of logic and coherence of the project design. The theory of change contained in the project design is identified and explained and the coherence of the progress of change is evaluated.
Efficiency (EQ 2): Taking the results as a reference, this aspect allows evaluating how the project activities and implementation mechanisms have made it possible to transform available resources into results (how *inputs* have been converted to *outputs*), in quantitative, qualitative and time terms. Respect for the expected time and achievement of the expected results (monitoring system) are evaluated.
Effectiveness (EQ 3 and EQ 4): Based on this criterion, the degree of achievement of the SO is assessed. Efficiency here is divided into two criteria (short-term effectiveness and medium-term effectiveness) for a more accurate analysis. The short-term achievement of the SO concerns products and services. Medium-term effectiveness measures the level of change in beneficiaries. At this stage, the validity of the intervention logic identified in the analysis of relevance is definitively verified.
Expected Impact (EQ 5): Under this criterion, the degree of achievement of the general objectives is assessed by measuring the long-term changes in the beneficiaries. With the ex-post approach, it is plausible to analyse the intended impact based on the effectiveness and sustainability of actions and external factors that may influence (increase or eliminate) the effect of the results achieved.
Sustainability (EQ 6): This assesses the capacity of a project to continue to benefit after its conclusion by examining the degree of political support and involvement of the national and local beneficiary institutions and considering the financial and economic sustainability as well as the technical and socio-cultural factors that allow the benefits to last.
Additional criteria in support of overall sustainability
Coordination/coherence (EQ 7): The criteria allow assessing whether the results obtained are seamless or complementary to those obtained from other interventions promoted by DGCS, local actions or international community actions.
Indicators: Level of continuity and / or complementarity with other similar actions promoted by DGCS or other donors.
Target: The results achieved by the projects are embedded in a logic of continuity and complementarity with other similar initiatives funded in the country by the DGCS and / or other donors.

Interaction with unexpected benefits (DV 8): Assessment of any unexpected benefit arising from the interaction between Lebanese and Italian actors**.**
Added value and best practices (EQ 9): It is assessed whether there were any unexpected additional benefits stemming from co-ordination between initiatives, consistency of the activities (internal and external) and other factors that could lead to replicability of the intervention, multiplier effects, indirect beneficiaries not originally considered, etc.

2.4. TOOLS AND SOURCES

The methodology for collecting and analysing data in its final version was designed in the first phase of the evaluation process (see Chapter 3) after analysing project documents and interviews with institutions responsible for their implementation.
Data collection tools have been identified in accordance with the assessment questions and indicators indicated in the EM and by adopting a principle of stakeholder inclusion.
The following are the main data collection activities performed:
Study of the documentation collected at the initial stage and during on-site visit (Lebanon) (policy documents, project documentation, monitoring reports).
The main groups of interest and sources of information identified are:

- MoA officials (agricultural education and TA) at headquarters and regional offices;
- Lebanese private and public scientific and research institutions;
- Fruit growers and nurseries, related to the cultivation and propagation of stone fruit species;
- Responsible organisation for the technical implementation of the action (AVSI).

The main data collection tools used were field visits and individual interviews to respond to assessment questions.
The EQs were addressed by **crosschecking sources and methods** to strengthen the reliability of the information and the reliability of the results.

CHAPTER 3. THE EVALUATION PROCESS

3.1. THE STUDY OF THE PROJECT DOCUMENTATION AND THE INITIAL REPORT (IR)

The phase of obtaining and examining the documentation (see Annex 3 for the list of documents consulted) began in January 2017. In the same month (21/01/2017), a first meeting was held in Rome to learn about and plan the initial phase between the Evaluation Team (ET) and Office III - Evaluation Division of the MAECI-DGCS
The research and study of project and context documentation was smooth and efficient thanks to good coordination among all stakeholders (ET, Office III - DGCS, Italian Embassy in Beirut, Lebanese MoA, the Italian Agency for Development Cooperation (AICS) Lebanon Headquarters, and AVSI).
The Inception Evaluation Report (IR) and the provisional field visit schedule were presented at the scheduled time (first week of April 2017), and approved during the second meeting held at Office III - DGCS by the ET (Rome) on April 21, 2017.
In line with the methodological approach adopted, ET has requested and involved, since the initial stage, the MoA which appointed Ms. Majida Mcheik, current Minister's adviser, as a focal point for the preparation of activities related to field visits. Mrs. Mcheick's contribution was essential, in particular in relation to the institutional coordination of the public sector concerned at the central and peripheral level.
The field visit agenda proposal was coordinated with the MoA focal point and consulted and approved in advance (especially regarding the security aspect) by the Italian Embassy in Beirut.

3.2. MISSION IN LEBANON AND PARTICIPATORY SURVEY

The mission in Lebanon took place from 6 to 27 May 2017. Annex 1 indicates the people met and the organizations visited.

The mission began with the *initial briefing* at the central MoA with Ms. Magida Cheik, the focal point designated by the Minister. The planned briefing with representatives of AICS Headquarters in Beirut did not take place due to the absence of managers in charge of monitoring the actions being evaluated.

During the first week of mission, MoA officials responsible for the implementation and continuity of the promoted actions were met in Beirut, together with representatives of the NGO AVSI, responsible for the technical action.

During the second and third week, Lebanese private and public research partners of the project were interviewed, namely:

- Prof. Youssef Abu Jawdeh of the American University of Beirut;
- Prof. Marc Beyrouthy of the University Saint-Esprit of Kaslik;
- Dr. Elia Choueiri of the Lebanese Agricultural Research Centre (LARI Tal Amara).

It was not possible to meet any representative of the Lebanese University, since, after the death of Professor Hani Abdul-Nour, who had personally participated in the project's activities, the University did not go ahead with the research on "insect vectors of phytoplasma".

Finally, the ET visited three important nurseries in the Zahle area, interviewing the owners. It also visited some orchards affected at project time by the disease in the Kherbet Kanafar Municipality. On that occasion, it was also possible to interview two local training technicians who had participated in the project's activities.

The field mission took place as originally planned with no problems, and all stakeholders involved were met.

The preliminary conclusions of the Participatory Survey were presented on May 26 in two summary presentations (*PowerPoint*) at the end of the field mission the first occurred at the AICS Beirut headquarters with the participation of NGOs ICU and AVSI and the second conducted in the presence of the focal point and all the central MoA units.

3.3. DATA ANALYSIS AND DRAFTING OF THE PROJECT FINAL EVALUATION REPORT

The drafting of the Final Evaluation Report was in line with the DGCS guidelines, started after the return of the ET to Italy. The ET cross-referenced the information gathered with that contained in the project documentation and drafted the preliminary version of the report.

The qualitative-quantitative analysis and comparison with the project indicators allowed answering the questions contained in the evaluation matrix, structured according to the five OECD/DAC criteria: 1. relevance, 2. effectiveness, 3. efficiency, 4. impact and sustainability.

3.4. COMMUNICATION AND DISSEMINATION: WORKSHOPS

The draft evaluation report was submitted on July 17, 2017.

The final conclusions of the evaluation have been illustrated in a summary presentation (PowerPoint) to local stakeholders and AICS Beirut in Lebanon on the 12 September 2017 after integration of observations by the evaluation unit in Italy and the other units involved.

Presentation of the final version of the evaluation report took place during a workshop held at DGCS, on the 22 September 2017.

For the list of participants in both final workshops, see Annex 6.

Following receipt of the comments to the preliminary report submitted, the Final Evaluation Report (FER) has been drafted in Italian and English and delivered by 28 November 2017.

CHAPTER 4. EVALUATION RESULTS

4.1. RELEVANCE

4.1.1. RELEVANCE AND QUALITY OF THE DESIGN

Already in 2003, the Department of Plant Protection of LARI Tal Amara had identified the "almond phytoplasma" in northern Lebanon, and contributed to an international publication suggesting the name "Candidatus *Phytoplasma* phoenicium" for this peculiar bacterial species. Subsequently, the most extensive disease monitoring activities carried out under the two previous phytoplasma projects (from 2009 to 2012) confirmed the spread of this lethal microorganism in almonds in northern Lebanon, and prepared a map showing the spread of disease on a georeferenced base (GIS).

Therefore, this action has been finalized and designed to deepen the MoA's monitoring / control strategy for the disease, which in the meantime had begun to spread also in the south of the country, extending to peaches and nectarines.

The consistency of the project objectives and its intervention strategy with the needs of the beneficiaries, primarily the staff of the MoA responsible for the prevention of phytoplasma and farmers and nursery operators, was therefore satisfactory.

The coherence of the intervention strategy with Lebanon's government policies and programs

The MoA 2010-2014 strategy, compared with the evaluated initiative, explicitly provided for the updating of the Legislative Framework, the resumption of the dissemination service and TA and the development of the chains to increase global competitiveness.

Within the new 2015-2019 strategy, the actions planned to achieve the three strategic objectives (which are: 1) food security; 2) increasing the contribution to the country's economic and social growth; 3) promotion of sustainable management of natural resources), the intervention areas relevant to the action assessed are:

1. Modernization and development of the supply chains and dissemination of Good Agricultural Practice (GAP),
2. Increase in exports,
3. Dissemination system development
4. Strengthening plant health control measures

Specifically, area 4 develops through:

- Completion of the updating of plant health legislation and organizational management structure based on international standards;
- Improvement of the MoA's ability to monitor and eradicate parasites;
- Improvement of the phytosanitary regulation system of imports according to international standards;
- Development of international plant-based certification of plant exports according to international standards.

The project's strategic framework is therefore consistent with the MoA's past and present intervention strategies.

It should be stressed that both MoA strategic documents remain quite generic, even in the specific sector of plant protection and plant health control for stone fruits, a group of crops that are still relevant for economic purposes.

4.1.2. QUALITY OF THE DESIGN AND PLANNING

4.1.2.1. QUALITY OF THE LOGICAL FRAMEWORK

The projects' Logical Framework (LF) (Annex 7) was formulated based on the standards indicated for the methodologies applied to the *project approach* and based on the analysis built

into the problem tree. Following the definition of the GO, the SO No. 2 defines the intervention strategy, which in turn directs activity and results and allocates corresponding resources.
Significant changes during the reporting period: none. In general, the LF is consistent with the intervention strategy.

RESULTS OF THE ACTION: COHERENCE WITH THE SO

The three results are in turn consistent with the SO. The intense research activity has led to accurately identifying the diagnostic framework of the disease (both in terms of visual symptoms - recognizable in the field by the three categories of beneficiaries - and molecular traits, which are only detectable by laboratory analysis). The precise determination of the diagnostic framework finally allowed to carry out the territorial monitoring of the disease, and therefore also to update the georeferenced map (GIS).

INDICATORS: QUALITY AND FEASIBILITY OF THE ESTABLISHED TARGETS

One of the two indicators at SO level refers to an action to eradicate infected plants by also providing public subsidies to affected farmers. However, the project did not envisage any active intervention against diseased plants or even for the benefit of damaged farmers; it was rather limited to setting up a range of phytoplasma diagnostic tools and therefore useful for its monitoring on the territory. Therefore, the relationship between the indicator (which would seem more appropriate to represent a possible impact of the project) and the SO is not clear.
As far as the three results are concerned, the former are certainly consistent with the latter. However, this is an exception with R6, which also included extensive training activities on the recognition of disease symptoms, addressed to MoA trainers, farmers and nursery operators. Nevertheless, the corresponding indicator refers only to the latter.

ACTIVITIES: CONSISTENCY WITH RESULTS AND SO

Activities are generally consistent with the expected outcomes. However, despite the fact that R6 provided training for MoA technicians, tree growers and nurseries - of the latter, at least 100 formats - there were no real training activities in favour of these three categories but for the production of dissemination material (including a poster) to be distributed to the beneficiaries.

4.1.2.2. CONSISTENCY AND ADEQUACY OF IMPLEMENTATION MECHANISMS WITH THE CONTEXT OF ACTION DEVELOPMENT

The Institutional framework

The MoA is present throughout Lebanon with its regional extension offices (Agricenters). The MoA's support in recent years has also involved providing certified fruit plants to the farmers. The role of trainers is also to help farmers in the prevention and control of crop diseases.
The MoA fruit crop and nursery sector management is guaranteed by the Plant Resource Directorate (PRD) and its units responsible for plant protection and plant propagation.
The Lebanese Agricultural Research Institute (LARI), Tal Amara Station (Zahle), is responsible for fruit plant mother nursery activities (source of propagation material for nurseries that adhere to the voluntary certification program) and the role of carrying out molecular analyses to determine the presence of phytoplasma.
All the actions promoted by the projects have specific units in charge of governance and therefore of their institutional sustainability. In this situation, it can be affirmed that the public sector institutional framework provided the stability guarantees necessary to ensure the project's required level of effectiveness and sustainability

Table 1 - Lebanese and Italian institutions involved

THE NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE-FRUIT PHYTOPLASMA AID 9527	LIABILITY/IMPLEMENTED ACTIVITIES
Ministry of Agriculture	Entity responsible for implementation in coordination with AVSI
MoA central units (Agric centre per each caza) of EEA service	TA to producers and cooperatives
Lebanese Agricultural Research Institute (LARI) – Seat of Tal Amara	Fields of fruit-bearing plants (including drupaceae). Molecular analysis for the recognition of phytoplasma on plants.
American University of Beirut (AUB)	Private University Research centre. Analytical activities, scientific advice and scientific leadership within the group of Lebanese universities participating in the project.
Université S. Esprit di Kaslik (USEK)	Private University Research Centre. Analytical activities, botanical scientific advice.
Lebanese University (LU)	Private University Research Centre. Analytical activities, entomological scientific advice.
Università' degli Studi di Milano (Faculty of Agronomy – Di.Pro.Ve)	Public University Research centre. Analytical activities, scientific advice.
Università' degli Studi di Torino (Faculty of Agronomy – Di.Va.P.R.A);	Public University Research Center. Analytical activities, scientific advice.
Associazione Volontari Servizio Internazionale (AVSI). Italian NGO with previous experience on phytoplasma of almond tree in Lebanon.	Technical management of the project, in coordination with MoA.

Organization of implementation

The responsibility for the implementation of the action was entrusted to the MoA. The MoA implemented it through a budget support mechanism, governed by a bilateral and mandatory agreement subject to external evaluation.

A Project Steering Committee (PSC) was set up to guide the implementation of the action from a strategic point of view and having the following functions:

a) Project guidance and supervision;
b) General policies and direction of strategic choices;
c) Exchange of experiences and facilitation of contacts;
d) Integration with other activities;
e) Approval of operational plans and technical and financial reports prepared and submitted for approval by the person in charge of implementation.

The PSC was comprised of a representative of the MoA, a representative of the Embassy of Italy in Beirut, a representative of MAE-DGCS and a representative of AVSI. Also on behalf of MoA, the project coordinator and coordinator of the specific phytoplasma component participated in the PSC.

The PSC was accompanied by a "Scientific Committee", chaired by the then Minister of Agriculture, which was attended by several representatives of the various technical departments of the MoA, Lebanese scientific institutions, Italian universities involved and Italian Cooperation. The purpose of the Committee was not only to oversee the most specific research activities carried out by the project, but also to provide the Minister with technical guidance on agricultural policy linked to the emergency related to the spread of the disease. For example, the ministerial decision to pursue forced eradication of thousands of infected young plants in some nurseries and to provide replacement trees to many farms in return for healthy plants was taken thanks to the support of the Scientific Committee.

Institutional and sectoral coordination

The level of coordination between the MoA and Lebanese and Italian project partner scientific organizations was effective, thanks to a good interaction between AVSI and MoA

coordinators of the project. Coordination with the regional partners has also been effective, mainly with those responsible for the dissemination of Agri-centres located in the regions affected by the interventions.

Ability of the MoA and its main beneficiaries to benefit from the project results
The molecular methodologies for the genetic characterization of almond phytoplasma, the identification of some insect vectors and host plants, and other diagnostic protocol elements were immediately accessible by the Lebanese research group (including LARI), which improved their pre-existing technical-scientific capabilities (including diagnostics), both in terms of knowledge and innovative methodologies for analysis and determination of phytoplasma.
GIS maps with the findings of disease spreading monitoring in Lebanon have been of great benefit to the MoA to focus on eradication and dissemination interventions in priority areas.
The identification of the "visual" picture of disease symptoms, recognizable in the field and functional to the timely elimination of infected plants, has been extremely useful for MoA dissemination technicians, farmers, and nursery operators involved in the project.

4.1.2.3. RISK ASSESSMENT AND SUSTAINABILITY

The risk assessment associated with LF was performed with generally appropriate criteria.
Sustainability factors analysed and addressed by the project document mainly concerned technical and environmental aspects, evaluated appropriately. However, it is noted that the risks associated with institutional sustainability were not duly considered, especially in the initial phase of defining the implementation agreements and during the final phase.
In this regard, the main expected outcome of the action, namely the development of a georeferenced disease monitoring system on a national basis and managed by the MoA, has not been previously envisaged within the organizational structure of the Ministry. In addition, the resources needed for its continuation and operation have not been adequately evaluated.

4.2. EFFICIENCY

4.2.1. CAPACITY TO MANAGE AND EXECUTE ACTIVITIES

The Project (both components) started formally with the signing of the financing agreement in November 2010, while the actual activities started in June 2011. Initially intended for a period of 12 months, the activities were extended to last until June 2016 (60 months of total duration). The stone fruit component activities were carried out in the period 2011-2013.
The project budget for the stone fruit component was € 369,600 (excluding "management and coordination" and "audit and evaluation" items, to be shared with the "oil" component). It is highlighted that the entire budget was provided as a MAE donation (no contribution from the Lebanese Government).

Operation of the PSC and Scientific Committee
The PSC met regularly 4 times (once in 2011, twice in 2012 and once in 2013), performing the assigned functions.
The Scientific Committee met 5 times (3 in 2012 and 2 in 2013), performing the assigned functions, including a shortest-term eradication programme.

The quality of the budget, the resources provided, and their adequacy for the needs of the action
In general terms, the budget was built in a balanced way and responded to the needs of the planned activities, both for laboratory research and for field survey and dissemination / training activities for beneficiaries.
According to the documentation received and analysed and the findings obtained during field visits, resource management and control did not pose any major problems. All actors

contributed the necessary resources within the established times and the quality of human resources employed and contracted is in line with the required standards.

Performance of activities

The implementation of activities relating to the phytoplasma component, suffered no significant delays. All activities were regularly carried out according to the plan in the years 2011-2013, unlike the oil component, whose activities have been continued until June 2016 (requiring several extensions - see FER oil component).

4.2.2. MONITORING SYSTEM (MS) QUALITY/REPORT QUALITY

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.

To knowledge of the evaluator, no monitoring/evaluation reports were performed by the MoA with explicit reference to the indicators of results defined in the LF. Neither the MoA has prepared a final report that sums up all the activities carried out by the project with its results.

Minutes of the PSC and the Scientific Committee allow, to a certain extent, monitoring the progress of the project over time.

The quality of the AVSI reports is satisfactory and allows - also through the exhaustive photographic documentation attached - appreciating the implementation of the design activities.

4.3. EFFECTIVENESS

Achievement of output (quality and quantity) and beneficiaries' access to services developed by project activities. Achievement of the intended objectives

The effectiveness assessment was focused on the indicators reported in the Logical Framework (LF) and those pertinent at the level of SO and those regarding the individual expected results.

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

The products generated by the project, in strict accordance with the provisions of the LF, are as follows:

Geographic Information System - GIS to monitor the spread of the disease in orchards and nurseries

The project produced a database obtained with the information derived from territorial monitoring (Result 6), with the purpose of geo-referencing several aspects of the presence and evolution of the disease in Lebanon.

The database has allowed the generation of 12 thematic digital maps. The 8 basic maps are listed below:

1. Map of infected orchards. It shows the spread of phytoplasma in the various Lebanese regions after some hundreds of vegetable samples of almond, peach and nectarine have been collected in more than 1,500 different sites by AVSI and MoA technicians and analysed by research organizations;
2. PCR Results Map. Displays the results of the molecular tests, geo-referencing them, carried out on the samples taken;
3. Nursery Map. Displays the collection sites of some hundreds of plant samples in 137 nurseries throughout Lebanon. Approximately 300 other mother plant samples were taken from the LARI Tal Amara field;
4. Infection incidence map. It shows a general overview of the incidence of infection in the Lebanese regions, updated at the end of 2013. Diseased trees are highlighted in mixed family orchards as well as in nurseries. The same map shows the incidence of

the disease in specialized orchards. At the end of the project, 221 villages were infected, in 18 cazas.

5. Map of the pilot area - specialized orchards. This map shows the villages where infected trees were found, and where it was eliminated using herbicides and mechanical blades;
6. Map of the pilot area - mixed family orchards. This map shows the villages where infected trees have been found in family orchards, and where the disease has been eliminated by using herbicide;
7. Map of the evolution of territorial monitoring 2010-2013. The map shows the regions monitored and those found positive to the disease in 2010 (before the start of the action), 2011, 2012 and 2013;
8. Winter sampling map. It shows sampling sites in the winter season, important for obtaining DNA of good analytical quality.

Defined a diagnostic protocol of the disease and finalized research on insect vectors and secondary guests

A diagnostic protocol to identify the disease in Lebanon's stone fruit was developed by the international group of scientific organizations, partner of the project. The document, in addition to explaining in detail the analytical procedures to be applied for certain determination of phytoplasma, contains recommendations on how to make observations and sampling. It also indicates a list of plant and animal (insects) hosts of the disease, to which to extend the search.

This protocol was actually used to diagnose the disease during the various surveys carried out by the project.

The activities of insect capture made in the fruit areas found infected by phytoplasma have allowed identifying a considerable number of species capable of transmitting the disease. Some species belonged to families already known to transmit the disease, others did not. The identification process resulted in the capture of thousands of individuals in the field, their systematic recognition and genetic analysis in the Italian centres, equipped with appropriate analytical instruments. In addition, artificial inoculation tests have been carried out in greenhouse on young almond plants to confirm the species identified as potential vectors.

Samples were taken out of a hundred spontaneous plant species, in infected orchards. After appropriate genetic analysis, some species have been found to be actually positive in transmitting the disease. In particular, the researchers have been able to show how the phytoplasma that infused almond plants in a given location was also found in the DNA of *Cixius sp.* (insect vector) and in the DNA of the bush *Smilax aspera* where the *Cixius* sp. was hidden. This is to be considered a truly important discovery as it concerns an entire biological cycle of the disease.

Completed disease-tracking monitoring at national level including nurseries in the country and nursery educators, industry farmers and MoA technical staff

As reported for Result 1, twelve thematic maps, digital and georeferenced, have been produced and made available to the competent offices of the MoA. The maps were updated on the date of completion of the action; that is, December 2013. The complete set of maps therefore represents the product "monitoring" of the disease throughout the national territory.

Regarding the training actions carried out, it should be noted that 69 MoA extension officers have been trained on the recognition of visual symptoms, on how to take samples to be delivered to the laboratory for molecular testing, and on how to prepare and update an IT database. In addition, almost all of these technicians have been directly involved in monitoring activities in orchards and nurseries, obviously also receiving on-the-job training. The training actions also concerned about 600 farmers and 50 nursery owners. Two excellent brochures and one poster have been produced and distributed at the meetings.

Massive eradication of disease in newly affected areas by *Candidatus Phytoplasma phoenicium*

Although not originally provided by the LF, this product is a logical consequence of the project monitoring outcomes. The then Minister of Agriculture, having seen the first results of the monitoring and with the advice of the Scientific Committee, decided in 2012 to carry out a forced eradication of all the young trees in the 5 nurseries found with infected plants. At the same time, it was decided to eliminate the infected trees identified in many farms located in areas called "focus areas" where phytoplasma was recently detected, with the aim of preventing further spread and economic damage. In all, more than 6,000 plants were removed in about 600 farms. The project and the MoA worked very intensively to convince farmers to destroy plants, also in coordination with the municipalities concerned. A real contract was signed between each farmer and the MoA, also providing for compensation, represented by fruit plants of other tree species (not susceptible to disease) delivered to the farm by the MoA extension officer (Picture 1). In addition to carrying out an intense eradication effort with the aim of slowing down the spread of the disease in predominantly "virgin" areas, the project could develop a real "protocol of understanding" with farmers, functional to complete the action without raising conflicts with farmers.

In areas where the phytoplasma had long been established, the project re-grafted diseased plants with plum varieties, species not susceptible to this disease.

AVSI's technical progress reports, and the interview with a former AVSI field technician and an MoA dissemination technician who had participated in the project's activities, point out that in some areas of the country (e.g. Balbaack and Hermel) the monitoring found several infected plants, but no eradication was made because of the then insecure situation of those areas, where it is therefore possible that the disease has spread further, in the meantime.

In conclusion, it is the evaluator's view that the SO and the expected results associated with it have been fully achieved.

Specifically, the MoA extension officers who participated in the monitoring, eradication of diseased plants and specific training sessions of the project were made by the project technically capable of identifying disease in the field, of implementing prevention and control measures, on involving farmers with diseased plants in a participatory process aimed at removing them. These technicians are therefore able to carry on the project's activities.

LARI Tal Amara has acquired skills related to analytical methodologies and knowledge of the pathogen's eco-physiology by other scientific organizations for the diagnosis of phytoplasma.

Farmers and nursery workers have become aware of the severity of the disease, and know the methods of prevention and control.

Finally, the state of the art of scientific knowledge on *Candidatus Phytoplasma* phoenicium in Lebanon, and its diffusion modes, has improved but certainly not yet extended to all the many biological cycles of this plague (insect vectors and host plants).

4.4. EXPECTED IMPACT

Ex-post evaluation does not focus on impact measurement but infers the real prospects for long-term changes or effects directly or indirectly attributable to the action.

It is presumed that the achievement of the SO of this action has led to the creation of a "best practice", ranging from the possibility of identifying the disease through its peculiar external symptoms (to be confirmed by molecular testing), also with the support of effective IT tools (GIS maps), to the participatory/subsidized ways of eliminating diseased plants, as an effective form of prevention.

And certainly, the effects of applying this best practice throughout the country will result in a significant impetus to food security, also as a safeguard of agricultural income.

It is also apparent that project products can have an important impact on the stability of stone fruit production only if the Lebanese government institutions decide to put in place, with due continuity, all the necessary (human, technical, scientific and material) resources to the implementation of the good practice mentioned, including other crucial elements that are described in the next chapter devoted to the sustainability of the project.

4.5. SUSTAINABILITY

The continuation of the products and services developed by the project has been, and still is, very limited. This makes the sustainability of the action unsatisfactory, as shown below for specific results.

a) Continuous updating of geo-referenced digital maps (GIS) to monitor the spread of the disease

Since the end of the action (December 2013), digital maps have not been updated anymore. No new official information is therefore available on the current spread of the disease in Lebanon.

b) Good phytoplasma monitoring practices in the field and in the laboratory, are implemented by all MoA technical services and national scientific research centres (former project partners)

The Department of Agricultural Education and Information of the MoA does not have an active program for monitoring the field of almond phytoplasma in any area of the country (neither in the areas where the disease was originally classified as endemic, nor in the "focus areas" fruit areas of economic importance, where phytoplasma had been detected and where eradication activity had been carried out during the project). Any signs of disease symptoms and their prevention/control/eradication strategies are therefore not managed systematically and coordinated, as was the case during the project.

The technical skills acquired by the MoA extension officers during the project (especially their ability to recognize the visual symptoms of the disease and to direct the farmer to the consequent choices) are therefore not valued.

In the field of analytical monitoring, LARI Tal Amara (the only public laboratory) maintains the capacity and means for carrying out molecular testing for the definitive recognition of phytoplasma. However, there is no longer a specific monitoring program dedicated to the disease. As reported by the director of the Department of Plant Protection of LARI Tal Amara, occasionally plant material with presumed symptoms is harvested by farmers or technicians and led to LARI for an analysis. The director warns that no analysis has been positive for phytoplasma from the end of the project but it is unclear how many tests have been made since the end of the project to date (precisely because there is no systematic monitoring program).

In any case, both the director and the former coordinator of the action report that the costs of the molecular test (about 50 USD) no longer have financial coverage by the MoA.

Several times (PSC meeting of 14/12/2012, Scientific Committee meetings of 21/06/2013 and 02/12/2013) the project partnership highlighted the importance of providing the stone fruit mother plant field located in the area of LARI Tal Amara (Picture 2) with an anti-insect net to protect it from phytoplasma vectors. The field provides propagation material to the 12 nurseries of the "Machatel Lebnan" association, a non-profit nursery association that was established under the "Establishment of Plant Certification Project in Lebanon to produce and deliver certified fruit trees seedlings", implemented from 2004 to 2007, and funded by the MAE. These nurseries (three of which were visited by the ET - see Picture 3) promote and participate in the voluntary certification scheme of fruit plants by Lebanon's

Government for the production of plants without viruses. Nurseries produce several hundreds of thousands of fruit-trees (stone fruit and pulp fruit) that the MoA acquires and distributes every year free of charge to farmers. The programmed anti-insect net, which is essential to guarantee certified nurseries the availability of free vegetable material also from phytoplasma, was installed only at the end of 2016 (Picture 4), with own funds of LARI Tal Amara, and not from the project subject of this assessment.

Picture 1 Site where an almond tree was eliminated during the project, in the village of Kherbet Kanafar (West Bekaa)

The evaluator considers this late implementation of the intervention, regarding a compromised plant health situation that was already evident during the project, as a sign of weak continuation of the good practices identified by the project.

Finally, the project partnership has decided to organize a "regional final conference" on the subject of phytoplasma (PSC, 14/12/2012 and 23/06/2013; Scientific Committee, 21/06/2013) with the aim of sharing the project results and good practices identified with the other Mediterranean countries. In fact, the problem of the stone fruit phytoplasma is very important - actually and potentially - throughout the Mediterranean basin (including Italy, Greece and Spain). The regional conference, however, never took place at the end of the project or later.

Picture 2 Mother plants of Peach tree in LARI Tal Amarani del LARI Tal Amara

The evaluator considers this a sign of poor sustainability, as the conference would have allowed learning good practices designed and implemented by other countries to strengthen the national disease control strategy.

c) Continuing research on the epidemiological aspects of the disease

Of the four Lebanese science centres, project partner, the only one to continue research on the phytoplasma was the American University of Beirut. Professor Youssef Abu Jawdeh, interviewed by the ET, announced that he is developing a new type of test for phytoplasma molecular detection directly in the field. This new test, keeping the same efficiency as the one done in the lab, would be faster, less costly and easily accomplished by using a portable kit. Research seems promising but requires additional funds, which are not yet available.

Measures taken by the MoA to ensure the continuation of services after the end of the action

It is noted that there is no coherent and specific strategy with a vision of the future by the MoA, which can fully exploit the main contributions of the project. In particular, the monitoring network based on periodic territorial surveys, performed by MoA technicians, especially in nurseries, does no longer exist, as if the problem of phytoplasmosis was no longer present in the country.

Picture 3 Propagation fields of the certified "Suleiman Smeha" nursery in Zahle

Yet, in addition to the existence of areas where the disease was classified as endemic (Akkar region), the latest progress report by AVSI (2013) indicated that in the Hermel and Baalbek regions several outbreaks of the disease were found, but that no eradication was performed in those areas, because of security concerns (Syrian conflict). In addition to this, during the interview, Prof. Abu Jawdeh of AUB informed the evaluator that new outbreaks were recently identified in or near the village of Al Qaa, where Lebanese vegetable and fruit cultivation has been expanding in recent years.

MoA representatives have told the evaluator that disease monitoring was discontinued after the project end as the cost of molecular genetic testing was no longer sustainable for the Ministry. However, Prof. Abu Jawdeh of AUB and the two technicians who had participated in the project activities have accordingly held that plants diseased with phytoplasma are actually recognizable, with 90% probability; its outward symptoms are actually very peculiar and specific to this disease (see brochure and poster made by the project). The molecular test can ascertain the problem 100%.

Picture 4 New Plots for Mother Plants in the LARI Tal Amara Plants with Insect Nets

To underline the seriousness of this disease in Lebanon it should be highlighted that the European and Mediterranean Plant Protection Organisation the Candidatus Phytoplasma phoenicium has been recently placed on the list "EPPO A1", e.g. "quarantine diseases", which will require the Lebanese Government to implement different measures as well as very strict rules for the export of stone fruits.

Another item strongly linked to project sustainability is that of the Lebanese legislative environment. During the implementation of activities (Scientific Committee of 10/12/2012; PSC of 14/12/2012 and 26/06/2013), the partnership had stressed the importance of introducing new legislation subjecting all nurseries (inoculation potential source) to a system of public control (certification) to ensure traceability and health of the plant material. At the same time, the law should have also put in place the conditions necessary to manage, even socially, the disease eradication process, namely the forced destruction of diseased plants and related financial or "in kind" compensation (new plants in return). This procedure was tested by the project (good practice) in focus areas.

However, it should be noted that the legislative framework was not actually updated, and that the nursery phyto-sanitary certificate (still limited solely to guaranteeing the absence of virus) remains "voluntary". As a result, the vast majority of nurseries in Lebanon continue to

commercialize not controlled stone fruit plants, and potentially infected with phytoplasmoses. No piece of legislation exists to regulate the eradication of diseased plants (when identified) by farms and nurseries.
Finally, the project Scientific Board (chaired by the then Lebanese Minister of Agriculture), during the last meeting (02/12/2013), had resolved that the LARI Tal Amara should, with its budget, perform yearly (spring) monitoring in all nurseries present within a radius of 20 km from the headquarters of the Institute, to ensure the absence of disease and so prevent contamination of mother plants and prevent the distribution of infected plants. Technical monitoring reports were to be submitted to the MoA Plant Health and Quarantine Department every summer. However, this periodic monitoring activity was not carried out (and has not been yet).

4.5.1. COMPLEMENTARITY AND SYNERGY WITH LEBANON POLICIES AND INTERVENTIONS BY OTHER DONORS

The project's results are in line with Lebanon's current 2015-2019 Rural Development Strategy. They are, in particular, the intervention area "Strengthening of phytosanitary measures", measure "Improving the capacity of the MoA in monitoring and eradicating parasites".
It should also be emphasized that, to a large extent, the results are complementary and in continuity with those of the project "Establishment of Plant Certification Project in Lebanon to produce and deliver certified fruit trees seedlings", which was implemented from 2004 to 2007 and funded by the MAE.
Finally, there is a potential synergy of the project with the FAO plans for the area. In one of the last meetings of the Scientific Committee, the then Minister of Agriculture announced that FAO was willing to carry out a type of Technical Cooperation Program (TCP) to continue the project under assessment. The Syrian conflict and the resulting immigration to Lebanon had in fact caused many problems for Lebanese agriculture, including phytosanitary issues. However, the TCP project was not executed, and there is no trace of FAO's specific attention to the phytoplasma in the current Action Plan for Lebanon[4].

4.5.2. UNEXPECTED BENEFITS STEMMING FROM THE COLLABORATION BETWEEN LOCAL AND ITALIAN ACTORS

According to all stakeholders interviewed, collaboration between Lebanese and Italian scientific partners has been of the highest standard and has allowed significant exchanges of scientific methodologies, results of previous experiments, and mutual acquisition of good practices. In particular, new analytical methods of research on phytoplasma have been extended to the Lebanese pool by the two Italian universities. At least seven articles have been published in international scientific journals by various partners on the project topic. Moreover, in 2014, a presentation of good practices was made at the 14th International Congress of the Phytopathological Union, in Istanbul. In terms of scientific training, there was an intense collaboration between Lebanese and Italian universities, which led to the creation of a couple of Masters Dissertations and a PhD research one.

4.5.3. IDENTIFICATION OF BEST PRACTICES THAT CAN CONTRIBUTE TO THE DEVELOPMENT OF THE SECTOR/INTERNATIONAL COOPERATION

In the ET's opinion, the good practices identified by the project are replicable throughout the region. The "almond phytoplasma" - active in Lebanon, Iran and Syria-- is highly likely to expand into the Mediterranean European countries, because of its intrinsic characteristics

[4] LEBANON - FAO Plan for Action for Resilient Livelihoods 2014 - 2018. Addressing the Impact of the Syria Crisis & Food Security Response and Stabilization of Rural Livelihoods

of fast genetics mutability. It is clear that a monitoring and eradication strategy, planned and implemented at regional level, may have more chances of success, and thus prevent the collapse of a very important economic sector (fresh fruit trade). New initiatives of the Italian Cooperation could be developed precisely in the direction of a multi-country program to spread good practices and push the beneficiary governments to update legislation to make the fruit health certification of fruit trees mandatory and involve social entities (farmers' organizations) in a pact for disease eradication.

CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSION FOR EVALUATION CRITERIA

RELEVANCE AND QUALITY OF THE DESIGN

RELEVANCE

The relevance of the actions 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 objectives of the wider strategy of the Lebanon Rural Development Strategy (2010-2014 and 2015-2019), in particular with Strengthening phytosanitary measures.

QUALITY OF THE DESIGN AND PLANNING

The mechanisms and procedures for action implementation are generally consistent with the institutional context and the nature of the main beneficiaries.
The government's project management method (also through the establishment of a PSC and a Scientific Committee) is certainly an important step in aligning with the country's policies and procedures and ultimately towards the appropriation of national institutions.
In general, 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.
SO 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 affirmed that the public sector institutional framework provided the stability guarantees necessary to ensure the project's required level of effectiveness and sustainability.

EFFICIENCY

The efficiency of activity performance is generally good. Operation of the PSC 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.

EFFECTIVENESS

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

The project produced a wealth of databases, the result of phytopathology monitoring surveys carried out by the technical staff (and in particular by MoA training technicians) across all Lebanon. The database then generated 12 georeferenced thematic digital maps, made available to the MoA. At the same time, the project has trained dozens of farmers, nurseries and MoA technical communicators.

The scientific partnership has also developed the diagnostic protocol and identified some host plant species hosting the phytoplasma and some insect vectors. In particular, an entire biological cycle of the disease has been identified and described (almond - insect vector - host plant - vector - almond). These discoveries have high practical value for establishing strategy for the prevention and control of the disease, but 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.

IMPACT

With the attainment of the SO of this action, the project has created a "best practice", ranging from the ability to identify the disease through its distinctive outward symptoms (to be confirmed with molecular genetic testing) to the participatory / subsidiary mode of elimination of diseased plants, as an effective form of prevention.

The direct positive impact was to preserve the heritage of Lebanon, especially in fruit "focus areas", identified by the project as economically relevant for the sector, involving and making farmers and MoA technicians technically capable to recognize and manage the disease.

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.

SUSTAINABILITY

The sustainability (entirely dependent on the institutions) of the action is unsatisfactory. It is evident that the MoA did not keep up with the products and services developed by the project.

In particular, 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 MoA justifies this discontinuity in the action with the fact that there is no financial coverage for molecular testing. There is also the belief that the level of phytoplasma infection in Lebanon is negligible, although the pathogen has been reported in some fruit areas.

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

The monitoring team believes that, in negotiating this *cooperation agreement* between MAE-DGCS and Lebanese MoA, an approach was missing that legitimizes to some extent the grant awarded by the Italian Government with the expected / achieved results and their continuation after the end of the project (e.g., a commitment by the MoA to establish a permanent Phytoplasma Control unit; to create a pool of expert extension officers who know how to recognize the disease and with autonomous budgets to continue monitoring, etc.).

5.2. RECOMMENDATIONS

MoA

- 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.

5.3. LESSONS LEARNED

5.3.1. LESSONS LEARNED TO FORMULATE NEW ITALIAN DEVELOPMENT COOPERATION INITIATIVES IN LEBANON AND THE WORLD

The experience of this project teaches that the problem of phytoplasmosis, as with other untreatable adversities, must be tackled on two different and complementary levels.
The first concerns the implementation of an effective disease prevention and control strategy which, if neglected, can become endemic (as has happened in the Akkar region), and thus lead to the cancellation of the fruit resources of a region. Such a strategy cannot be avoided by continuous territorial monitoring, which modern technology (satellite imagery, georeferencing, etc.) makes effective and relatively inexpensive. Monitoring should be followed by an intense training and dissemination activity for all actors aimed at knowing and recognizing the disease symptoms and making everyone aware that, in the face of an infected plant, its elimination is the only recourse. Last, but not least, it is necessary to consider the adaptation of the legislative system that requires compulsory plant health certification of nursery material.
The other intervention plan, just as important as the results obtained from the project, is to carry out an applied research program, linked to the characteristics of the agro-ecosystem on which it is operating. It is clear that the project has been able to characterize only a small part of the parasitic eco-physiology and biological cycles that favour its spread to Lebanon. Generally, it takes at least 10-20 years for a full study. However, once insect vectors and host plants are known, the control strategy becomes much more effective.
Despite its limited duration, the project has demonstrated a full-fledged intervention model, both operational and involving all actors and researchers, through the creation of a close international group of scientific organizations.
Therefore, the evaluator believes that any new initiatives sponsored by the International Cooperation should invest synergistically both in the operational and scientific aspects, encouraging the creation of international knowledge networks (especially between countries where phytoplasma is already widespread or where it may spread) and with full commitment and guarantee of continuity of the actions by the Lebanese Government.

PLANT PROTECTION COMPONENT

ACHIEVING EUROPEAN STANDARDS FOR QUALITY CONFORMITY OF POTATO PRODUCTION - EULEBPOT

AID N. 9491

INDEX

Acronyms

AICS	Agenzia Italiana di Cooperazione allo Sviluppo
CBI	Centre for the Promotion of Imports from Developing Countries
CDR	Council of Development and Reconstruction - Libano
CIHEAM – IAM B	Centre international de Hautes Etudes Agronomies' Méditerranéennes – Istituto Agronomico Mediterraneo - Bari
CMS	Clavibacter michiganiensis
DP	Demo-plot
DGCS	Direzione Generale di Cooperazione allo Sviluppo
EM	Evaluation matrix
EPPO	European and Mediterranean Plant Protection Organization
EQ	Evaluation question
ET	Evaluation Team
EU	European Union
FVO	Food and Veterinary Office
FR	Final report
GAP	Good Agricultural Practice
GCC	Gulf Cooperation Council
GO	General objective
ILO	International Labour Organization
IPM	Integrated pest management
IR	Inception report
LARI	Lebanon Agricultural Research Institute
LBP	Lebanes Pound
LF	Logical framework
MAE	Italian Ministry of Foreign Affairs (Ministero Affari Esteri – Italia)
MoA	Lebanese Ministry of Agriculture
NGO	Non-governmental organization
NPPO	National Plant Protection Organization
PCN	Potato Cist Nematode
PCU	Program Coordination Unit
PFA	Pest Free Area
PRD	Plant Resource Directorate (MoA)
PSC	Project Steering Committee
SCPH	Standing Committee of Plant Health
SO	Specific objective
TA	Technical Assistance
ToR	Terms of Reference
UNDP	Unite Nation Development Programme
USAID	United States Agency for International Development

SUMMARY

Introduction

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).

In accordance with the EU-Lebanon Association Agreement (operational since 2006) Lebanon can export a maximum quota of 50,000 tonnes to Europe. Such a possibility would help increase the income source of potato producers in Lebanon, which according to 2015 is about 37 million Euros (ILO, 2015). The process of exporting to Europe involves a number of product quality requirements (control, monitoring and phytosanitary checks) and the issuance of export certifications.

In this context, the project has been included in **Achieving European standards for quality conformity of potato production - EuLebPot (AID No 9491)** funded by the Italian Foreign Affairs Ministry - Directorate General for Development Cooperation (MAE - DGCS) and implemented by the *Centre international de Hautes Etudes Agronomiques Méditerranéennes* - Mediterranean Agronomic Institute - Bari (CIHEAM IAM-B) in collaboration with the Lebanese Ministry of Agriculture in the two-year period 2011-2013.

With the aim of formalizing and structuring the necessary path to the correct alignment with European quality standards, the project has intervened at the level of governance (alignment of the legal framework and development of phyto-sanitary quality procedures and institutional stakeholders) and the technical level of application of good agricultural practices to meet the demand of the European consumer

This *ex-post* evaluation focuses mainly on the validity of the intervention strategy and implementation model adopted, together with the proposals' effectiveness and sustainability with the public and private sector beneficiaries.

According to the service ToR, the evaluation was carried out by assessing the criteria of relevance, efficiency, effectiveness, impact and sustainability. The evaluation process was structured in 3 phases: 1) the desk analysis, carried out in Italy during the first months of the service (March-April 2017); 2) the data collection, carried out in Lebanon during the first three weeks of May 2017. The field stage allowed a visit to all major public and private stakeholder stakeholders and involved 25% of the benefiting cooperatives. Finally, 3) The reporting phase, ended with the presentation of reports on September 2017.

EVALUATION RESULTS

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.

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 behaviour 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.

Recommendations are addressed to the MoA to plan development strategies in the sector in terms of: (i) consolidating Governance strategy for the control, monitoring and phytosanitary traceability; (ii) improving the efficiency and efficiency of MoA regional offices in technical assistance and dissemination to value-chain stakeholders; and iii) enhancing dialogue and co-ordination with the private sector for the sharing of good practices. The recommendations addressed to LARI concern better application of phytosanitary control procedures through standardized, homogeneous computerized tools with and sharing with other actors involved in the process. Finally, the recommendations addressed IAM B are related to better formulation and monitoring of LF indicators during project execution. Finally, with regard to the future Programs including Governance components, entrusted to the Lebanese MoA, it is recommended to MAE - DGCS/AICS to integrate specific measures in the cooperation agreements that link the grant to the results and their continuation after the end of the project.

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).

INTRODUCTION

Since 1960, Lebanon has been one of the leading Middle Eastern potato producers and exporters, making it an essential food in the local diet.

About 11,000 hectares of land are dedicated to potato cultivation and according to data from 2016, production amounts to approximately 350,000 tonnes per year. Production is partly intended for the consumption of fresh potatoes, partly for processing and partly for exports to other Middle East countries and the countries of the Gulf Cooperation Council.

In accordance with the EU-Lebanon Association Agreement (operational since 2006) Lebanon can export a maximum quota of 50,000 tonnes to Europe. Such a possibility would help increase the income source of potato producers in Lebanon, which according to 2015 is about 37 million Euros (ILO, 2015). The process of exporting to Europe involves a number of product quality requirements (control, monitoring and phytosanitary checks) and the issuance of export certifications.

In this context, the project has been included in Achieving European standards for quality conformity of potato production - EuLebPot (AID No 9491) funded by the Italian Foreign Affairs Ministry - Directorate General for Development Cooperation (MAE - DGCS) and implemented by the Centre international de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute - Bari (CIHEAM IAM-B) in collaboration with the Lebanese Ministry of Agriculture in the two-year period 2011-2013.

With the aim of formalizing and structuring the necessary path to the correct alignment with European quality standards, the project has intervened at the level of governance (alignment of the legal framework and development of phyto-sanitary quality procedures and institutional stakeholders) and the technical level of application of good agricultural practices to meet the demand of the European consumer.

This *ex-post* evaluation focuses mainly on the validity of the intervention strategy and implementation model adopted, together with the proposals' effectiveness and sustainability with the public and private sector beneficiaries. The preparation phase (Phase 1 - Initial Activity, Documentation Review and Initial Report) was implemented in February, March and April 2017 and culminated in the presentation and approval of the Inception Report (IR) by the Office IX Evaluation Division (DGCS) on 26 April 2017. The next field phase (phase 2 - data collection and field information, pre-analysis and return) was conducted in Lebanon during May (06 to 27 May 2017).

CHAPTER 1. CONTEXT AND LOGIC OF THE INITIATIVES

3.1. CONTEXT

3.1.1. NATIONAL AND SECTORAL 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).

In 2015, the Lebanese economy was characterized by low GDP growth (1.3% according to World Bank). For 2017, the GDP growth outlook is not encouraging, though not disastrous (estimated at about 2%). The slowdown in economic growth, which averaged 8% in 2007/2010, is attributable both to regional problems (regional instability and the situation in Syria since 2011) and to the severe internal institutional crisis (political institutional stalemate).

The Akkar and Bekaa regions (cazas) in the east (Hermel) have been severely affected by the conflict in Syria, mainly due to the massive influx of Syrian refugees. The Lebanese government estimates that, since the beginning of the Syrian conflict, more than one and a half million Syrians have come to Lebanon, accounting for over a quarter of the country's current residents. Lebanon hosts the most refugees in the world in relation to its population. Added to the 1.2 million refugees officially registered by UNHCR are about 42,000 Palestinian refugees from Syria, according to the latest UNRWA estimates.
The persistence of the crisis has generated devastating economic and social effects. National educational and health structures are collapsing, and the rise of poverty is the basis for the spread of other issues, starting with child labour. According to the World Bank estimates, Lebanon's GDP was reduced by 2.9% per year in 2012-2014; its unemployment rate doubled (over 20%), and the number of people who live below the poverty line increased, with about 170,000 Lebanese people being added to the category of highly vulnerable families. These events have made it difficult to implement development policies in the agricultural sector, especially in remote 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.
The structure of land ownership reflects great fragmentation and polarization. Most farms (75%) have less than 1 ha. 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 variety of Lebanese territory offers a great diversity of crops and species. 33% of the Lebanese agricultural area is cultivated with fruits such as grapes, citrus, apples, and stone fruits; 26% is dedicated to olive cultivation and the same proportion to cereal crops, while the remaining 41% of the agricultural area is planted with vegetables, industrial crops, legumes and oleaginous crops (Agricultural Census; FAO, 2000).
The Bekaa valley, which extends in the central-eastern section of the country, and the northern Akkar Region, represent Lebanon's main agricultural areas (59% of the cultivable area), followed by the southern region offering 12% cultivated land and the Nabatieh Governorate and Mount Lebanon for 9% (MoA, 2013).
Lebanon is one of the leading Middle Eastern potato producers and exporters. The regions of Bekaa and Akkar are the two potato producers of the country, with a production of 80% and 20%, respectively.
The two regions are characterized by different climates, with the advantage of year-round availability of potatoes in the country.
In Akkar there is a first production cycle (*early cycle* from mid-December (sowing) and from the beginning of March to the first third of June (harvesting).
In Bekaa there is:

- a first production cycle (early cycle) from mid-February to March (sowing) to May (harvesting);
- a second production cycle (normal cycle) in Bekaa is from mid-June to July (sowing) in July-August (harvesting);
- a third cycle (second in Bekaa, second harvest) in Bekaa is from July to August (sowing) in October-November (harvesting).

Potato production is partly intended for the consumption of fresh produce, partly for processing into chips and frozen products (9 main companies based in Lebanon) and partly exported. The fresh potato market is mainly Akkar (due to early production). In Bekaa,

[1] FAO/MoA, 2012.

however, potatoes not destined for the fresh product market are transformed or stored in cold storage for 1 to 5 months.
Varieties of cultivated species change according to market needs. The main species are Spunta (cultivated as a fresh potato) and Agria (used fresh and in processing); other species are grown to meet the needs of consumers in local and foreign markets: Asterix, Hermes, Fountains, Fabula, Diamond, Antea.
Lebanon does not produce certified seed, these are mainly imported from Egypt (49%) and Europe, namely Holland (37%), Belgium (8.3%), France (2.9%) and Denmark (2.8%) (OEC, 2015). However, due to the phase-out of the two production seasons, frequent cases have been observed of the use of small potatoes (non-marketable tubers) from the previous production seasons as seed potatoes for the next productive season.
Since the mid-1970s, Lebanon had produced about 100,000 tonnes of potatoes a year, of which 40% were used locally and 60% were exported to other Arab countries in the United Kingdom and Brazil. Despite the decline in production and export due to internal conflicts (e.g., the 20-year civil war that saw a 30,000-ton production decline) and other countries (in 2006 and 2014), today Lebanon remains one of the leading Middle Eastern potato producers with a production of about 350,000 tonnes per year.
Data from 2015 confirm that Lebanese potatoes are mainly exported to Kuwait (65%), Jordan (16%), Qatar (4.7%), Saudi Arabia (6.6%), Oman (2.5%), Bahrain (2.2%) and Russia (3.5%). In 2014, exports of 408,234 tonnes of fresh potatoes amounted to 37 million Euros (Trademap, 2016).
Since 2002, Lebanon has initiated a process to comply with European standards for potato exports to Europe, primarily through the signing of the EU-Lebanon Association Agreement (signed in 2002 and operational since 2006). This agreement, among other priorities, paved the way to the free market of products to and from Europe and facilitated negotiations for access to the WTO (World Trade Organization), of which Lebanon has been an observer since 1998. Pursuant to the agreement signed, Lebanon has been able to export a maximum quota of 50,000 tonnes to Europe, provided that certain product inspection and certification conditions are met. Opening up to the European markets is a possible improvement in the economic performance of the Lebanese pipeline chain, which according to 2015 figures amounted to about 37 million Euros.

3.1.2. LEBANON'S POLICIES IN THE AGRICULTURAL AND OLIVE OIL SECTORS

In view of the importance of agriculture in Lebanon as a strategic sector for the revival of the country's economy and the start of the process of opening up to the European markets, the Lebanese Government has encouraged the Ministry of Agriculture to take part in initiatives that would reinforce the industry.
As evidenced by the 2010-2014 Lebanese MoA Strategic Program and in relation to the initiative under evaluation, particular attention has been paid to the development of the agricultural sector:

- Improvement of the internal organization of the Ministry of Agriculture for stronger central and decentralized public and private sector dialogue (ministerial agriculture centres spread across the country) - (Pillars 2 and 4).
- Consolidation of agricultural product control processes (Pillar 5)
- Development of the potato value chain, and improving the quality of processing, marketing and export of agricultural products (Pillar 6).

The new 2015-2019 strategy maintains these priorities and includes the actions planned to achieve the three strategic objectives of 1) food security 2) increasing the contribution to the country's economic and social growth, 3) promoting sustainable management of natural resources.
The priorities for the project under evaluation are:

- Improve the quality of local and imported food
- Strengthening phytosanitary control measures
- Increasing exports and opening new market channels at the local level
- Promoting an integrated approach to education, research and training to meet farmers' needs
- Promotion of cooperation between public sector, universities, research centres and associations providing technical assistance and training (extension)
- Strengthening the skills of the Lebanese Agricultural Research Institute (LARI) and improving scientific research in agriculture
- Strengthening the capacity and organization of the structure of the MoA and its institutions (General Directorates of Cooperatives and LARI).

3.1.3. LEBANON AND ITALIAN COOPERATION IN AGRICULTURE

Food security and poverty reduction are among the main priorities of Italian cooperation in Lebanon. Development initiatives are based on an inclusive supply chain, innovation and business; in other words, integration into markets of the most vulnerable population.
During identification and implementation of the initiatives, the cooperation policies referred to the areas covered by the Millennium Development Goals (MDGs), which have currently evolved into the current Sustainable Development Goals (SDGs)
In the recent national context, especially with the massive immigration of Syrian refugees, the Italian cooperation's commitment to strengthen food security and small producers' incomes is increasingly important.
The 2016 - 2018 Triennial Programming and Directives Document identifies the thematic and sectoral priorities, starting with humanitarian aid, the top priority in the most fragile contexts (Syria, Iraq, Sudan, Sudan, Yemen, Sahel, Horn of Africa, Palestine, CAR), which include agriculture and food security, education, training and culture, health, *governance* and the fight against inequities; another priority is opening up to new sectors, where Italy has expertise and added value to offer. The relationship between migration and local development is a major cross-cutting theme.

3.2. COOPERATION INITIATIVES UNDER EVALUATION

The project **"Achieving European standards for quality conformity of potato production – EuLebPot" (AID No 9491)"**

3.2.1. NEEDS THAT THE PROJECT INTEND TO MEET

The potato-growing chain in Lebanon is affected by several production problems such as low soil fertility, inadequate supply of certified seed, limited availability of production varieties and the presence of pathogens (viruses and bacteria) in the tuber, soil and irrigated water. Phytosanitary issues in particular have been the main limit to starting the process of exporting to Europe. In paragraph 12 of Annex III to the European directive of 2000 (Council Directive 2000/29/EC) stated that Lebanon belongs to the list of countries prohibited to export potatoes to Europe, due to the presence of the pathogen *Clavibacter michiganiensis* (a harmful organism subject to quarantine and origin of *ring rot*). In addition, the presence of another pathogen was detected in Lebanon in 1969 (Saad and Nienhaus, 1969), *Ralstonia solanacearum* (a harmful quarantine body, responsible for *brown rot*). The first was identified in the Bekaa valley through isolation on symptomatic plants; the second was found in field inspections but never isolated, either by symptomatic plants or by specific diagnostic techniques.
However, considering the problems caused by the two pathogens in production and export, the Lebanese government has implemented a system to ensure phytosanitary quality for the potato chain for years.

In 2006, the Directorate General for Health and Consumers of the European Commission (DG SANCO) conducted an assessment of the phytosanitary status of the potato supply chain in Lebanon. The mission was included in the annual inspection program of the Food and Veterinary Office (FVO), which works to ensure effective control systems and compliance with EU export processing standards.
The results of this assessment highlighted the following needs:

- Verifying the phytosanitary status of potato production in Lebanon;
- Establishing a control and monitoring system in accordance with European Phyto-sanitary Measures (ISPMs 4 and 8 - EPPO, 2006) for the identification of pest-free areas;
- Establish traceability and alert systems for locating any infected zones;
- Introducing phytosanitary protection systems also through soil and water analysis;
- Better organization of the National Plant Protection (NPPO) of the Ministry of Agriculture (MoA).

In addition to this, the project was intended to respond to the European consumer's demand in terms of product varieties to be exported.
These needs formed the basis on which the EuLebPot project was articulated.

3.2.2. THE ORIGIN OF COOPERATION INITIATIVES AND AGREEMENTS

Italian Cooperation has had a strong focus on Lebanon's socio-economic development. As already written above, the Lebanese Government, through the Ministry of Agriculture, has initiated a dialogue with the social partners and institutions for opening up to European markets. With Italy, this course began specifically with the *Green-Corridor Agreement*, concluded between the Lebanese, Egyptian and Jordanian Governments in 2004. The agreement was to promote the agricultural sectors to facilitate the exchange between the countries concerned under the Euro Mediterranean Agreement. In addition, in 2007, the Italian Government, with funds from the Ministry of Foreign Affairs and the Puglia Region - Department of the Mediterranean and Department of Agri-Food Policies - funded another intervention in the potato sector: the TerCom project "Activating Mechanisms to Support Rural Territories and Communities in Lebanon" conducted by CIHEAM-IAM B and the Lebanese Ministry of Agriculture.
The two initiatives led to: i) improving the Lebanese MoA technicians' capabilities in the phytosanitary control of the Research Institute's products and technicians for the detection of pathogens, ii) drawing up a good practice manual for the production of organic potatoes, iii) analysis of the state of the art of potato production, processing and trade in potatoes in the Bekaa valley.
In this context, the Lebanese Government, through CIHEAM-IAM B, on 2 June 2010, submitted a draft proposal to the Local Technical Unit of the Italian MAE with the aim of improving the sector's *governance* at the MoA level on phytosanitary protection, and to fine-tune all the quality systems and technical-agronomic applications needed to enable potatoes to be exported to the European market.
On October 4, 2010, the project Achieving European standards for quality conformity of potato production - EuLebPot (AID 9491) was officially approved following the signing of the Financial Agreement, which provided funding of € 582,114.00 (of which € 400,000 with the contribution of Italian Cooperation and € 182,114.00 with the contribution of the Lebanese MoA). The action was carried out under the direct responsibility of IAM-B and developed in the Akak and Bekaa regions from May 2011 to May 2103.

3.2.3. INTERVENTION STRATEGY AND LOGICAL FRAMEWORK

Intervention strategy

Based on the EU DG-SANCO assessment conducted in 2006 and the results of the TERCOM project (2007), the project's intervention lines were organized as follows

a) ***Governance.*** The project envisaged a reorganization of Plant Protection Institutions (MoA and Agronomic Research Centres) to ensure plant-quality control in line with European standards through the amendment of the existing legislative framework for the implementation of procedures standard and the strengthening of the skills of the technicians of these institutions.
b) **Phytosanitary monitoring and traceability control systems development phase** at the competent institutions (MoA and LARI) and updating the potato production and export chain in accordance with EU standards.
c) **Demonstration phase directed to producers** through training and awareness-raising on good agronomic practices (integrated fight, irrigation and fertilization) to produce a quality product that responds to market needs and consumer demand (e.g. introducing new varieties of potatoes).

Logical Framework, Objectives, Expected Results and Project Indicators

(For the LF, see Annex 7)

The **general objective (GO)** 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 (SO) is to improve the quality and quantity of potatoes produced in accordance with European export requirements.

The project's expected results were:

R1: Current legislative framework aligned with European Standards for Phyto-sanitary Control and Monitoring.

R2: Phytosanitary operational control system

R3: Phytosanitary traceability system of the entire structured and operational pipeline chain.

R4: Product quality assured through new sustainable agronomic techniques introduced and European market requirements met by introducing new varieties based on consumer demand.

Beneficiaries

The project's **direct beneficiaries** are:

- The Ministry of Agriculture (MoA):
- MoA technicians: 2 MoA inspectors trained on sampling and visual inspection at customs according to EU directives according to EU directives. 50 phytosanitary inspectors of the MoA decentralized agriculture centres in the Akkar and Bekaa regions that benefited from awareness campaigns on the methodology of conducting field surveys for potato control (on-site inspection, tuber sampling methods, pathogen detection in tubers, water and soil), and on European regulations and the symptoms of diseases.
- Ministry of Agriculture (MoA) extensionists who have benefited from training on the application of good agricultural practices for the production of potato quality as required by the European market.
- Lebanese technical and scientific institutions responsible for research laboratories (LARI): 2 technicians from LARI Tal Amar agronomic research centres and 1 from LARI Fanar who benefited from training on the identification of pathogens (bacteria and nematodes).

- Potato producers: 8 producers who have directly applied good quality practices of the traceability system (phase one: product registration system), and 50 producers who participated in training and awareness raising activities.
- Storage workers, importers of seeds, exporters who have been involved in the process of traceability of the chain.

The **indirect beneficiaries** are European and Lebanese consumers, who will benefit from a quality product.

CHAPTER 2. OBJECTIVES AND METHOD

2.1. EVALUATION OBJECTIVES

The subject of the evaluation is the project "Achieving European standards for quality conformity of potato production" (AID No 9491) implemented through the financial instrument of DGCS - MAECI Development Cooperation in Lebanon. The overall objective of the evaluation, as envisaged by the ToR, is to assess the initiative according to the classic criteria of Relevance, Efficiency, Effectiveness, Impact, and Sustainability, with particular attention to additional Coordination and Consistency criteria and added value of interventions and cross-cutting issues of Gender Analysis and Environmental Sustainability. The main objectives of this evaluation exercise are as follows:

1) Evaluating the project in depth according to the criteria indicated in the aforementioned GO: Relevance, Efficiency, Effectiveness, Impact, and Sustainability. Other cross-cutting elements have been added to the aforementioned criteria: institutional coordination and gender and environmental aspects.
2) Identify and promote good practice and lessons learned for the project with particular focus on dissemination of results and their sustainability.
3) Make a judgement on the project's strategic approach. The validity of intervention strategies allows assessing whether the initial policy assumptions formed in the specific goals are effective in achieving the proposed objectives. In addition, the assessment seeks to analyse the validity of project design that could be replicated in later implementation actions of past and present national policies.
4) Identify and evaluate the lessons learned and make recommendations to improve the quality of possible future actions in the agricultural sector of potato production and intervention strategies by the Italian Cooperation in future financing of the same sector.

The last goal is to address the 2016 - 2018 three-year programming and directives Document of the MEA-DGCS, which includes the thematic and sectoral priorities in fragile contexts (Syria, Iraq, Sudan, Sudan, Yemen, Sahel, Horn of Africa, Palestine, CAR) - agriculture and food security, education, training and culture, health, *governance* and the fight against inequalities. The relationship between migration and local development is a major cross-cutting theme.

2.2. APPROACH AND METHODOLOGICAL PRINCIPLES

The methodology followed the *results based approach* comprising analysis of various information and data sources derived from project documentation, monitoring reports, and interviews with government counterparts and project staff as well as with direct beneficiaries, both individually and aggregated in focus groups.

The type of evaluation required is ex post. Therefore, its results are mainly focused on analysing the validity of the strategic approach and coherence of the execution design with the national context (relevance and design quality criteria), as well as the effectiveness and sustainability of the interventions.

Particular importance has been attached to the effectiveness and sustainability of innovation-led actions which, if appropriately replicated, can have a significant impact and constitute valuable elements for the formulation of future national policies and cooperation in the potato growing sector.
Institutional sustainability has been further analysed based on the effective capacity of the MoA and other public entities to ensure the continuity of sectoral *governance* (monitoring, traceability and phytosanitary monitoring systems, and certification system).

2.3. EVALUATION CRITERIA AND EVALUATION QUESTIONS

The project evaluation is structured according to the 5 OECD/DAC criteria (relevance, efficiency, effectiveness, impact and sustainability). The sustainability aspect has been complemented by analysing gender, environment, coordination/synergy with other sectoral programmes and potential best practice replication with proven or promising effectiveness.
The analysis takes into account the information gathered based on the study of updated context and project documentation, field visits and data analysis collected to answer the evaluation questions and their indicators contained in the projects' Evaluation Matrix (EM). Evaluation questions were selected and sorted according to the evaluation criteria indicated in the ToR (relevance, design validity, efficiency, effectiveness, impact and sustainability, coherence and coordination, added value, gender analysis and environmental sustainability.
CRITERIA AND EVALUATION QUESTIONS (EQ):
Relevance (EQ 1a and 1b): Regarding this criterion, the evaluation primarily measures the degree of correspondence between the results and the project objectives with the national policies and identified problems or needs.
Validity of project design (EQ 2): the evaluation examines the degree of logic and coherence of the project design. The theory of change contained in the design of projects is identified and explained and the coherence of the progress of change is evaluated.
Efficiency (EQ 3): Taking the results as a reference, this aspect allows evaluating how the project activities and implementation mechanisms have made it possible to transform available resources into results (how inputs have been converted to outputs), in quantitative, qualitative and time terms. Respect for the expected time and achievement of the expected results (monitoring system) are evaluated.
Effectiveness (EQ 4 and EQ 5): Based on this criterion, the degree of achievement of the specific objective is assessed. Efficiency here is divided into two criteria (short-term effectiveness and medium-term effectiveness) for a more accurate analysis of the short-term achievement of the specific objective at the level of products and services and the level of change in beneficiaries (medium-term). At this stage, the validity of the intervention logic identified in the analysis of relevance is definitively verified.
Expected Impact (EQ 6): Under this criterion, the degree of achievement of the general objectives is assessed by measuring the long-term changes in the beneficiaries. With the *ex-post* approach, it is plausible to analyse the intended impact based on the effectiveness and sustainability of actions and external factors that may influence (increase or eliminate) the effect of the results achieved.
Sustainability (EQ 7): This assesses the capacity of a project to continue to benefit after its conclusion by examining the degree of political support and involvement of the national and local beneficiary institutions and considering the financial and economic sustainability as well as the technical and socio-cultural factors that allow the benefits to last.

Additional criteria in support of overall sustainability
Coordination/coherence (EQ 8): The criteria allow assessing whether the results obtained are seamless or complementary to those obtained from other interventions promoted by DGCS, local actions or international community actions.

Indicators: Level of continuity and/or complementarity with other similar actions promoted by DGCS or other donors.
Target: The results achieved by the projects are embedded in a logic of continuity and complementarity with other similar initiatives funded in the country by the DGCS and/or other donors.
Environmental Sustainability (EQ 9). The issue of environmental sustainability appears among the cross-cutting sectors in all the Italian Cooperation initiatives and programmes. Analysis has been performed on project strategies and methodologies adopted to reduce the impact on the environment and ensure the efficient and sustainable management and use of natural capital.
Added value and best practices (EQ 10): It was assessed whether there were any unexpected additional benefits stemming from co-ordination between initiatives, consistency of the activities (internal and external) and other factors that could lead to replicability of the intervention, multiplier effects, indirect beneficiaries not originally considered, etc.
The following cross-cutting criteria were considered:
Capacity building: It will be assessed whether and how the projects have contributed to the local development of the technical, financial, managerial and institutional skills and competences of the stakeholders in the sphere of intervention. The questions of effectiveness, sustainability and consistency can be linked to this issue as well.
Empowerment/ownership: Evaluation will be aimed at verifying that the projects favoured a process that allows beneficiaries to: (a) make choices and pursue self-decision goals (self-management and/or self-governance), (b) develop capacity and opportunities for participation and incidence on political entities (national or local) or civil society/private sector pertinent for the recognition of rights and eventual fulfilment of development goals. c) stakeholders' and beneficiaries' level of ownership of the initiatives.

2.4. TOOLS AND SOURCES

The methodology for collecting and analysing data in its final version was designed in the first phase of the evaluation process (see Chapter 3) after analysing project documents and interviews with institutions responsible for their implementation.
Data collection tools have been identified in accordance with the assessment questions and indicators indicated in the EM and by adopting a principle of stakeholder inclusion. The following are the main data collection activities performed:
Study of the documentation collected at the initial stage and during on-site visit (Lebanon) (policy documents, project documentation, monitoring reports).
The main groups of interest and sources of information identified are:

- officials of public institutions responsible for sectoral *governance* and the functioning of services (TA, laboratories, etc.)
- the producers and/or producer groups of the potato chain

The main data collection tools used were:

a) Field visits and open interviews were both collective and individual to respond to differing assessment questions depending on the stakeholder group to interview and thus the interview focus. A semi-open structured questionnaire was prepared (see Annex 4):
b) Other individual (not structured) interviews were performed for:
   - all categories of MoA officials and other involved public entities (LARI, etc.),
   - other stakeholders (private sector, NGOs, etc.).

The EQs were addressed by **cross-checking sources and methods** to strengthen the reliability of information and the reliability of the results.

2.5. OBSTACLES AND DIFFICULTIES ENCOUNTERED

In general, no significant obstacles prevented the normal performance of the assessment.

In Lebanon, the presence of the Focal Point, Adviser to the Minister of Agriculture, Dr. Majida Mcheik, facilitated the process of contacting local stakeholders to conduct the field stage.
One difficulty, however, was finding producers who had been directly involved in the project demonstration actions (R4) in the Bekaa region. Thanks to the help of the MoA regional office manager, the ET was able to put together a sample of 3 producers, though not directly involved in the project.
In addition, during the analysis and reporting phases some difficulties have been encountered in obtaining some English-language documents at the Ministry (regulations, laws and procedures) and updated statistics.
No obstacle has been identified at the level of security systems, although fully observed by the ET, according to the instructions of the Ministry of Foreign Affairs and the Italian Embassy in Beirut.

CHAPTER 3. THE EVALUATION PROCESS

4.1. THE STUDY OF THE PROJECT DOCUMENTATION AND THE INITIAL REPORT

The phase of obtaining and examining the documentation began in January 2017 (see Annex 3 for the list of documents consulted). In the same month (21/01/2017), a first meeting was held in Rome to learn about and plan the initial phase between the Evaluation Team (ET) and Office III - Evaluation Division of the MAECI-DGCS
The research and study of project and context documentation was smooth and efficient thanks to good coordination among all stakeholders (ET, Office III - DGCS, Italian Embassy in Beirut, IAM-B, Lebanese MoA, and the Italian Agency for Development Cooperation (AICS) Lebanon Headquarters).
The Inception Evaluation Report (IR) and the provisional field visit schedule were presented at the scheduled time (first week of April 2017), and approved during the second meeting held at Office III - DGCS by the ET (Rome) on April 21, 2017.
In line with the methodological approach adopted, the ET has been calling on and involving the MoA since the initial stage. The MoA has appointed Ms. Majida Mcheik, current Minister's adviser, as a *focal point* for the preparation of activities related to field visits. Mrs. Mcheik's contribution was essential, in particular in relation to the institutional coordination of the public sector concerned at the central and peripheral level.
The field visit agenda proposal was coordinated with the MoA focal point and consulted and approved in advance (especially regarding the security aspect) by the Italian Embassy in Beirut.

4.2. MISSION IN LEBANON AND PARTICIPATORY SURVEY

The mission in Lebanon took place from 6 to 27 May 2017. Annex 1 indicates the locations and organizations visited, as well as the schedule and contacts of the persons met during field visits.
The mission began with the initial briefing at the central MoA with Mrs. Magida Cheik, the focal point designated by the Minister. The planned briefing with representatives of AICS Headquarters in Beirut did not take place due to the absence of managers in charge of monitoring the actions being evaluated.
The first week of the mission was dedicated to the visit of MoA officials responsible for the continuity of promoted actions and other public institutions involved in project implementation (LARI Fanar).
The second and third week were devoted to visiting the following stakeholders:

- Public institutions concerned and located outside the capital (LARI Tal Amara and Zahle Chamber of Commerce, in the Bekaa Valley);
- Potato farms;
- Professional Associations (Potato Producer Association).

Producer-directed questionnaires were tested on the first day of visits to potato producers in the region of Akkar (after the test, the questionnaires were translated into Arabic) and continued in the Bekaa region (Zahle). The interviews took place with the help of an interpreter with high technical knowledge in the field (MoA extension officer).
The producers' selection was made with the help of representatives of regional offices of the MoA of the region of Akkar and Bekaa, depending on the producers' availability.
During the field visit, 9 producers were interviewed (5 in Akkar and 3 in Bekaa), of which 4 (50% of the total) were directly involved in the demonstration actions of the project.
The field mission took place without prior announcement and all the programme stakeholders were visited (see Annex 1).
Here below the list of categories of visited stakeholders:

- MoA Representatives of the Plant Protection Direction and Department
- Representatives of the MoA Agri-centres in the Bekaa and Akkar regions
- 2 Research Institutions (LARI Fanar and LARI Tal Amara)
- 9 potato producers/exporters/product process

The preliminary conclusions of the Participatory Investigation were presented on May 26 in two summary presentations (*PowerPoint*) at the end of the field mission, the first at AICS Headquarters in Beirut with the participation of NGOs ICU and AVSI (involved in the other two projects AID 9527 and AID 8241 under evaluation). IAM B did not attend because at the time, expatriates were not expected on Lebanese territory. The second presentation was conducted in the presence of the *focal point* and all middle-level central MoA units

4.3. DATA ANALYSIS AND DRAFTING OF THE PROJECT FINAL EVALUATION REPORT

The drafting of the Final Evaluation Report was in line with the DGCS guidelines, started after the return of the ET to Italy. The ET cross-referenced the information gathered with that contained in the project documentation and drafted the preliminary version of the report.
The qualitative-quantitative analysis and comparison with the project indicators allowed answering the questions contained in the evaluation matrix, structured according to the five OECD/DAC criteria: 1. relevance, 2. effectiveness, 3. efficiency, 4. impact and sustainability.

4.4. COMMUNICATION AND DISSEMINATION: WORKSHOPS

The draft evaluation report was submitted on July 17, 2017.
The final conclusions of the evaluation have been illustrated in a summary presentation (*PowerPoint*) to local stakeholders and AICS Beirut in Lebanon on the 12 September 2017 after integration of observations by the evaluation unit in Italy and the other units involved.
Presentation of the final version of the evaluation report took place during a *workshop* held at DGCS, on the 22 September 2017.
For the list of participants in both final workshops, see Annex 6. Following receipt of the comments to the preliminary report submitted, the Final Evaluation Report (FER) has been drafted in Italian and English and delivered by 28 November 2017.

CHAPTER 4. EVALUATION RESULTS

4.1. RELEVANCE

4.1.1. RELEVANCE AND QUALITY OF THE DESIGN

The coherence of the intervention strategy with national and sectorial policies (policies and programs)

Lebanon's agricultural sector is strategic for the revival of the country's economy and the launch of the process of opening up to European markets. Over the last twenty years, the Lebanese Government has initiated processes for developing and enhancing the agricultural sector.

In the MoA 2010-2014 country strategy (during the project implementation) there was a general interest in the development of the agricultural sector based on three main objectives: 1) improving the level of food security; 2) contributing to increasing the country's economic growth and social development, and 3) promoting sustainable management of natural resources.

The EuLebPot project is fully integrated into the priorities and objectives of the strategy; in particular, the intended results can be traced back to the following strategic pillars:

- Improvement of the Ministry of Agriculture's internal organization in favour of stronger dialogue between the public and private sectors - (pillars 2 and 4).
- Consolidation of control processes for agricultural products (pillar 5)
- Development of the potato value chain, and improving the quality of processing, marketing and export of agricultural products (pillar 6).

The current MoA strategy (2015 - 2019) maintains the general objectives and includes among the priorities the following relevant actions with the project evaluated:

- Strengthening phytosanitary control measures
- Increasing exports and opening new market channels at the local level
- Promoting an integrated approach to education, research and training to meet farmers' needs
- Promotion of cooperation among the public sector, universities, research centres and associations providing technical assistance and training (extension)
- Strengthening the capacity and organization of the structure of the MoA and its institutions (Directorate General of Cooperatives and LARI).

In accordance with these strategies, the Lebanese Government has initiated a series of international agreements to meet the requirements for export. The agreements signed are:

WTO (World Trade Organization). Lebanon became an observer in 1999 and plans reform of the legislative framework and policies to align with the regulations required by the WTO.

EU - Lebanon Association Agreement. The agreement, signed in 2002 and ratified in 2006, promoted the mechanism for alignment regulations and procedures, in particular those relating to phytosanitary control, with the necessary export requirements for Europe, further contributing to the WTO.

EFTA-Lebanon Free Trade Agreement. The Free Trade Agreement, signed in 2004 and entered into force in 2007, concerns trade in industrial products, including fisheries and marine products, and includes bilateral agreements on trade in basic agricultural products between individual EFTA countries (Iceland, Liechtenstein, Norway and Switzerland) and Lebanon.

Among the objectives, Article 1 of the Agreement establishes the progressive liberalization of trade in goods in terms of eliminating (by 2015) customs duties.

In light of all this, the EuLebPot project fits well into the line of action of the past and future National Strategies and Programs and the international commitments undertaken for the implementation of the free foreign market, especially the European one.

The coherence of the intervention strategy with the needs of the beneficiaries

Identifying the beneficiaries' needs was done precisely during the start-up phase of the project, taking into account:

- the recommendations made during the European Commission's Directorate-General for Health and Consumers (DG-SANCO), conducted in 2006 on the phytosanitary status of the potato supply chain in Lebanon and included in the annual inspection program of the Food and Veterinary Office (FVO);
- the results of the TERCOM project (2007) funded by the Italian Cooperation;
- the results of the 2 Lebanese visits to the Project Coordination Unit at the start-up phase of the EuLebPot project.

Based on the necessities identified, the project clearly identified the following beneficiaries' needs:

- Access to standard procedures for quality production, across the strengthening of the sub-sectoral *governance* of the Lebanese MoA and the phytosanitary support service of the MoA and the public research institutes (LARI);
- Access to new export market channels by strengthening the technical capabilities of the potato supply chain participants.

The project identified, in a very pertinent and synergistic manner, the actions of **institutional and producer strengthening**, which are:

- Aligning the current legislative framework with the quality standards
- Creation of a phytosanitary monitoring system for potato production
- Establishment of a phytosanitary traceability system
- Strengthening the technical and scientific skills of regional agricultural inspectors and LARI public research institution technicians
- Aligning production with European consumer demand

The collaboration between IAM B and MoA, through the *Plant Resource Directorate* and the Quarantine Pathogen Research and Investigation Institutes (LARI) has worked on reviewing the legislative plan with the consequent production of the "Potato Export Certification Operations Manual" distributed to beneficiaries.

Operationally, the activity of building a plant-health monitoring system was well distributed among the MoA stakeholders (inspectors of the regional agricultural centres and LARI) and conducted by qualified IAM B experts and the Agriculture Department of the University of Modena and Reggio Emilia. In fact, the survey performance after 2011 has improved and has led to an important goal, obtaining a derogation from the ban on potato exports to the European Union (Council Directive 2000/29/EC).

Although Lebanon has not managed to export the product to Europe (see the paragraphs on Efficiency and Impact), the relevance of the strategy to achieve the derogation remains high and responds to the need of the Lebanese producer/exporter to at least have access to new European export channels.

The structure of the traceability system is relevant and meets the FVO recommendations. The system is designed to include all the actors in the chain. A computerized storage system for information to be collected on paper media is provided for better circulation and access to information.

The strategy for participation and inclusion of MoA and LARI beneficiaries, which was adopted during the development of on-the-job training and training systems in Italy and Lebanon, was relevant to beneficiaries' need to improve their technical-scientific capabilities to conduct inspections and analyses according to the *flowchart* of Directive 2006/63/EC.

The intervention on the producers of the target regions was structured in line with the results of the technical evaluation missions carried out by IAM B experts during the project.
The project, focusing mainly on medium and large producers, has implemented a strategy consistent with their inclination and interest in exporting. In addition, as a large number of small producers are employed in large-scale farms, the project has favoured indirect GAP transfer from large to small producers.

4.1.2. QUALITY OF THE DESIGN AND PLANNING

4.1.2.1. QUALITY OF THE LOGICAL FRAMEWORK

In general, the LF is consistent with the intervention strategy.
The formulation of the indicators shows, in some cases, inconsistencies with respect to the definition of "summary measure, generally expressed in quantitative form, coinciding with a variable, or composed of several variables, able to summarize the evolution of the phenomenon to which it refers" (OECD/DAC).
Indicators at OO level "*Quantity of marketed potatoes complying with EU quality standards*"and the first SO level indicator "*X[9] Tons of exported potatoes abroad to EU*" both refer to the quantity of potatoes exported to Europe.
These indicators are not detected since no potatoes have been exported to Europe since the end of the project.
In most cases, indicators reflect the activities carried out within the project without indicating the expected changes based on identified problems.
The final project report highlights a discussion of activities rather than results.

4.1.2.2. CONSISTENCY AND ADEQUACY OF IMPLEMENTATION MECHANISMS WITH THE CONTEXT OF ACTION DEVELOPMENT

PROJECT MANAGEMENT ORGANIZATION

Project management is tailored to the needs of the project itself and structured according to two main units: a Project Coordination Unit - PCU, and the Project Steering Committee - PSC. The PCU, composed of two Project Coordinators, one Italian (representing IAM B) and one Lebanese (representing the MoA) was set up to manage and plan the project.
The PSC was established with the purpose of guiding the strategic execution of the action and having different functions (project guidance and supervision, general policies and strategic choices, exchange of experiences and facilitation of contacts, integration with other activities, approval of operational plans, and technical and financial reports prepared and submitted for approval by the executing officer).
The PSC is composed of representatives of the main project stakeholders: IAM B, MoA, LARI, CDR, MAE, CI and local coordinators (PCU members).
The responsibility for the financial management of the project was entrusted to IAM-B.
The role of technical monitoring and internal evaluation of the project was entrusted to IAM B technicians.

THE INSTITUTIONAL FRAMEWORK AND SECTORAL COORDINATION

The actions promoted by the project have specific units in charge of *governance* for their institutional sustainability.
The official phytosanitary authority (*National Plant Protection Organization* - NPPO) designated within the MoA and entrusted with the management of phytosanitary protection is the Plant **Production Direction** (*Plant Resource Directorate* - PRD).
The departments under this Directorate are

- **The Plant Protection Department**: responsible for the control of harmful organisms, the use of pesticides and chemical fertilizers and the supervision of laboratories.

- **The Lebanese Export, Import & Plant Quarantine Department** (*Lebanese Export, Import & Plant Quarantine Department*) responsible for the implementation of legislation (phytosanitary, residues and contaminants), on the import and export of agricultural products and the publication of phytosanitary rules and regulations. The department is managing eight border control posts for import and export control (3 in seaports, 1 in Beirut airport and 4 in Syria border). There are also 4 inspection posts (2 in the ports of Beirut and 2 in Tripoli) covering seed potatoes and two potato export inspection posts (one in the north, in Aboudieh) and one in Bekaa (Masnaa).
- **The Horticulture Department**: Provides training services on the cultivation of fruit trees, vegetables, protected crops and bee-keeping. It is responsible for seed, pest and disease control as well as certification programs.
- **5 Regional Agricultural Centres** for technical assistance, training, promotion of good agricultural practice and Integrated Pest Management (IPM).
- The **Lebanese Agricultural Research Institute** - LARI, divided into 7 units, is the official phytosanitary laboratory supervised and funded by MoA. The project was attended by LARI Institutes Tal Amara (Bekaa) and LARI Fanar (Beirut area).

In this situation, it can be affirmed that the public sector institutional framework provided the stability guarantees necessary to ensure the project's required level of effectiveness and sustainability.
The level of **coordination** among all the entities responsible for the development of policies and services to the industry has generally been appropriate, and inter-institutional coordination with the MoA has been developed in a pertinent manner with the regional level, mainly with the training officials and the inspectors of the regional agricultural centres in Akak and Bekaa.

4.1.2.3. IDENTIFICATION AND SELECTION OF BENEFICIARIES

The selection of beneficiaries is structured and executed through clear criteria.
Regarding institutional *governance* activities, beneficiaries were selected based on the state-of-the-art assessment during the project start-up phase. Therefore, they were based on the actual needs for better effectiveness of field inspection and laboratory analysis services.
As regards producers involved in agronomic activities (DP), the criteria used were: motivation to collaborate with the project; availability of one hectare of land for potato cultivation; level of interest to invest in exporting potatoes to Europe; feasibility upon DP completing. These criteria led to the selection of medium-large producers; no small producer benefited directly from demonstration activities.
The final technical report does not mention the procedure for selection (through questionnaires or structured interviews) of the beneficiary groups (technicians and producers).

4.2. EFFICIENCY

4.2.1. CAPACITY TO MANAGE AND EXECUTE ACTIVITIES

The project started operations in April 2011 and ended in May 2013 for a 2-year term and a total duration of 25 months (end of the project May 31, 2013). The estimated budget was € 582.114,00 (MAE contribution: € 400,000; MoA - contribution in kind: € 182,114.00). The action was developed in 2 regions of Lebanon (Akkar and West Bekaa).

PCU functioning

The PCU worked *on site* during the project by performing assigned duties in close collaboration with the IAM B headquarters.

The PSC met once a year (July 2011 and July 2012) and approved the 2011-2012 and 2011-2013 work plans.

The quality of the budget and the resources provided and their adequacy for the needs of the action

In general, the budget was built in a balanced way and meets the needs of the activities envisaged.

According to the documentation received and analysed and the findings obtained during field visits, resource management and control did not pose any major problems. All actors contributed the necessary resources within the established times and the quality of human resources employed and contracted is in line with the required standards.

Performance of activities

The execution of the activities did not suffer any significant delays.

Activity 3.1 "Procedures to apply for regions free of quarantine pathogens" was deleted during the first PSC (July 2011) that approved the 2011-2012 work plan.

The reports submitted do not show any repercussions and reallocations of budgets in that activity.

In the context of demonstration activities, a drop in sowing activities in DPs occurred due to negative weather factors. However, the activity was completed in the next productive season.

4.2.2. MONITORING SYSTEM QUALITY/REPORT QUALITY

The overall monitoring of the project (implementation, timing and use of financial resources) was provided by the PCU in collaboration with IAM B, which also handled monitoring of individual activities and the level of achievement of results through missions to project sites. *Follow up* activities were also carried out by experts from other relevant institutions, such as the Department of Agriculture of the University of Modena and Reggio Emilia.

Regarding the monitoring of indicators, this is contained in the project's final technical report mainly at the level of activity indicators, while it is incomplete with regard to impact and results indicators. The incompleteness attributed is due to the definition of impact indicators that would actually be attributable to the activity and/or result indicators.

The quality of the reports is satisfactory.

4.3. EFFECTIVENESS

ACHIEVEMENT OF OUTPUT (QUALITY AND QUANTITY) AND BENEFICIARIES' ACCESS TO SERVICES DEVELOPED BY PROJECT ACTIVITIES

An analysis of the overall framework of existing health and phytosanitary regulation in Lebanon (Law No. 778/2006) and the consequent alignment with European Phytosanitary and Traceability Claims has been properly carried out and conducted by highly specialized experts in the field. The activity involved an important number of NPPO officials from the Lebanese MoA (10 staffs between the Central and Regional Offices of Akak and Bekaa and Customs Inspectors and 10 units among LARI Tal Amara, Abdeh and Bekaa headquarters).

The 2 reports on state of the art of potato production and phytosanitary drafted by IAM B technicians and shared with the PCU, MoA officials and LARI technicians clearly outline the current situation and define priorities and intervention methodologies to respond to FVO recommendations.

Through the investigations carried out on the production chain, new investigative elements were introduced by the project: soil and water analysis for the identification of parasites responsible for *brown rot* and *ring rot*. The investigations were carried out properly with the support of IAM B experts and directed to LARI Fanar technicians.

Within this activity, two important outputs were reached: 1) **revision of the list of quarantined** hazardous organisms and the consequent definition of *pest free area* PFA (ISPM 4 e ISPM 8), e 2) and preparation of **two files containing the results of the survey and**

identification of the PFA, along with letters of support from European importers who show their interest in importing potatoes from Lebanon for their quality and the timing of the production period. The files were complete and functional in support of Lebanon before the *Standing Committee of Plant Health* – SCPH for the revision of appendix 12 of directive 2000/29/EC.

2 protocols for identifications of *Ralstonia solanacearum e Clavibacter michiganiensis* subsp. *sepedonicus* were provided to LARI technicians. The protocols are in line with the ***flowchart*** indicated in Directives 2006/56/EC and 2006/63/EC and written in both languages (Arabic and English). Currently, the same procedures continue to be the reference documents in the laboratories.

350 copies of the "Operations Manual for Certification for Potato Export" (Prepared with the contribution of IAM-B, MoA, LARI, Department of Agronomic Sciences of Modena and Reggio Emilia and the phytosanitary Service of the Emilia Romagna Region). The manual, written in Arabic and English, contains the methodologies drawn up during the project (field inspection, customs and port inspections, water and soil potato analysis) distributed to the relevant MoA and LARI offices. Currently, the manual remains one of the official reference documents, along with those subsequently produced in the framework of other interventions, of the MoA (central and regional) in charge within the production/import/export of potatoes and LARI technicians at all relevant locations (LARI Tal Amara, Lari Fanar, LARI Abdeh).

Training and supply of equipment for the application of inspection and analysis procedures:

- **2 LARI Tal Amara technicians trained on methodologies and tools for diagnosing bacteria subject to quarantine**. Based on the initial analysis of the state of the art of potato production, the project has increased the number of staff units to be trained, favouring the technical sustainability of the result.
- **2 LARI Fanar technicians trained on methodologies and instruments for the diagnosis of nematodes (PCN) in the soil (*Globodera sp*.)** according to the EPPO directives (European Mediterranean Plant Protection Organization).
- **2 MoA inspectors trained on sampling and visual inspection at customs** according to EU directives.
- **2 MoA inspectors trained on the PCN visual field inspections (survey)** according to EU directives.

Scheduled training events were held by qualified staff and focused on LARI technicians of Tal Amara and Fanar, inspectors of MoA regional offices in Akkar and the Bekaa Valley, and customs agents. LARI technicians were able to benefit from training in Italy. Based on interviews conducted with the technical staff of the MoA and the LARI, it has emerged that the methodologies and procedures were necessary and were understood and assimilated. Additional, in-depth information is also to be expected.

The two research laboratories (LARI Tal Amar and LARI Fanar) reorganized and equipped by the project are still operational and are in a position to carry out the analyses, despite the need for additional staff (2 units for the analysis of nematodes on soil and water) to meet the requirements for analysis (approx. 1700 tubers and 200 soil samples in 2016).

Phytosanitary traceability system

The method for the identification of PFAs was made available to NPPO engineers of the MoA. The methodology produced corresponds fully to the EU-FVO recommendations submitted in 2006 to the MoA and follows a clear and straightforward scheme that includes 3 main points such as inspection 1) of cultivated land, 2) potatoes and imported seeds, and 3) potatoes exported. The methodology foresees, in a way relevant to the role played, the

participation of all actors in the control process (MoA's and LARI's central, regional and customs technicians).

Surveys conducted in the affected areas of Akak and Bekaa (2011 and 2012) were carried out in accordance with the methodology used: approx. 4,193 laboratory analyses for the diagnosis of brown rot and ring rot and 2,530 field inspections.

The traceability system, however, had medium to low effectiveness.

The guidelines, LeTS Pot- Traceability System for Potato Chain, were prepared by IAM B experts in accordance with European quality and food safety regulations and regulations (EU Reg. 178/02; EU Reg. 852/04; ISO 22005:2007, GlobalGAP).

The methodology established is the first official document that contains a structured traceability system of the entire potato cultivation chain.

A data collection system for the production chain is produced and installed at the MoA. The software (www.fms.agriculture.gov.lb/Home.aspc) was created in two languages, Arabic and English, and designed with the appreciable intention to include other crops in the future in the traceability system. Also in this case, it was not possible to verify access to the tool, as it is not currently active and in general poorly used during the project as well. Among the main causes was the fact of having little intuitive and is difficult to access.

In-depth training on quality procedures to be taken for the export of potatoes (**1 meeting in Italy with the customs authorities**) have been included and included in the current traceability system.

Access to awareness-raising activities (theoretical and practical) was considerable:

- **50 phytosanitary inspectors of the regional agriculture centres of the MoA of the Akkar and Bekaa regions** were reached through the training on the methodology of conducting surveys for potato health field control (on-site inspection, tuber sampling methods, detection of parasites from tubers, water and soil), IPM and European regulations and disease symptoms. From the interviews conducted at the MoA regional centres, the training was satisfactory. The updated IPM list has been drafted and is consistent with EU requirements.
- **Only 4 out of the 8 producers reached by the demonstration activities of Bekaa and Akkar (Demo Plot - DP)** were interviewed, and all reside in the Akkar Region. The MoA regional office managers failed to reach the Bekaa region's producers directly involved in demonstration activities for interviews. An additional 5 Bekaa producers were interviews during the field phase. DPs have been implemented following clear implementation criteria and well-monitored by MoA engineers and Italian experts on IPM. The choice of potato varieties introduced (Bellini, Vivaldi and Jelly) in the DPs was consistent with European consumer demand. All demonstration activities are well monitored by MoA inspectors (about 160 DP visits during the period). The activity was effective from the point of view of production. In the 2011-2013 seasons, 200 tonnes of potatoes were sold on the local market through project events that involved some of the major local supermarket chains (connected with suppliers who export to Europe) and packaging companies.

  The 8 producers had access to training on improved fertilization, irrigation, crop rotation and IPM techniques.

  However, the 4 surveyed producers do not give the project any merit for creating new market opportunities or facilitating the acquisition of GAP, which they instead attribute to training received through private channels.

  It should be emphasized that 100% of the sample interviewed belongs to the category of large land producers (having cultivated land of a *range* of 60-100 hectares, compared with the average not exceeding 6-8 hectares), which hold a large proportion of the country's total production (in Akak, 2% of the major producers produce 32% of the total production) and of sales and marketing. Their ability to

support themselves and manage the local market, as will be seen in the next paragraph, probably did not reveal the potential effectiveness of project actions on the introduction of GAP.

It is plausible to think that a greater level of effectiveness could have been achieved by involving smaller scale producers, who might have a greater interest in improving their production and sales potential.

ACHIEVEMENT OF THE INTENDED OBJECTIVES

The achievement of the specific objective, to improve the quality and quantity of potatoes produced in accordance with European export requirements, is analysed based on the indicator reported in the project's logical framework as well as the indicators reported in the EQ5 evaluation matrix.

The SO indicator: *X[9] tons of potatoes exported to Europe*

The objective was achieved only partially. Since the end of the project, no potatoes were exported to Europe. This was due to external factors that prevented access to European markets, such as the continued war in Syria, which led to increased production costs in Lebanon and made the product less competitive on the European market.

However, the project has reached a high level of effectiveness in progress toward opening up to European markets, as discussed below.

EM Indicators 1 and 2 - ***Established legal framework and control and monitoring procedures for phytosanitary quality implemented in compliance with EU-FVO recommendations***

Obtaining derogation

The first step taken by the project towards achieving the SO is the achievement of the **derogation from Directive 2000/29/EC,** following the determination of the PFA in the Bekaa and Akkar regions. On 1 August 2013, thanks to the project's contribution, the European Commission published Decision 2013/413/EU authorizing the derogation from Directive 2000/29/EC as "there is no risk of spreading harmful organisms". That is, Lebanon can export 50,000 tonnes per year to Europe without paying a duty, in accordance with the EU-Lebanon Agreement. Export is permitted if the product is accompanied by a phytosanitary certificate issued by the competent authority in Lebanon, the MoA. The effectiveness of phytosanitary control activities persists after the end of the project, proof which is that since 2013 the derogation has been renewed a second time (2015).

EM Indicator - ***Operational level of the traceability system***

Control, traceability and certification system

Another important project contribution to the possibility of exporting potatoes to Europe was to structure and implement the first control and traceability tool for obtaining potato quality certification.

The short-term effectiveness of phytosanitary control resulted high. From 2011 to 2013, surveys indicate an increase in performance from about 74% to 145% for potatoes to be exported, and 18% for imported seeds compared to previous surveys conducted before the start of the project (2008-2010). This demonstrates a good level of effectiveness of the methodology used, in technical terms and involvement of various entities during the project. However, the data collected during this evaluation shows a drop in the application of control procedures over the last three years. Field inspections for phytosanitary monitoring developed by the project and under the direction of the MoA have progressively dropped in both Bekaa and Akkar since 2015. Fig. 1 includes the number of ground samples collected under the direction of MoA and controlled by LARI in the last 4 years, most of which (as stated by the Lari Fanar technicians interviewed) were performed for the purpose of obtaining the export certification.

The laboratory analyses in fig. 2 are the total of analyses conducted by LARI Fanar and LARI Tal Amara. Laboratory performance has not stopped in the last two years. Even in this case, the analyses are mostly conducted in order to obtain the export certification and the other analyses are conducted for a second check of certified seed coming from the importing countries. The different categories of samples received show that the effectiveness of the skills transfer on the protocols to be followed and the procedures to be adopted remains high, albeit channelled toward certification aspects and lower for control and traceability. Disaggregated data on the origin of the samples and/or the purpose of the analyses are available, but not all cases are digitized. It is important, however, to have homogeneity in the management of the collected data (standard computerization system for all laboratories).
The reasons ascribed to the drop in application of field inspection procedures are ascribed, according to interviews, to a lack of funds and transportation to perform the surveys and a lack of inspection staff.
As far as traceability is concerned, the project has put bases for the application of an organized and structured system that has never been realized before in Lebanon. However, the system has only partial effectiveness since, after the end of the project, it was used only to ensure the traceability of the products to be exported.
Programmes subsequent to EuLebPot have completed the certification process. Today, the export certification procedures adopted are those produced by the European Program for *Agriculture and Rural Development Programme* - ARDP (2011-2017) whose objective is to improve the economic growth of the agricultural sector.

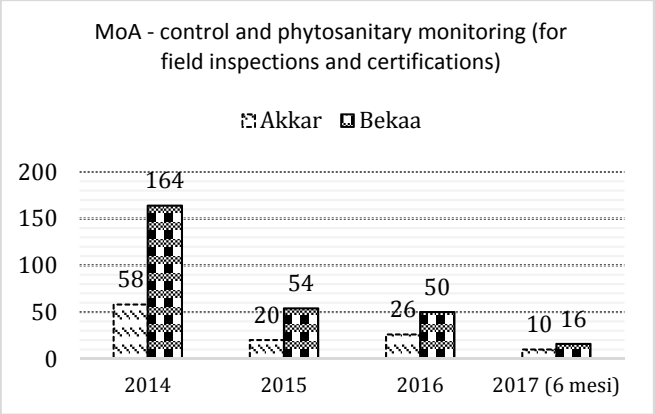

Figure 1 - Survey results (number of soil samples per year) implemented by the MoA for phytosanitary control as for EU directives.

Problems with traceability effectiveness emerged in field visits during the assessment, in which the following critical issues could be verified:

- due to the staggered seasonality of the Akkar and Bekaa regions, small potatoes from the Akak region are being used as seed potatoes for the production cycle in the Bekaa Region. This passage, which, in particular, evades the traceability system, can lead to the spread of disease. This practice is common in all three categories of producers (small, medium and large).
- Information that should be reported for seed, company and product at the various stages of the production, storage and packaging chain appear partial. This phenomenon is more common among small producers, rather than among medium-large producers (2% of the total) that, included in the export channels, show more attention to traceability procedures to increase access to the overseas market.

At present, markets require GlobalGAP certification that represents the production standard for fruit and vegetable products shared and accepted by the major groups in the European distribution. GlobalGAP certification is therefore an almost compulsory choice for most companies to be able to send their product to national and international markets.
Other factors restricting export to Europe concern the response not fully adapted to European market needs regarding the type of product to be exported.
From an analysis conducted by the *Centre for the Promotion of Imports from Developing Countries* - the CBI (Dutch Foreign Minister) of 2016 shows that food imports in Europe are very

selective, with many requirements required for product quality, not just in terms of compliance with the procedures (widely addressed in the EuLebPot project). It was noted that the European consumer is attentive to a "healthy, pure and natural" and at the same time "convenient" product and possibly at low prices.
In light of this, it becomes important to understand the level of effectiveness of the GAP application introduced within the project.

EM Indicator – ***number of manufacturers applying the GAP functionalities to exports to Europe and the GAP efficiency level***

Applying Good Agricultural Practices (GAP) in response to the European consumer's demand

A high level of GAP adoption (in terms of reducing pesticide and fertilizer use) and increased production (around 19%) and sale price (around 30%) were observed at the end of the project.
Structured interviews with producers in the Bekaa and Akkar regions revealed that

- 100% of farmers use agriculture as their main source of income.
- 22% adopt the IPM. However, it has come to light that the presence of chemical residues on tubers (due to inappropriate use of agro-treatment, associated with the lack of tuber cleaning machinery) has limited exports in some countries, such as Jordan.
- 100% apply crop rotation, but most use other solanaceous specie improperly to meet market demands. That is, the conscious choice of the risk of developing new parasites is based on a short-term economic assessment.

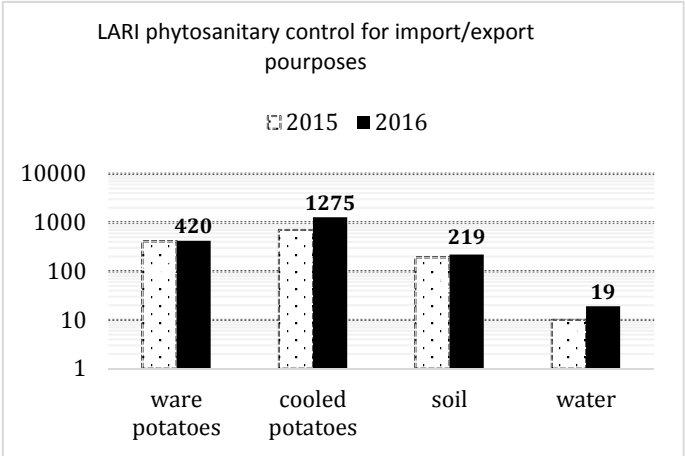

Figure 2 – Laboratory analysis fluctuation (n. of samples per year) carried out at LARI Fanar and Tal Amara.

- 25% of the surveyed producers reached by the project (1 out of 4) did not change their fertilization techniques over the years.
- 50% of the total use appropriate irrigation techniques.
- 100% use varieties of potatoes depending on the market place (Agria and Hermes for chips, Spunta for fresh potato consumption).
- 100% acknowledge the importance of timely detection methods of brown rot and ring rot parasites as well as nematodes to avoid quality and quantity of production risks.

As far as production is concerned, the producers surveyed said they did not undergo major variations in production in 2015-2016, except for natural events (decrease due to hail). 100% of producers grow potatoes to sell them directly to the market; 66% sell to wholesalers and brokers, and 34% to small traders and restaurants.
Qualitative analysis would lead to the conclusion that, after the end of the project, the GAP introduced were moderately effective.
Notwithstanding the limits of qualitative analysis, other surveys conducted by ILO in 2015 and CBI in 2016 showed shortcomings in the GAP adopted in Lebanon regarding

- improper use of pesticides and fertilizers
- excessive soil exploitation and inadequate crop rotation
- oligopoly of fertilizers and imported seed potatoes

- difficulty introducing new varieties of potatoes into production.

A possible cause can be attributed to the fact that, given the impossibility of exporting to Europe, producers gradually adapted to market demands in the export countries of the Middle East and the Gulf Cooperation Council - GCC, which only in recent years have become more stringent in phytosanitary quality controls. It is important instead to emphasize the efforts made by the project with actions to strengthen and disseminate GAP even among small producers not included in project target groups.

4.4. EXPECTED IMPACT

Ex-post evaluation does not focus on impact measurement but infers the real prospects for long-term changes or effects directly or indirectly attributable to the action (EQ 6).

The action defines the initiative's impact on economic (increased income) and food security improvement in accordance with EU quality standards in relation to the Europe-Lebanon agreement signed in 2002 and operational since 2006. The increase in producer income is therefore understood as the overall result of i) access to new market opportunities for potato exports, and ii) production of a product that meets export quality standards and consumer needs.

Based on efficacy results and the direct communications of the MoA, potato production in Lebanon does not seem to have dropped in recent years (about 400,000 tonnes from 2015). However, opening up to new export channels, in addition to existing ones, finds several obstacles due to factors outside or under the direct control of actors in the potato production chain.

Potato growing remains an increasingly market-oriented sector.

Market surveys (ILO, 2015 and Bankamed, 2016) show an increase in potato exports from 2010 to 2015 (from about 15 million Euros to 56 million Euros in 2015) to GCC countries (22 million Euros, 2014), those of the Middle East (12 million in 2014) and Russia (1.9 million Euros).

The Efficacy Analysis indicates that 100% of the producers surveyed produce potatoes to market them (only 5% is intended for personal consumption); 66% sell to wholesalers and brokers who will export to the overseas market, and 34% remain on the local market by selling to small traders and restaurants.

However, over the last two years there has been a steady decline in exports (not yet documented with available statistical data) due to factors outside the direct control of the potato growing chain main actors and limiting access to foreign markets inside and outside Europe. Among them we find **the Syrian crisis** and the consequent discontinuation of trade routes to GCC countries and Iraq, which has drastically reduced potato exports to these countries. Furthermore, the closure of the border between Syria and Jordan in March 2015 forced Lebanese exporters to use sea transport, resulting in increased transport costs and a significant loss of market share. The Syrian crisis has also led to increased production costs due to higher costs of fertilizers and other chemicals that were previously imported from Syria at a lower cost.

The opening of the GCC to major international exporters in Europe, Pakistan and India has also reduced the competitiveness of Lebanese products.

Another factor limiting exports, which emerged during the assessment, is the lack of appropriate certification as demanded by current markets. More and more non-European exporting countries such as Jordan, Iraq and the GCC countries require higher product quality control through certification requirements. To date, very few exporters are able to ensure compliance with specific certification programs, such as GlobalGAP certification.

The future impact will also depend on the technical assistance services from the public sector (regional MoA offices) to small producers and from the private sector. The effectiveness analysis demonstrated that 90% of the producers surveyed receive technical assistance

services from certified seed potato producers (mostly European suppliers) and only one has received technical assistance from the MoA regional offices.
On the other hand, the resources available to MoA regional offices in terms of human resources (only 1 technician per office) and equipment are not sufficient to reach all producers systematically and continuously for dissemination, training and continuing education during the implementation of external funding programs.

4.5. SYNERGIES WITH OTHER PROGRAMS AT NATIONAL AND INTERNATIONAL LEVEL

Coordination with other sub-sector cooperation interventions has been verified during the evaluation exercise through interviews with IAM B and MoA referrals and is good and consistent.
In the years prior to the start of the EuLebPot project, IAM B implemented **the 2007 TERCOM project** (funded by MAE) in turn framed in the ***Green Corridor Agreement*** concluded between the Lebanese, Egyptian and Jordanian Governments in 2004. The agreement was to promote the agricultural sectors to facilitate the exchange between the countries concerned under the *Euro Mediterranean Agreement*.
The products of the TERCOM project and the operational phases of the agreement formed the basis for the EuLebPot project through:

- strengthening the capacity of 15 MoA phytosanitary inspectors
- produced guidelines for organic potato production in Lebanon, including up-to-date IPM measures.
- Strengthening the capabilities of LARI technicians to identify potato quarantine organisms (immuno-fluorescence techniques).
- Evaluation of the techniques of potato production and infrastructure dedicated to conservation, transformation and marketing for the Bekaa valley.

At the same time as the EuLebPot project was carried out, the **Agriculture and Rural Development Programme (ARDP)** (2011-2015), funded by the European Union, was executed by the MoA with a view to improving the institutional, technical and economic performance of Lebanon's agricultural sector.
The ARDP programme has developed the procedures currently in use for the requirement of potato export certification, starting with the traceability and control procedures produced under the EuLebPot project.
Finally, coordination with the Chambers of Commerce of Tripoli, Zahle and Beirut is under way, which was launched during the EuLebPot project. The synergy created is aimed at: i) facilitating the links among supply chain actors and ii) implementing information campaigns targeting producers involved in potato processing, and informing exporters of the administrative procedures required to obtain the certification of the product to be exported.
Il coordinamento con altri interventi di cooperazione del sub-settore è stato verificato durante l'esercizio di valutazione attraverso le interviste ai referenti dello IAM B e del MdA e risulta buono e coerente.
Negli anni precedenti l'inizio del progetto EuLebPot, lo IAM B aveva eseguito **il progetto TERCOM del 2007** (finanziato dal MAE) a sua volta inquadrato nel ***Green Corridor Agreement*** stipulato tra il governo Libanese, egiziano e giordano nel 2004. L'accordo consisteva nel promuovere i settori agricoli per favorire lo scambio tra i paesi interessati nell'ambito dell'*Euro Mediterranean Agreement*.

4.6. SUSTAINABILITY

The assessment considered institutional sustainability, in particular the ability of the MoA to streamline *Governance*.

In general terms, 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 work carried out by the LARI laboratories is active and mainly aimed at obtaining the export certifications imposed by the protocols adopted by the MoA. The maintenance of the analyses carried out in laboratories is a matter of financial sustainability. In fact, the analyses carried out are paid if requested by private entities (normally large producers/exporters) and free if they are included in the normal phytosanitary control and monitoring (which in recent years have a lower impact on the total conducted analyses). It is important to emphasize that the free control and monitoring service offered by the MoA ensure continuity in the collaboration of the producer with the institutions.
The traceability system is only ensured for export products to obtain certification. Instead, according to the European directives, the possibility should be ensured for monitoring all consumer products through all stages of production, transformation and distribution to be able to trace and isolate the responsible source if a risk was identified.
During interviews with the General Plant Protection Directorate, it emerged that MoA is equipped with a mandatory certification system ("memo") for traceability of potatoes for export. However, despite the repeated requests by the ET, this protocol was not made available either in English or in Arabic to carry out the necessary verifications.
Measures to control possible bribery of agents delegated to quarantine checks at the borders are ensured through the rotation of staff members.
From a financial sustainability point of view, the main source of support provided is international donor aid through the development of Cooperative Programs and, in a small part, by laboratory analyses, as discussed. State aid, albeit explicit in country strategies, fluctuates depending on the government's current situation.
However, the sustainability strategy of the control and traceability system appears weak and unstructured.
With regard to the technical skills acquired by institutional managers (MoA and LARI), the level is very high and the acquired knowledge can be transferred, thus ensuring a good level of technical sustainability. In fact, regarding TA offers, it must be considered that the projects have greatly increased the technical capacity of inspectors and LARI technicians. Unfortunately, regional MoA offices suffer from a scarcity of available human resources (only 1 technician per region, often covering various roles) with the resulting gaps in the TA demand and regular inspection work. In particular, the work of the extensionists is limited to providing TA only at the request of the producer. However, the high potential for large producers to act as a knowledge transfer system for small producers, who in many cases are included in their businesses, must be considered.
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.).

ENVIRONMENTAL SUSTAINABILITY

The environmental sustainability process had already been initiated with the TERCOM project (2004) with the introduction of integrated potato production and the first revision of IPM. The EuLebPot project continued this path by introducing GAP-related IPM, rational use of fertilizers and irrigation water.
However, improper use of fertilizers and pesticides is still detected, as confirmed during the interviews conducted during the evaluation. In addition to the environmental problem, this limits exports. In fact, there is no entry for the level of pesticide residues in the MoA Export Certification Protocol. The introduction of this control criterion not only favours the export of the product but also contributes to environmental sustainability.

CHAPTER 5. CONCLUSIONS AND RECCOMENDATIONS

5.1. CONCLUSION ACCORDING TO EVALUATION CRITERIA

RELEVANCE AND QUALITY OF THE DESIGN

RELEVANCE

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 *governance* intervention strategy has been found consistent with the FVO recommendations for aligning the legal framework with the European standards required for: i) identifying *pest free areas* (PFA), ii) establishing a phyto-sanitary control and monitoring system for the potato chain, and iii) the development of a value chain traceability system.

The phytosanitary monitoring and control system has been well structured and distributed among the MoA stakeholders (regional agricultural centre inspectors and LARI) and producers, and has led to an important goal: obtaining a derogation from the ban on importing potatoes into the European Union (Council Directive 2000/29/EC).

Direct Demo Plot intervention directly with producers has been structured in line with the requirements of the European market for integrated production and consistent with the consumer's eating habits (e.g., introducing new varieties).

The project focused mainly on medium and large producers, consistent with their propensity and interest in exporting. In addition, as a large number of small producers are employed in large-scale farms, the project has favoured indirect GAP transfer from large to small producers.

QUALITY DESIGN AND PLANNING

The mechanisms and procedures for action implementation are generally consistent with the institutional context and the nature of the main beneficiaries.

In general, the LF is consistent with the intervention strategy.

The formulation of the indicators is sometimes inconsistent with the attributed level (activity, result or impact). In several cases, these reflect activities rather than results or impact.

Project management is tailored to the project's needs and is structured with a fair distribution of local (Lebanon) and international (Italy) human resources.

The level of coordination among all the entities responsible for the development of policies and services to the industry has generally been appropriate, and inter-institutional coordination with the MoA has been developed in a pertinent manner with the regional level, mainly with the training officials and the inspectors of the regional agricultural centres in Akak and Bekaa.

The selection of beneficiaries has been consistent with the needs arising from qualified experts' appraisals. For the institutional *governance* activities, the beneficiaries belong to the units in charge and therefore can ensure their sustainability.

Instead, for the selection of producers who participated in demonstration actions (integrated training), the project did not consider it an important criterion for inclusion of all categories of producers (small, medium and large), which was too unbalanced on the inclusion of large producers.

EFFICIENCY

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.

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 execution of the activities did not suffer any significant delays, except for a delay in demonstration activities due to events outside the direct project (meteorological) control.

EFFECTIVENESS

The expected products and services were delivered and the number of beneficiaries planned were reached.

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 protocols and procedures for control, monitoring and phytosanitary traceability were formulated with the contribution of IAM B experts transferred to the institutions authorized by the MoA and LARI laboratories (Abdeh, Fanar and Tal Amara sites).

The human resources of MoA and LARI were trained in the application of the aforementioned procedure. Awareness-raising activities on the conduct of the surveys, IPM and the European regulations and the symptoms of disease, which reached 50 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.

The methodology for identification of the PFA, which includes 3 main points such as inspection 1) of cultivated land, 2) potatoes and imported seeds, and 3) potatoes exported was effective and fully responded to the EU-FVO recommendations transmitted in 2006 to the MoA. Thanks to the 2,530 field inspections and 4,193 laboratory analyses performed for the diagnosis of brown rot and ring rot, the regions of Akkar and Bekaa were declared PFA.

The efficacy of the traceability system was of medium to low effectiveness.

The traceability system guidelines, "LeTS Pot- Traceability System for Potato Chain", prepared during the project were not verified during the evaluation, because they were not made available by the MoA contact people. At this time, the traceability of the products is aimed at obtaining the export certification, but in this case no document was made available to the evaluator in order to be able to make a judgement.

The data collection system of the production chain, in two languages, Arabic and English, and designed with the appreciable intention to include other crops in the future, has been under-utilized since the early moments of its realization. The system is judged as not intuitive and difficult to access.

However, the training of MoA human resources (regional and customs office technicians) of LARI laboratories, producers, exporters, and storage and packaging laboratories was very effective in terms of awareness of the benefits that the system can provide when applied.

Productive demonstration (DP) activities have had a good level of effectiveness over the short term as the application of GAP introduced (IPM, proper use of fertilizers and improved irrigation techniques) produced 200 tons of potatoes in the seasons 2011-2013, which were sold on the local market. However, the producers surveyed did not acknowledge the merits of the project or create new market opportunities, nor have they facilitated the acquisition of GAP, which are instead attributed to training received from other channels (seed and agrochemicals suppliers).

The interviewed sample belongs to the category of large producers, which, although only 2% of the total producers, holds 32% of the country's total production and sales and marketing. Their ability to support themselves and manage the local market, as will be seen in the next paragraph, probably did not reveal the potential effectiveness of project actions on the introduction of GAP.

It is plausible to think that a greater level of effectiveness could have been achieved by involving smaller scale producers, who might have a greater interest in improving their production and sales potential.

The project has reached a high level of effectiveness in progress toward opening up to European markets, as discussed below:

- Obtention of the derogation from Directive 2000/29/EC allowing Lebanon to export to Europe 50,000 tonnes per year without paying a duty, in accordance with the EU-Lebanon Agreement. Export. Since 2013, the derogation has been renewed for a second time in 2015, reflecting the high effectiveness of the procedures applied.
- The EuLebPot has provided the first monitoring and traceability system for obtaining potato quality certification in Lebanon. However, the level of system application has progressively decreased. In particular, the phytosanitary control and monitoring activities under the MoA regional agricenters responsibility decreased in both Akkar and Bekaa regions from 2015, and measurements and analyses were performed at the sole scope to obtain export certification.

The reasons ascribed to the drop in application of field inspection procedures are a lack of funds and transportation to perform the surveys and lack of inspection staff.
There is no homogeneous management of collected data relating to samples in laboratories (digital information of the origin of the samples and the purposes of the analysis).
Critical issues relating to potato supply chain traceability have emerged during the evaluation:

- due to the staggered seasonality of the Akkar and Bekaa regions, small potatoes from the Akak region are being used as seed potatoes for the production cycle in the Bekaa Region. This practice can lead to the spread of diseases.
- The information that should be reported for seed, company and product at the various stages of the production, storage and packaging chain appears partial.
- Traceability is only applied to obtain the export certification that was developed with EuLebPot with a subsequent programme: *Development Programme* ARDP 2011-201. Nevertheless, markets require *GlobalGAP* certification that represents the production standard for fruit and vegetable products shared and accepted by the major groups in the European distribution.

At the end of the project there was a significant reduction in the use of pesticides and fertilizers (61%), in line with integrated potato production, and a 19% increase in production and a 30% sales price.
Instead, as confirmed by in-depth investigations conducted by ILO in 2015 and CBI in 2016, there are still lacks in GAPs adoption in Lebanon concerning improper use of pesticides and fertilizers, excessive soil exploitation and inadequate crop rotation, oligopoly of fertilizers and imported seed potatoes and difficulty introducing new varieties of potatoes into production.
A possible cause can be attributed to the fact that, given the impossibility of exporting to Europe, producers gradually adapted to market demands in the export countries of the Middle East and the GCC, which only in recent years have become more stringent in phytosanitary quality controls.

EXPECTED IMPACT

The real prospects for long term changes and effects directly or indirectly attributable to the action have been assessed.
The action sets out the impact of the Food Safety Initiative and Increase in Income, according to the Europe-Lebanon agreement signed in 2002. The increase in producer income is therefore understood as the overall result of i) access to new market opportunities for potato exports, and ii) production of a product that meets export quality standards and consumer needs.
Potato production in Lebanon has been steady in recent years (about 400,000 tonnes since 2015). Instead, factors under direct and indirect control of the chain's players hinder the opening of new export channels, in addition to existing GCC, Middle East and Russia.

Among the factors outside the direct control of the main actors of the chain are we find the **Syrian crisis** which resulted in i) a decrease in potato exports to GCC countries and Iraq due to the discontinuation of commercial land routes to these countries and ii) a general increase in production costs due to the use of alternative routes more expensive transport (e.g. sea transport) and the purchase of more costly agrochemicals than the more economical ones imported from Syria.
In addition, Lebanon undergoes greater competition on the GCC countries markets that are currently open to the international markets of Europe, Pakistan and India.
Export limiting factors that depend on the direct control of actors in the potato production chain are:

- **a quite complex and non-competitive chain organization for the foreign market** which relegates small producers to a very marginal role and is dependent on other actors in the chain, mainly represented by large producers**;**
- **the lack of appropriate certification** which is increasingly demanded by international markets. To date, very few exporters are able to ensure compliance with specific certification programs, such as GlobalGAP certification.

The quality procedures introduced by the project have contributed significantly to the initiation behaviour change by the MoA and the producers in alignment 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 chain for a more competitive product on the markets and an increase in impact.
The future impact will also depend on the technical assistance services from the public sector (regional MoA offices) to small producers and from the private sector. On the other hand, the resources available to MoA regional offices in terms of human resources and equipment are not sufficient to reach all producers systematically and continuously for dissemination, training and continuing education during the implementation of external funding programs.

SYNERGIES WITH OTHER PROGRAMS AT NATIONAL AND INTERNATIONAL LEVEL

Coordination with other sub-sector cooperation interventions is very high. Th**e 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.
Coordination actions are under way between the MoA and the Chambers of Commerce of Tripoli, Zahle and Beirut with the objectives to facilitate the link between the actors of the supply chain and the implementation of information campaigns aimed at producers and exporters about administrative provisions to apply required for transformation of potatoes and certification of the product to export.

SUSTAINABILITY

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 work 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 through the application of a protocol that was not verified during the evaluation because it was not made available by the MoA. Measures to control possible bribery of agents delegated to quarantine checks at the borders are ensured through the rotation of staff members.
From a financial sustainability point of view, the main source of support provided is international donor aid through the development of Cooperation Programmes and, in a small part, by laboratory analyses, as discussed. State aid, albeit explicit in country strategies, fluctuates depending on the government's current situation.
The level of technical skills acquired by institutional managers (MoA and LARI) thanks to the project is very high and the acquired knowledge can be transferred.
Unfortunately, regional MoA offices suffer from a scarcity of available human resources with the resulting gaps in the TA demand and regular inspection work.
However, the high potential for large producers to act as a knowledge transfer system for small producers, who in many cases are included in their businesses, must be considered.
Sustainability in terms of export opportunities to foreign markets, such as Europe, is ensured by the signed and still existing international agreements (WTO, EFTA, EU-Lebanon Agreement etc.).

ENVIRONMENTAL SUSTAINABILITY
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.

5.2. RECOMMENDATIONS

MoA
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. GobalGAP 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.

5.3. LESSONS LEARNED

5.3.1. LESSONS LEARNED FOR NEW INTERVENTION BY ITALIAN DEVELOPMENT COOPERATION IN LEBANON

The EuLebPot project contributed to the development of the potato production sector in Lebanon. This project's experience teaches that the application of plant control, monitoring and traceability systems is necessary to ensure opening Lebanon to new export channels such as Europe, as well as strengthening existing ones (GCC countries, Middle East and Russia). Clear identification of sectoral policy themes and systematic organization of legal framework review and enforcement procedures facilitated alignment of MoA with European phytosanitary standards. Despite the external pressures that hampered access to the European market (such as the Syrian crisis), the project laid the foundations for opening up to new local and international market opportunities.

The monitoring and control system contributed to meeting the European market's formal export requirements, (obtaining a derogation from Directive 2000/29/EC) and revealed that the risk of pathogenic contamination in soil, water and tubers is low if the system is kept active. Maintaining control systems is feasible if human and financial resources are available and dialogue between institutions and stakeholders in the chain is open and consistent.
The traceability system developed by the project has paved the way for obtaining the certifications required by the international market and hence increasing product competitiveness. However, the traceability system has highlighted the weaknesses of the chain, in which further action is needed. In particular, it has emerged that the potato production chain has a very complex organization that is not competitive for the foreign market. The complexity is due to the division of roles and responsibilities of the actors in the chain itself. The weak link in the chain is represented by small producers, which play a very marginal role and are dependent on the other players in the chain - the major producers, who have more roles (seed-producing and agricultural producers, distributors, exporters) and orient the product production and marketing, which is currently not competitive in terms of the cost of the product to be exported.
The project therefore highlighted the need for a more efficient and effective organization of the whole chain in terms of organizing the roles of its players and supporters (public and private institutions) in order to better orient the local and foreign market.
For example, the project highlighted the crucial role of major potato-supplying companies as TA suppliers for small producers (on various issues such as IPM adoption and certification).
The project continued to contribute to improving the quality of potatoes produced by updating IPM and introducing new GAP to producers. The process highlighted the positive impacts on sustainable land management (use of IPM) and defined the real demands of the local and international consumer (choice of varieties produced).
Given the strong competitiveness on international (European and non-European) markets for large product availability in exporting countries, it would be important to increase the visibility of the Lebanese product. Investing in targeted communication actions on quality local products and pointing to product characteristics (e.g. through *story-telling* are recommended.

ANNEXES

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ANNEX 2 EVALUATION MATRICES

OO1 AND OO2 OIL COMPONENT

EVALUATION QUESTIONS	INDICATOR(S)	SOURCES OF DATA	DATA COLLECTION METHOD/ANALYSIS AND SAMPLING
RELEVANCE AND QUALITY OF THE DESIGN	**THE EXTENT TO WHICH THE OBJECTIVES ARE CONSISTENT WITH THE NEEDS.** **THE VALIDITY OF THE INTERVENTION STRATEGY.**		
1a) Does the action intervention strategy and objectives presently respond and contribute to tackle the needs of the target groups?	The consistence between the farmer needs and the project specific objectives (validity of the policy assumptions): a) farmer technical training, b) farmer organization management, c) farmer subsidies, d) by-product marketing The indicators addressing the target group need satisfaction are identified in the Effectiveness / Impact / Sustainability sections and related to: better farmer incomes derived from productivity and price (olive quantity and quality) increase and production costs decrease, inclusion of women and youth in the olive oil business cooperatives service delivery capacity management increased olive and olive oil production and by-product valorisation through reuse in the farming system (compost and waste waters) and marketing (olive oils, soap and table olive quantity and quality). reduction of the environmental impact of the agroindustry at every level of the chain (pomace and vegetative waters) The coherence and quality of the intervention logic: cause/effect of activities/outputs, results and objectives.	Project reports Key informants (private sector actors of the olive oil value chain) Groups of farmers and cooperative leadership Indicators of effectiveness, impact and sustainability	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action
1b) To what extent does the concentration of aid on farmers of oil-growing marginal regions correspond to the needs of the partner country?	The consistence between the present main related national policies/programmes and the project strategy/intervention logic. The coherence of the project strategy with the need of the MoA sub-sector governance and extension/OO quality control/services	Project reports Key MoA officials and private sector representatives Policies documents and sector legal, budget and institutional framework	Systematic Coverage (interviews) of all key stakeholders of the processes activated by the action

2) Have the chosen implementation mechanisms (implementation modalities, entities and contractual arrangements) and key stakeholder capacities (institutional, human, financial) proved to be conducive for achieving the expected results?	Adequacy of the implementation arrangements to the project development. Project governance arrangements. Project Implementation Unit (PIU). Coordination with public policy implementation programs/services. Arrangements with beneficiary organizations. Subsidy policy to cooperatives. Coordination with other interventions in the same domains. Adequacy of the key stakeholder capacity (and project related capacity building provisions) to benefit from and manage the project services. Particular attention will be addressed to: targeted farmers (small farmers), cooperatives, MoA units (especially extension, plant protection and quarantine).	Project proposal, project implementation agreements, project reports, key stakeholders. Project implementers	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action
EFFICIENCY	**The extent to which outputs and/or the desired effects are achieved with rationale use of resources/inputs (funds, expertise, time, administrative costs, etc.)**		
3) To what extent the project attained the outputs and/or the desired effects by the mean of efficient and rationales planning and use of the foreseen resources.	Planning capacity of the implementers. Resources availability and management capacity of the implementers. Budget and resources (human resources, financial, etc.) adequacy to the outputs needs. Quality of the implementation monitoring system	Project proposal, project implementation agreements, project reports, key stakeholders. Project implementers	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action
EFFECTIVENESS	**The extent to which the intervention's objectives were or are expected to be achieved**		
4) To what extent has the intervention achieved the targeted outputs (quantity and quality) and the beneficiaries had access to the expected services?	Adequacy of beneficiary selection methods (cooperatives and farmers). Quality of the training documentation and beneficiary attendance/access. Effective beneficiary access to project services (cooperatives, farmers, youths, women, MoA officers, etc.). Consumers attained by awareness campaigns. Participation to promotional trade initiatives (national/abroad). Quality and quantity of the outputs targeting the institutional, legal and policy framework development (MoA governance and services delivery)	Project reports, documentation, key stakeholders (farmers, cooperatives, women)	Analysis of the quality of outputs. Verification of the training attendance based on project documentation. Interviews with key stakeholders
5) To what extent has the intervention achieved the targeted	Specific Objective 1. Adoption level of the GAP (quality analysis of the best practices and barriers to	Project reports, key MoA officials and	Interviews with cooperatives leadership (at least the 20%). Multiples

objectives and the target groups could effectively benefit from the services provided?	the GAP adoption by farmers). Potential of the adopted GAP in increasing the a) production, b) productivity, c) quality of the produce, favouring d) cost reduction and e) environment impact. Olive production increase (30% against 20% planned). Olive acidity reduction (0,39 % against of 0,30% planned) Olive quality increased. Reduction production costs (31% against 25% planned) Effectiveness of the training in enhancing the capacity of the members of the cooperatives to manage the investments and technical innovations promoted by the projects. (OO marketing, OO quality sensorial/lab. analysis, pruning - innovation: pruning from the ground, nursing, mechanical harvesting. Effectiveness of the training in increasing women incomes and integration in the OO value – chain (skilled labour: packaging, table olive, soap production, participation in the cooperative organizational life and management). Specific Objective 2. Effective cooperative services delivery capacity (TA to farmers, production inputs, transformation, commercialization) to farmers through the effective investment and adoption related to: Oil Quality Control (14 coop.); Table Olive production (6 coop.); Soap production (4 coop.); Market and territory (2 coop.); Demo field (DF) management (27). Effective capacity of the cooperative in crucial management issues: accounting, management, business plan and feasibility study. Effective capacity of the cooperative to manage the project investments (investments effectiveness and adoption) related to: Olive Orchard Management (24 coop.). Harvesting and Post – Harvesting (20 coop.). Mill rehabilitation (7 coop.). Olive tree (2 coop.). Specific Objective 3 <u>Sector governance and services delivery capacity (MoA):</u> Effective enforcement, implementation and management of the governance measures. (OO orchard mapping for origin characterization, legal framework,	private sector representatives, key beneficiaries: farmers, cooperatives, youth, women.	interviews to at least 10 cooperatives members in each cooperative visited (5 farmers, 3 youths, 2 women). Interviews with key MoA officers. Analysis of the effectiveness and adoption of the GAP Analysis of the effectiveness and adoption of every cooperative investments and pilot initiatives. Analysis of the effectiveness and adoption of every governance initiative in the MoA. Statistical analysis for cooperative members and cooperative indicators.

	OO quality control, characterization of the olive germplasm, etc.). Effective contribution to the capacity of the MoA extension services and DF management. (including the issue of the Phytosanitary Bulletin, MoA - Regional Extension Services). Effectiveness and adoption of OO by-products valorisation: Validity and effective adoption of the practices of composting (pomace / pruning residues) – 6 cooperatives pellet production / 2 compost. Validity and effective adoption of the practices of fertilization (7 coop. with waste water – WW and 3 mill owners). Effectiveness of the soap production. Quality of table olive production (compared to market standards).		
IMPACT	**Far reaching and indirect consequences of an intervention**		
6) Are there evidences of long-term effects produced by the intervention, directly or indirectly?	Better incomes of the olive oil growers coming from production reduction costs, better quality and productivity through the application of the GAP and better prices (at farm – including by-products selling/utilization): Increase of women and cooperative member incomes. Better commercialization prices (consumer valorisation of the oil quality). Commercial agreements established at every level of the agribusiness chain. Better export performances and/or perspectives.	Project reports Key MoA officials and private sector representatives Key beneficiaries: Farmer, cooperatives, youth, women. Sector statistics	Interviews with cooperatives leadership (at least the 20%). Multiples interviews to at least 10 cooperatives members each cooperative visited (farmers, youths, women). Interviews with key MoA officers. Analysis of the effectiveness and adoption of every cooperative investments Analysis of the effectiveness and adoption of every governance initiative in the MoA, innterviews with cooperatives leadership (at least the 20%).
SUSTAINABILITY	**The continuation of benefits from an intervention after development assistance completion.**		
7) To what extent has the aid contributed towards the durability of the services delivered?	Capacity of the cooperative to provide better services to farmers at affordable prices. Affordable technology for the utilization of pomace and vegetation waters as compost and fertilizer respectively (cooperatives). Empowerment of the cooperative in the value-chain through better organization management and quality products. Affordable GAP for farmers (which are the affordable GAP	Project reports Key MoA officials and private sector representatives Key beneficiaries: Farmer, cooperatives, youth, women. Sector statistics	Interviews with cooperatives leadership (at least the 20%). Multiples interviews to at least 10 cooperatives members each cooperative visited (farmers, youths, women). Interviews with key MoA officers.

	adopted by farmers? Which are the constraint / barriers for some GAP failure to be adopted?) Private actors of the value – chain integration (trade agreements / services or good providers) Capacity of the MoA units to provide technical support to the OO business at the field level (extension and phytosanitary information). Capacity of the MoA to manage the sector governance: OO standard and quality control, organic production, vegetation water governance, geographical indications, HACCP in mills, applied research. The Olive Orchard Map of Lebanon developed within the Remote Sensing Centre of the CNRS. Assessment of the MoA laboratory capacity to perform olive oil (OO) quality control in the frame of the efforts to harmonize the OO quality to EU standards. Maintenance of the varietal collection and implementation of the plant certification system and service and sanitary status (LARI). OO sector promotion and level of institutional coordination (public / private) able to promote the small farmers oil business supported by the project.		Analysis of the effectiveness and adoption of every cooperative investments Analysis of the effectiveness and adoption of every governance initiative in the MoA Interviews with cooperatives leadership (at least the 20%).
8) To what extent have been developed and established the necessary complementarity and synergy with the partner country's programmes and with other donors' interventions?	Complementarities with public programmes/other sector interventions. Potential synergies with public programmes/other sector interventions. Risks of duplication. Coordination needs with public programmes/other sector interventions	Project reports Key MoA officials and private sector representatives	Interviews with key MoA officers.
9) Which measures have been introduced in order to ensure or bettering the environmental sustainability of the olive oil industry?	Farmers/cooperatives awareness about environmental issues and production impact (especially fertilizer use). Reduction of vegetative water/pomace disposal Reduction of pruning wood burning.	Project reports, key MoA officials and private sector representatives, key beneficiaries: Farmer, cooperatives, youth, women. Sector statistics	Interviews with cooperatives leadership (at least the 20%). Multiples interviews to at least 10 cooperatives members each cooperative visited (farmers, youths, women).
10) To what extent have been taken measures aiming at enhancing the empowerment of women?	Women level of integration in the olive oil value-chain. Women integration in the cooperative organization	Project reports, key MoA officials and private sector representatives, key	Interviews with cooperatives leadership (at least the 20%). Multiples interviews to at least 10 cooperatives members

		beneficiaries: Farmer, cooperatives, youth, women.	each cooperative visited (farmers, youths, women).
11) To what extent the action has identified best practices and scaling off approaches that can contribute to the sector/international cooperation development?	The validity of the project rationale/intervention logic as best/replicable practice for the olive industry sub-sector policy implementation. Validity of the programme implementation design as tool for olive industry development strategy implementation. Best practices on the OO value – chain suitable for scaling up. Best practices for enhancing the Italian cooperation initiatives	Project reports, key MoA officials and private sector representatives, key beneficiaries: Farmer, cooperatives, youth, women.	

OO2 – PHYTOPLASMA COMPONENT
NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE FRUIT PHYTOPLASMA AID 9527 PROJECT

EVALUATION QUESTIONS	INDICATOR(S)	SOURCES OF DATA	DATA COLLECTION METHOD/ANALYSIS AND SAMPLING
RELEVANCE AND QUALITY OF THE DESIGN	**The extent to which the objectives of the intervention are consistent with beneficiaries/country needs. The validity of the intervention strategy/action design to tackle the selected needs.**		
1a) Does the action intervention strategy and objectives presently respond and contribute to tackle the needs of the target groups?	The consistence between the needs of the farmers/nurseries owners and the Ministry of Agriculture and the project specific objective (validity of the policy assumptions) The indicators addressing the target groups are identified in the Effectiveness/Impact/Sustainability sections and related to: a) Identification of the vectors and secondary hosts of the phytoplasm of stone fruits; b) Increase/decrease of infection at national scale. The coherence and quality of the intervention logic: cause/effect of activities/outputs, results and objectives	Project reports, national strategic plans, key informants (private sector actors stone fruits), farmers and owners of stone fruits nurseries. Indicators of effectiveness, impact and sustainability.	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action.
1b) To what extent the achieved results are consistent with the plans and programs of the Lebenese government?	The degree of consistence between the achieved project results and the main national policies and development plans of the Ministry of Agriculture and the main sector organisations.	Project reports, key MoA officials, Policies documents and sector legal, budget and institutional framework	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action.

1c) To what extent the intervention logic and the implementation tools have proved to be suitable to the project environment and the capacity of the Ministry of Agriculture?	Adequacy of the implementation arrangements to the project development. Capacity of the key stakeholder to benefit by and manage the research results. Particular attention will be addressed to MoA units (especially Extension and Plant protection).	Project documents, key stakeholders, project implementers	Systematic coverage (interviews) of all key stakeholders of the processes activated by the action.
EFFICIENCY	**The extent to which outputs and/or the desired effects are achieved with rationale use of resources/inputs (funds, expertise, time, administrative costs, etc.)**		
2) To what extent the project attained the outputs and/or the desired effects by the mean of efficient and rationale planning and use of the foreseen resources.	Resources availability and management capacity of the implementers. Budget and resources (human resources, financial, etc.) adequacy to the outputs needs. Quality of the implementation monitoring system.	Project progress reports, key informants, key MoA officials and private sector representatives	
EFFECTIVENESS	**The extent to which the intervention's objectives were achieved**		
3) To what extent has the intervention achieved the targeted outputs (quantity and quality) and the beneficiaries had access to the expected services?	Indicators linked to the type, number and quality of services and products of the project: 1) National map (GIS – Geographic Information System) about dissemination of the phytoplasms of stone fruits; 2) A diagnostic protocol to control the disease; 3) Number of new infected plants identified thanks to the diagnostic protocol put in place by the project; 4) Molecular analyses (on plant and insect material) done in research centers associated with the project, and classification of the potential insects found as vectors of the phytoplasma. 5) Transmission tests of the disease carried out under greenhouse; 6) Production of training and dissemination material on epidemiology and diagnosis of the phytoplasma. 7) Number of MoA field technicians, farmers and tree nurseries personnel trained on the diagnostic plan and on disease prevention strategies.	Project documents, key stakeholders (MoA extension officers and sector technicians, Italian and Lebanese researchers)	Analysis of the quality of outputs. Verification of the training attendance based on project documentation. Interviews to key MoA officers, trained by the project.
4) To what extent has the intervention achieved the targeted objectives and the target groups could effectively benefit from the services provided?	Capacity of MoA technical staff on identifying and monitoring the spread of the disease Identification and implementation of tools (e.g. agronomic, biological, chemical etc.) to prevent the disease's spread in stone fruit orchards and nurseries	Project documents, stakeholders: farmers, nurseries owners, MoA officers and technicians, Italian	Multiples interviews to at least 15% of the owners of stone fruit nurseries, who have infected trees. Interviews to Lebanese research institutions.

	N. of tree nurseries owners and farmers who apply the diagnostic protocol of the disease Results from research about the insect(s) vector of the disease	and Lebanese researchers.	
IMPACT	**Far reaching and indirect consequences of an intervention**		
5) Are there evidences of long-term effects produced by the intervention, directly or indirectly?	Implementation of activities for elimination of the trees affected by the disease, or to graft them with phytoplasma-resistant species. Implementation of sound strategies to encourage farmers to uproot their infected trees (e.g. provision of subsidies, healthy plants, etc.). Degree of application of effective nursery management good practices to ensure disease prevention, such as: Plant health certification schemes (including traceability of the saplings); set up of protected orchards of mother plants/Update of the legal framework to ensure the implementation of the prevention measures by the private actors (nursery owners and fruit growers) and to regulate the saplings production and sale/Net reduction of the extent of phytoplasma disease in stone fruits, both in orchards and nurseries	Project reports Key MoA officials and private sector representatives Key beneficiaries: stone fruit farmers, owners of nurseries, MoA technical staff. Sector statistics	Multiples interviews to at least 15% of the owners of stone fruit nurseries, who have infected trees. Interviews to key MoA officers, trained by the project.
SUSTAINABILITY	**The continuation of benefits from an intervention after the end of development assistance. The probability of continued long-term benefits.**		
6) To what extent has the aid contributed towards the durability of the services delivered?	Level of maintenance of the produced services: Continuous updating of geo-reference data on GIS to monitor the spread of the disease. Good practices of field and lab monitoring of the disease fully acquired and implemented by the MoA technical services and by the correlated national scientific research centres. Continuation of the research on the epidemiology aspects of the disease. Measures taken by the MoA to ensure the continuation of services after the end of the action	Project reports, key MoA officials and technical staff. Sector statistics	Interviews to: key MoA officials and extension officers trained by the project and representatives of the concerned national research centers.
7) To what extent the necessary complementarity and synergy have been developed and established with the partner country's programmes and with other donors' interventions?	Complementarities with public programmes/other sector interventions Potential synergies with public programmes/other sector interventions Risks of duplication Coordination needs with public programmes/other sector interventions	Project reports, key MoA officials	Interviews to key MoA officers.

8) How does the interaction between local and Italian actors allowed to produce unforeseen benefits (eg. replicability of the action)?	Benefits as: a) lessons learned; b) good practices and their possible replication; c) level of impact on sector policies and strategies of cooperation for development. Complementarities, potential synergies, risks of duplication and coordination needs to be carefully checked	Project reports, results of similar projects carried out in the area by Italian NGOs and Italian research institutions.	Interviews to key MoA officers and Italian NGOs representatives in Lebanon and Italian research institutions
9) To what extent the action has identified best practices that can contribute to the sector / international cooperation development?	The validity of the project rationale/intervention logic as best/replicable practice for the stone fruits sub-sector policy implementation. Validity of the programme implementation design as tool for stone fruits development strategy implementation. Best practices on the monitoring and prevention of diseases of stone fruits, suitable for scaling up. Best practices for enhancing the Italian cooperation initiatives	Project reports Key MoA officials and technical staff, researchers	

ACHIEVING EUROPEAN STANDARDS FOR QUALITY CONFORMITY OF POTATO PRODUCTION - EULEBPOT - AID N. 9491

EVALUATION QUESTIONS	INDICATOR(S)	SOURCES OF DATA	DATA COLLECTION METHOD/ANALYSIS AND SAMPLING
RELEVANCE AND QUALITY OF THE DESIGN	**The extent to which the objectives are consistent with the needs.** **The validity of the intervention strategy**		
1a) To what extent do the logic of the intervention and the achieved results currently answer the beneficiaries' needs?	The level of consistence between farmers/producers and local technicians involved in potato sectors needs and the intervention strategies to reach the achieved project results: Operational procedures assuring continuous monitoring and traceability of potatoes phytosanitary status according to EU requirements. EU quality and variety standard compliance. % of decrease of import level of potatoes from foreign Countries and % of increase of export level of potatoes to EU.	Project reports/Key informants (public and private sector actors of the potato production chain)/MoA officers and LARI technicians/ Statistics and National Reports on Potato chain	Systematic coverage (interviews) of all key stakeholders of the processes carried out by the action.
1b) To what extent do the logic of the intervention and the achieved results correspond to Lebanese Strategies and Plans?	The consistence between the current national policies/plans and the project strategy/intervention logic. The coherence of the project strategy with the need of the MoA sub-sector	Project reports, Key MoA officers and private sector representatives. Policies documents and sector legal, budget and institutional	Systematic coverage (interviews) of all key stakeholders of the processes carried out by the action.

	governance/potato quality control/services	framework: Lebanese-EU association agreement Green Corridor Agreement (2004-2005). Lebanese Regulations to EU standards concerning potato quality	
2) Are the logic of the intervention and the mechanism used during the implementing process appropriate to achieve the expected results in terms of consistency with the project environment and project actors' capacities?	Adequacy of the implementation process: Project governance (roles and responsibilities distributed to project actors). Project Implementation Unit organization. Activities scheduling. General coherence of the project's theory of change. Consistency of the achieved results to the capacities of the selected beneficiaries	Project proposal /Project implementation agreements/Project reports/Key actors/Project implementers	Systematic coverage (interviews) of all key stakeholders of the processes carried out by the action.
EFFICIENCY	**The extent to which outputs are achieved with appropriate use of resources/inputs (financial, human, means, time)**		
3) To what extent did the project ensure appropriate use of resources/inputs (financial, human, means, time) and their transformation in the expected results?	Planning capacity of the implementers % of expenditure compared to initial budget and to outputs' achievement level; % of deviation from time schedule; Quality of the implementation monitoring system; Budget and resources (human resources, financial, etc.) adequacy to the outputs needs	Project proposal /Project implementation agreements/Project reports/Key actors/Project implementers	Systematic coverage (interviews) of all key stakeholders of the processes carried out by the action.
EFFECTIVENESS	**The extent to which the intervention's objectives were or are expected to be achieved**		
4) To what extent the project achieved the expected outputs (in terms of quantity and quality) and targeted beneficiaries (farmers, technicians, officers) had access to them?	**R1:** N. of amendments to current national regulations for potato phytosanitary control. Level of alignment of the new legal framework to EU requirements (ex pest free areas set up, protocols for detection of brown and ring rots on potato, soil and water according to EU directives) and ISPM. Production of lab protocols for pathogens detections according to EU Directives and level of access by involved stakeholders (es.	Project reports and documentation, Project deliverable (manuals and protocols). EU regulations and directives (2006/56/EC and 2006/63/EC), International standards for phytosanitary measures, Lebanese regulations, Traceability: EU Regulations (EU Reg. 178/02; EU Reg.	

	LARI). N. of operational manuals to regulate export procedures of Lebanese ware potato to EU and N of copies distributed to relevant stakeholders. **R2:** Quality and quantity of training delivered to target groups (LARI analysts, MoA Inspectors) for detection, inspections and application of import/export procedures (EU regulation). Equipped labs for phytosanitary inspections and detection (n. of analysis carried out). Suitable procedures (methodologies) used to identify PFA in targeted regions (Survey for PFA identification - yearly according EU-FVO) **R3:** Design of traceability system for certification purposes (from seed providers to exporters). Training of farmers, warehouses and retailers. Guideline of the traceability system. Consistency of traceability system to users capacity (for ex. languages used) **R4**: Quality of training delivered to phytosanitary inspectors on phytosanitary procedures. Quality of training delivered on organic potatoes production suitable to EU market demand. N. of tons of new cultivars of potatoes (according to EU market) produced within the demonstration plots. Level of access to data regarding phytosanitary potato status in Akkar and Bekaa valleys. N of MoA technicians, LARI and NPPO adopting quality protocols for pathogens detection, monitoring and traceability on potato soil and water according to EU directives	852/04 and others) and main voluntary standards (ISO 22005:2007, GlobalGAP, BRC and others).	
5) To what extent has the intervention achieved the project objectives and the target beneficiaries could effectively	Legislative framework setup and operational (inclusive of EU-FVO recommendations and EU standards). Dedicated phytosanitary and monitoring field control system is setup and	Project reports, key MoA officials and private sector representatives key LARI, Regional Plant Protection Stations, NPPO, key	Interviews to Farmer, Producers, LARI, MoA officers and technicians. Analysis of the effectiveness of the adoption of quality

benefit from the services provided?	operational according to EU-FVO recommendations (Number of PFA monitored and maintained). Monitoring and traceability system setup and operational (farmer survey and registration in the system). Extension services addressing the potatoes value-chain issues (production) implemented and effective in selected areas: Number of growers/producers applying quality procedures for potatoes exportation according to EU market demand (variety selection, phytosanitary practices, etc.). Effectiveness of GAP on: a) use pesticide, yield increase, better phytosanitary status, cost reduction.	beneficiaries: farmers, technicians Import/export statistics	procedures at LARIs labs Statistical analysis for potatoes production before and after the project.
IMPACT	**Far reaching and indirect consequences of an intervention**		
6) Are there evidences of long-term effects directly or indirectly produced by the intervention on direct beneficiaries?	Quantity of marketed potatoes complying with EU quality standards N of tons of improved quality potatoes produced N. of tons of potatoes exported to EU and to the region	Project reports, key MoA officials and private sector representatives, key beneficiaries: Farmer, producers, Sector statistics, MoA/Ministry of Commerce production and export data	Interviews to Farmers, LARI, MoA officers and technicians. Analysis of the effectiveness of the adoption of quality procedures at LARIs labs Statistical analysis for potatoes production before and after the project.
SUSTAINABILITY	**The continuation of benefits from an intervention after development assistance completion.**		
7) Which measures are likely to continue maintaining benefits produced by the project after its conclusion?	Institutional level: provisions (financial, institutional, capacity development, for the maintenance of the: legal framework, phytosanitary governance in line with EU standards, traceability system. Level of effective management capacities of the MoA units engaged in the governance systems (laboratories, monitoring system, traceability system). Capacity of farmers to apply GAP	Project reports, key MoA officials and private sector representatives, Key beneficiaries: Farmer, producers, Sector statistics	Interviews to farmers, LARI, MoA officers and technicians. Analysis of the effectiveness of the adoption of quality procedures at LARIs labs Statistical analysis for potatoes production before and after the project.

	Affordable level of the GAP implementation (are the GAP affordable to farmers?) Agreements with International traders and Local distributors of potatoes		
8) To what extent have been developed and established the necessary complementarity and synergy with the partner country's programmes and with other donors' interventions?	Complementarities with public programs/other sector interventions. Potential synergies with public programs/other sector interventions. Coordination needs with public programs/other sector interventions.	Project reports, key MoA officials and private sector representatives	Interviews with key MoA officers.
9) Which measures have been introduced in order to ensure or bettering the environmental sustainability of the potato production?	Environmental level: % of the reduced pesticides used and level of sustainable agriculture technique adopted	Project reports, key MoA officials and private sector representatives, Key beneficiaries: Farmer, producers, Sector statistics	Interviews with MoA Representatives
10) To what extent the action has identified best practices and scaling off approaches that can contribute to the sector/international cooperation development?	Best practices on the potatoes value – chain suitable for scaling up. Best practices for enhancing the Italian cooperation initiatives. Legal Framework additional improvements and level of adoption at national level. Linkage with EU and not-EU importers countries. MoA Officers, LARI technician's capacities transferred to agricultural sector	Project reports, key MoA officials and private sector representatives, Key beneficiaries: Farmer, producers, Sector statistics	

ANNEX 3 LIST OF DOCUMENTS CONSULTED

OO1 – OIL COMPONENT: SOCIAL AND ECONOMIC SUPPORT FOR THE FAMILIES OF PRODUCERS IN OLIVE-GROWING (AID 8241)

Consulted documents

- Project proposal (it)
- Agreement MAE-IAM-B (8241)
- Project brief (press)
- Global work plan 2009-2011
- Main results first and second year of the project (April 2009-march 2011)
- Final report 2009-2012 and annexes
- Minute of the first steering committee (12/03/2009)
- Olive oil sector fact sheet –Idal Lebanon

OO 2 – OIL COMPONENT: NATIONAL PROGRAMME FOR THE IMPROVEMENT OF OLIVE OILS QUALITY (AID 9527)

Consulted documents

- Project synthesis
- Global Work Plan (May 2011-April 2012) and related Annex
- Final Technical and Financial Report (May 2011- May 2013)
- Agreement between Italian Government and MoA Lebanese and Annex
- Technical and Financial Evaluation of the DGCS
- Request for project extension
- Mission report UTC Mauro Ghirotti (3-12 febbraio 2015)
- Minutes of the project SC and Technical Notes
- ICU monthly reports 2012
- IAM B Activity report 2014
- Report mission Mondelli 2012
- Report mission Dragotta 2012
- Financial Rapport from Lebanese Independent Auditor (for the period June 2011 – 2015.
- Final evaluation report – 2016.

Additional Consulted documents:

- Strategy 2015 – 2020 – Ministry of Agriculture
- Country Study on Status of Land Tenure, Planning and Management in Oriental Near East Countries FAO 2012 **Talal Darwish** (National Consultant), **Faycel Chenini** (International Consultant), Supervised by M**oujahed Achouri** (DRR-RNE, HMDT-SNO-FAO)
- Women Status in the Mediterranean: their Rights and Sustainable Development. CIHEAM 2009. Edited by: L. Ambrosi, G. Trisorio Liuzzi, R. Quagliariello, L. Santelli Beccegato, C. Di Benedetta, F. Losurdo
- Info MERCATIESTERI Libano. Farnesina 2015.
- Mediterra - the future of agriculture and food in Mediterranean countries. CIHEAM 2008.
- In situ evaluation of the fruit and oil characteristics of the main Lebanese olive germplasm - SCI 2015. Ali Chehade,a* Ahmad El Bitar,a Aline Kadri,a Elia Choueiri,b Rania Nabbout,c
- Hiyam Youssef,d Maha Smeha,c Ali Awada,d Ziad Al Chami,e Eustachio
- Dubla, Antonio Trani, Donato Mondellif and Franco Famianig Extent of the genetic diversity in Lebanese olive (Olea europaea L.) trees: a mixture of an ancient germplasm with recently introduced varieties. Genetic Resources and Crop Evolution, vol 61 n. 7 – 2014. Lamis Chalak, Hicham Haouane, Laila Essalouh, Sylvain Santoni, Guillaume Besnard & Bouchaib Khadar.

OO2 - PHYTOPLASMA COMPONENT: NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE FRUIT PHYTOPLASMA AID 9527

Consulted documents:

- Project synthesis
- Global Work Plan (May 2011-April 2012) and related Annex
- Agreement between Italian Government and MoA Lebanese and Annex
- Technical and Financial Evaluation of the DGCS
- Request for project extension
- Mission report UTC Mauro Ghirotti (3-12 February 2015)
- Minutes of the project SC and Technical Notes
- AVSI technical reports 2012 and 2013
- Financial Report from Lebanese Independent Auditor (for the period June 2011 – 2015.
- Final evaluation report – 2016.
- Minute of meeting Scientific Commitee (5).

Additiona consulted documents:

- Sector Strategy for Agriculture: 2010-2014 e 2015-2019, Lebanese Ministry of Agriculutre.
- Libano – Short note for Agriculture ICE, 2013
- Country Study on Status of Land Tenure, Planning and Management in Oriental Near East Countries FAO 2012 Talal Darwish (National Consultant), Faycel Chenini (International Consultant), Supervised by Moujahed Achouri (DRR-RNE, HMDT-SNO-FAO)
- Info MERCATIESTERI Libano. Farnesina 2015.
- Mediterra - The future of agriculture and food in Mediterranean countries. CIHEAM 2008.
- Sistemi di qualità, rapporti commerciali e cooperazione euromediterranea. ISMEA-IAMB 2007
- Video on YouTube (https://www.youtube.com/watch?v=DHa1FTixkFY) « Cooperazione ed Università la fitoplasmosi del mandorlo in Libano », produced by the University of Milano (EXPO 2015).
- Project summary– UNIMI. 2009 al 2013. Prof. Fabio Quaglino, Università di Milano.
- "I fitoplasmi: caratteri biologici e molecolari". Prof. Assunta Bertaccini.
- LEBANON - FAO Plan of Action for Resilient Livelihoods 2014 – 2018. Addressing the Impact of the Syria Crisis & Food Security Response and Stabilization of Rural Livelihoods. FAO, 2014.

EULEBPOT: ACHIEVING EUROPEAN STANDARDS FOR QUALITY CONFORMITY OF POTATO PRODUCTION IN LEBANON (AID N. 9491)

Consulted documents

- Guidelines "La Valutazione in itinere ed ex post", 2009 dell'Aiuto Pubblico allo Sviluppo attuato dal Ministero degli Affari Esteri DGCS.
- OECD Development Co-operation (2014), Peer Review Italy 2014
- OECD (2013a), Memorandum of Italy Submitted to the DAC in View of the Peer Review of Italy, OECD, Paris
- Project synthesis
- Project proposal
- Global Work Plan (May 2011-April 2012) and related Annex
- Final Technical and Financial Report (May 2011- May 2013)
- Agreement MAE-IAMB
- Financial contribution approval for IAMB
- Tax exemption request by the C*ouncil for Development and Reconstruction*

Additional consulted documents:

- International standards for phytosanitary measures, ISPM No. 4 requirements for the establishment of pest free areas (FAO, 2005).
- Commission implementing decision of 30 July 2013 authorising Member States to provide for derogations from certain provisions of Council Directive 2000/29/EC in respect of potatoes, other than potatoes intended for planting, originating in the regions of Akkar and

Bekaa of Lebanon (notified under document C(2013) 4683) (2013/413/EU) - Official Journal of the European Union L 205/13

- MR Final Report to EVALUATE THE PHYTOSANITARY SITUATION OF POTATO PRODUCTION in Lebanon - DG(SANCO)/8261/2006
- Potatoes and Leafy green vegetables: value chain analysis, Akkar – Lebanon. ILO - Regional Office for the Arab States (2015)
- Council Directive 2000/29/EC;
- Council Directive 69/464/EEC1 of 8 December 1969 on control of Potato Wart Disease;
- Council Directive 93/85/EEC2 of 4 October 1993 on the control of potato ring rot;
- Council Directive 98/57/EC3 of 20 July 1998 on the control of Ralstonia solanacearum (
- https://eeas.europa.eu/sites/eeas/files/association_agreement_en.pdf
- http://trade.efta.int/#/country-graph/EFTA/LB/2015/HS2
- Lebanon Ministry of Agriculture Strategy 2015 – 2019
- MOA Strategic Framework 2010-2014
- Export Value Chain Analysis Fresh Fruit and Vegetables Lebanon (CBI, 2015)
- Analysis of Lebanon food market (Bankamed 2015)
- Surveys of potato-growing areas and surface water in Lebanon for potato brown and ring rot pathogens (Choueri et al. 2017) - Phytopathologia Mediterranea (2017), 56, 1, 87−97
- Lebanon Agriculture Sector Note: aligning Public Expenditures with Comparative Advantage ("World Bank,. 2010)

ANNEX 4 DATA COLLECTION TOOLS

OO1 – OIL COMPONENT: SOCIAL AND ECONOMIC SUPPORT FOR THE FAMILIES OF PRODUCERS IN OLIVE-GROWING (AID 8241)

OO 2 – OIL COMPONENT: NATIONAL PROGRAMME FOR THE IMPROVEMENT OF OLIVE OILS QUALITY (AID 9527)

COOPERATIVE QUESTIONNAIRE

GENERAL DATA

Name of the cooperative
Date of setting up / foundation (and legal decree):
Location (Address)
Telephone
Fax
E-mail
Legal representative
Human Resources

Number of members:	MAN	WOMAN	Total
Age < 40 years (%)			
Age > 40 years (%)			
Number of farmers (olive growers)			
Number of full time employees			
Full time Technical personnel			
Full time / part-time administrative personnel			
Part-time / seasonal personnel			

1. Have the number of members increased / decreased / the same during the last 5 years?
2. Member residence in the village: Yes/NO some of them (%)

PRODUCTION AND SERVICES

3. (Total) Olive tree surface of the members
4. Average olive tree surface / members
5. Average olive production Kg/donum
6. Average Table Olive (TO) production Kg/donum
7. Are the olive orchards cultivated surface increased / decreased / the same in the last 5 years? (if YES, how many dunum? Which are the reasons?
8. Which PRODUCTS does the cooperative produce / commercialize?

Type of product	**Supported by OO projects**	**Supported by other resources (specify)**
Olive oil		
Table olive		
Soap		
Jam		
'Vegetable in oil'		
Other:		

9. Which Olive BY-PRODUCTS does the cooperative produce/commercialize?

Type of by-product	**Supported by OO projects**	**Supported by other resources (specify)**
Compost (pomace, etc.)		
Pellet / block (pomace)		
Waste Waters (WW)		
Other		

10. Which SERVICES does the cooperative sell?

Type of service	Supported by OO projects	Financed by other resources (specify / and starting year)	Cost of the service (members / no members)
Olive Oil mill			
Olive oil commercialization			
Olive oil quality control			
Technical assistance (specify)			
Olive orchard labours (equipment):			
Pruning			
orchard spraying			
shredding			
mechanical harvest			
grass trimming / land tillage			
output selling			
credit			
Other:			
Other:			

OLIVE MILL

11. Olive mill (number and type): Traditional n./2 Phases n./3 Phases n.

12. Milling service: Type of payment for milling: Cash (price) Oil in Kind (quantity)

13. Olive worked yearly in concept of service (average) in tons

OLIVE OIL DIRECT COMMERCIALIZATION:

14. Does the cooperative buy (olives) from the members / other farmers and commercialize the olive oil?

15. Yearly commercialization of olive oil (bought and from 'in kind' payment from mill services)

16. Did the cooperative experience an increase / decrease / the same quantity of olive oil commercialization in the last 5 years?

OLIVE OIL

17. Which type of oil does the cooperative produce? Who much?

- Lampante/Ordinary virgin olive oil/Virgin olive oil/Extra virgin olive oil
- Could you define it?
- Lampante
- Ordinary virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 3.3 grams per 100 grams and the other characteristics of which correspond to those fixed according with the legal provision of the country
- Virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams and the other characteristics of which correspond to those fixed for this category in this standard
- Extra virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams, and the other characteristics of which correspond to those fixed for this category in this standard.

18. Does the cooperative check the quality of the olive of the members / customers? Since when? Any change in the prices? (NO/YES). Since when?

19. How does the cooperative check the quality of the oil produced by the cooperative mill? (no check/testing/acidity testing (where?)/other

20. Does the fixed price for the olive oil reflects the quality characteristics? (NO/YES)

21. Did the cooperative oil quality better during the last 5 years?

22. If the cooperative doesn't have any mill, where do you process your olives?

23. How does the cooperative check the quality of the oil when you take the oil from the mill giving you the service? (no check/testing/acidity testing/other)

24. Oil utilization (the cooperative oil). Who does buy the cooperative product?

- Direct to individuals (%)
- Domestic wholesaler and distribution (retailer)
- Restaurant / touristic resort or another street food processer
- Lebanese processed food industry
- Government of Lebanon (Army)

- Exporter market distributors and importers
- middlemen

25. How does the coop. pack the oil? (plastic bottle/plastic gallons/glass bottls/stainless steel/no pack
26. Do you have a label for your product? (yes/no)
27. Which information are written in? (logo/characteristic of the oil/expire date/production date /cooperative info/other)
28. Who does fix the price? the coop on the basis of the OO quality/Middlemen/final buyer (restaurant, shop, etc.)/the recognised market price at the time of the selling
29. Does the cooperative established better commercial agreements at every level of the agribusiness chain based on better quality of the produce? (yes/no) Please, comment

POMACE UTILIZATION

30. Quantity of pomace produced (tons)
- Use of pomace produced and marketed
- Compost (yes/no)
- Fire blocks (yes/no)
- Others (specify)

WASTE WATERS

31. Quantity of waste water produced (tons)
- Use of water waste produced (yes/no)
- Treated (yes/no)
- No treated (yes/no)
- Destination

TABLE OLIVES

32. Which kind of olive does the cooperative produce? green olives/semi-ripe olives/ripe olives/Ayrouni/Baladi/Soury
33. How many tons of the cooperative olive production are processed as TO?
34. Does the cooperative buy the TO? from members/other farmers (only members/only no members/both)
35. Is there any difference in price application to members? (yes/no)
36. Does the cooperative pay the not processed TO according quality standards? (yes/no)
37. Do you know which characteristic should the olives have for the fresh consumption? size (3-5g medium size, over 5g large)/stone (should come away easily from the flesh and a flesh: stone ratio 5 to 1 is acceptable, the higher is better)/Skin (should be fine, elastic and resistant to blows and to the action of alkalis and brine)/sugar content (a high sugar content in the flesh is an asset. the lowest acceptable level is 4%)/oil content (should be as low as possible because in many cases it impairs the keeping properties and consistency of the processed fruit. Only in certain types of black olives is a medium ho high oil content desirable)/No Lebanese standard
38. What does the cooperative do with the table olives? (Auto consumption/ for sale
39. How do you pack the table olives? (plastic bag/plastic bottle/glass jar/other
40. Do you have a label for your product? (yes/no)
41. Which information are written in? (logo/characteristic of the oil/expire date/production date/cooperative info/other)
42. Where do you sell your products? (supermarket, regional market, groceries
43. Who does buy your product? (understand the role of the customers) Who much?
- family or friends
- domestic wholesaler and distribution
- Lebanese processed food industry (maybe is required a fix amount….)
- government of Lebanon (Army)
- exporter market distributors and importers

44. How do you fix the price? (quality/quantity/cost analysis/bargaining/other)
45. Who does fix the price? cooperative/Middlemen/final buyer (retailer, shop, etc.)
46. Does the cooperative established better commercial agreements at every level of the agribusiness chain based on better quality of the produce? (YES/NO) Please, comment
47. Are the incomes of the trained people increased? (YES/NO) Please comment

SOAP PRODUCTION

48. What does the cooperative do with the soap? (Auto consumption/for sale)
49. How do you pack the soap? per kg in plastic bag/per kg in wrapper/with stamp/without stamp/other
50. Do you have a label for your product?

51. Which information are reported? (logo/characteristic of the oil/expire date/production date/cooperative info/other)
52. Where do you sell your products? (supermarket, regional market, groceries)
53. Who does buy your product? (understand the role of the customers) Who much?

- Family or friends
- Domestic wholesaler and distribution
- Lebanese processed food industry (maybe is required a fix amount….)
- Government of Lebanon
- Exporter market distributors and importers

54. How do you fix the price? Quality/quantity/cost analysis/bargaining/other:
55. Who does fix the price? Cooperative/Middlemen//final buyer (retailer, shop, etc.)
56. Does the cooperative established better commercial agreements at every level of the agribusiness chain based on better quality of the produce? (YES/NO) Please, comment
57. Are the incomes of the trained people increased? (YES/NO) Please comment

TRAINING (Technical Assistance - TA) / Public Extension Services (PES)

58. Which are the training attended by the cooperative (including farmer members)?

Type of TA/PES	Date of the last training attended	TA/PES provider (OO 1 and 2 tech. / ICU / PES / NGO / professional, etc.
Cooperative management		
Marketing (M&T)		
Tech. training on oil production (OOM)		
Tech. training on olive (mechanical) harvesting (HPH)		
Tech. training on oil processing (mill rehabilitation)		
Tech. training on oil quality control (QC)		
Tech. training on by-products (compost and WW)		
Tech. training on soap production (SP)		
Tech. training on table olive (TO)		
Other		
Other		
Other		
Other		

59. How many trained cooperative / other technicians are employed thanks to the projects interventions and are salaries/incomes increased? Please comment
60. How did / does the cooperative share the learnt information among the members? Please comment:
61. Which trainings are considered essential (of very high priority) by the cooperative (mention the two most important topics)? □ cooperative management □ marketing □ technical training (specify) other (specify)

ASSOCIATION STRUCTURE

62. Members in the cooperative committee/board:

Role / position	**Age**	**Male / female**	**Years in the position**
Chairman / president			
Vice-secretary			
Vice-treasure			
Member representatives			
Other			
Other			

63. How many times do you meet per season /month?
64. When are the members monitored? (during the pruning/before / after the harvest/occasionally/during the activities of/never)
65. What kind of contribution is given to the cooperative by members? (Annual quotas, service payments, etc.)

66. Is the cooperative membership increased in the last 5 years? Please, comments
67. How the cooperative is managing the activities (mill, services, shop, commercialization, etc.)? Is there a full-time manager / part-time manager (yes/no)/other management units (admin./production units/services units/permanent technical assistance/commercialization responsible/etc.). Please comment.
68. Does the cooperative properly and timely manage the financial accountability? Please, comments.
69. Is the cooperative profit-making enough to cover the costs? Please, comments.
70. Any important indebtedness/liabilities?
71. Do the net profits increased during the last 5 years? Please, comments.
72. If yes, which incomes have increased? Products (specify) Services (specify)
73. Could you list the advantages of being part of a cooperative (the two most important advantages)?
74. Which are the most important weakness of your cooperative?

- active membership
- equipment
- market access / prices
- profitability
- other (specify

FARMER QUESTIONNAIRE

OO1 – OIL COMPONENT: SOCIAL AND ECONOMIC SUPPORT FOR THE FAMILIES OF PRODUCERS IN OLIVE-GROWING (AID 8241)

OO 2 – OIL COMPONENT: NATIONAL PROGRAMME FOR THE IMPROVEMENT OF OLIVE OILS QUALITY (AID 9527)

Date _____

FARMER QUESTIONNAIRE

	NAME	CONTACT
1		
2		
3		
4		
5		
	Location	

1. Is the OO production / farm activity your main source of income?

Farmer	YES	NO (specify)
1		
2		
3		
4		
5		

Olive orchard data

	Total n. of donum	Total n. of trees	Irrigated	
Farmer 1			Y	N
Farmer 2				
Farmer 3				
Farmer 4				
Farmer 5				

Production data

Total Production of olive oil (kg)	2015	2016
Farmer 1		
Farmer 2		
Farmer 3		
Farmer 4		
Farmer 5		

LEVEL OF GAP / RECOMMENDED PRACTICES ADOPTION BY THE FARMERS

2. Training (GAP-IPM-etc.) participation in the following topics:

Good Agricultural Practices	Plant protection (pesticide use) Specify the pest and diseases treated NOW/BEFORE THE PROJECT	Integrated Pest Management (IPM) NOW/BEFORE THE PROJECT	Fertilization NOW/BEFORE THE PROJECT	Pruning NOW/BEFORE THE PROJECT	Mechanical harvesting and post harvest (HPH) NOW/BEFORE THE PROJECT	overall cost (%) production quality (INCREASE/REDUCED/SAME)	Tillage (mechanization) NOW/BEFORE THE PROJECT
Farmer 1 Adoption of recommended practices							
Increase/reduced/same Costs due to the intervention							
Farmer 2 Adoption of recommended practices							
Increase/reduced/same Costs due to the intervention							
Farmer 3 Adoption of recommended practices							
Increase/reduced/same Costs due to the intervention							
Farmer 4 Adoption of recommended practices							
Increase/reduced/same Costs due to the intervention							
Farmer 5 Adoption of recommended practices							
Increase/reduced/same Costs due to the intervention							

3. Quality of the training/effective understanding and use of the technical documentation/handouts

Quality of training	YES	NO	Additional remarks
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

4. Sustainability (profitability)

Global profitability	YES	NO	Additional remarks
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

5. Did you receive TA after the project completion? If Yes, was provided by whom?

TA		YES	NO	provided by whom?
Farmer 1				
Farmer 2				
Farmer 3				
Farmer 4				
Farmer 5				

6. What kind of additional TA / equipment do you need (high priority)?

	TA (topic)	Equipment
Farmer 1		
Farmer 2		
Farmer 3		
Farmer 4		
Farmer 5		

OLIVE OIL

7. Which type of oil do you produce?

Oil quality	Farmer 1	Farmer 2	Farmer 3	Farmer 4	Farmer 5
Lampante					
Ordinary virgin olive oil					
Virgin olive oil					
Extra virgin olive oil					

8. Could you define it?

- Lampante
- Ordinary virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 3.3 grams per 100 grams and the other characteristics of which correspond to those fixed according with the legal provision of the country.
- Virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams and the other characteristics of which correspond to those fixed for this category in this standard.
- Extra virgin olive oil: virgin olive oil which has a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams, and the other characteristics of which correspond to those fixed for this category in this standard.

9. If you sell your olive to a cooperative, does the cooperative check the quality of the olive of the members / customers. Do you pay any differential prices? If you do not process your olive through a cooperative, where do you process your olives?

10. How do you check the quality of the oil when you take the oil from the mill giving you the service? (of the cooperative or private)

	No check	testing	Acidity testing	Other
Farmer 1				
Farmer 2				
Farmer 3				
Farmer 4				
Farmer 5				

11. How do you fix/improve the acidity of your oil?

12. Did the produced oil improve in quality during the last 5 years?

	YES	NO	Comments
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

Oil utilization

	Auto consumption (%)	Market (%)
Farmer 1		
Farmer 2		
Farmer 3		

Farmer 4		
Farmer 5		

13. Who does buy your oil? (multiple answers possible – MAP)

	Farmer 1	Farmer 2	Farmer 3	Farmer 4	Farmer 5
Individual (in the farm)					
Local retailer					
Gross market					
Middlemen					
Restaurant					
Lebanese processed food industry / Army					

14. How do you pack the oil? (MAP)

	Farmer 1	Farmer 2	Farmer 3	Farmer 4	Farmer 5
Plastic bottle					
Plastic gallon					
Glass bottle					
Stainless steel					
Other					

15. Do you have a label for your product?

	YES	NO	Which information are reported?
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

16. Which information are reported? (logo/characteristic of the oil/expire date/production date/cooperative info/other)

17. Who does fix the price?

	You	The buyer middlemen	The market (the actual recognised price at the time of the selling)
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

18. Do you established better commercial agreements at every level of the agribusiness chain based on better quality of the produce?

	Yes	No	Comments
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

ACHIEVING EUROPEAN STANDARDS FOR QUALITY CONFORMITY OF POTATO PRODUCTION IN LEBANON (AID N. 9491)

FARMER QUESTIONNAIRE

Date _____

	NAME	CONTACT
1		
2		
3		
4		
5		
	Location	

1. Is the potato production / farm activity your main source of income?

FARMER	YES	NO (SPECIFY)
1		
2		
3		
4		
5		

2. Potato production data

	DONUM/HA	VARIETIES	TOTAL PRODUCT. OF THE FIELD	PRODUCT UNIT AREA	IRRIGATED	
Farmer 1					Y	N
Farmer 2						
Farmer 3						
Farmer 4						
Farmer 5						

3. Production trend

TOTAL PRODUCTION OF POTATOES (KG / MT)	2015	2016
Farmer 1		
Farmer 2		
Farmer 3		
Farmer 4		
Farmer 5		

4. Level of GAP/recommended practices adoption by the farmers

Training (GAP-IPM-etc.) participation in the following topics:

Good Agricultural Practices (GAP)	IPM & Plant protection (use of GL) NOW/BEFORE THE PROJECT (N/B)	Awareness and capacity of disease detection (Brown-rot ring/nematodes) (N/B)	Participation in the traceability system/disease communication to MoA Services	Crop Rotation (pest & diseases incidence reduction) (N/B)	Fertilization (N/B)	Irrigation (N/B)	Adoption of new varieties Specify new variety	Overall cost (%) Production quality INCREASE/REDUCE/SAME (I/R/S)
FARMER 1 Adoption of recommended practices								
Increase/reduce/same (I/R/S) costs due to the intervention								
FARMER 2 Adoption of recommended practices								
(I/R/S) costs due to the intervention								
FARMER 3 Adoption of recommended practices								
(I/R/S) costs due to the intervention								
FARMER 4 Adoption of recommended practices								
(I/R/S) costs due to the intervention								
FARMER 5 Adoption of recommended practices								
(I/R/S) costs due to the intervention								

5. Quality of the training / effective understanding and use of the technical documentation/handouts

QUALITY OF TRAINING	YES	NO	ADDITIONAL REMARKS
farmer 1			
farmer 2			
farmer 3			
farmer 4			
farmer 5			

6. Sustainability (profitability)

GLOBAL PROFITABILITY	YES	NO	ADDITIONAL REMARKS
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

7. Did you receive TA after the project completion? If Yes, was provided by whom?

TA		YES	NO	PROVIDED BY WHOM?
Farmer 1				
Farmer 2				
Farmer 3				
Farmer 4				
Farmer 5				

8. What kind of additional TA / equipment do you need (high priority)?

	TA (TOPIC)	EQUIPMENT
Farmer 1		
Farmer 2		
Farmer 3		
Farmer 4		
Farmer 5		

9. Potato utilization:

	AUTO-CONSUMPTION (%)	MARKET (%)
Farmer 1		
Farmer 2		
Farmer 3		
Farmer 4		
Farmer 5		

10. Who does buy your potatoes? (multiple answers possible – MAP)

	FARMER 1	FARMER 2	FARMER 3	FARMER 4	FARMER 5
Individual (in the farm)					
Local retailer					
Gross market					
Middlemen					
Restaurant					
Lebanese processed food industry/Army					

11. How do you pack the potatoes? (MAP)

Farmer 1	Farmer 2	Farmer 3	Farmer 4	Farmer 5

12. Do you have a label for your product?

	YES	NO	WHICH INFORMATION ARE REPORTED?
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

□ logo □ characteristic of the produce □ production date □ cooperative info
□ other: _____

13. Who does fix the price?

	YOU	THE BUYER MIDDLEMEN	THE MARKET
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

14. Do you established better commercial agreements at every level of the agribusiness chain based on better quality of the produce?

	YES	NO	COMMENTS
Farmer 1			
Farmer 2			
Farmer 3			
Farmer 4			
Farmer 5			

ANNEX 5 DATA COLLECTED DURING VISITS TO COOPERATIVES AND PRODUCERS (OO 1 E OO 2)

Cooperative e tipologia di investimenti visitati												
Caza & coop./ investimenti dei progetti	**N. di Coop.**	**supporto frantoio**	**Raccolta mecc.**	**OO controllo qualità**	**pratiche di gestione oliveto**	**Produz. olive da tavola**	**supporto al marketing**	**valoriz. sanse (blocchi)**	**valoriz. sanse (compost)**	**valoriz. Acque di vegetaz.**	**Produz. sapone**
Chouf												
Joune	1	1			1							
Baakleen	1							1				
Nabatyieh												
Doueir	1	1	1									
Arab Salim	1			1								
Tyr												
Deir Aamess	1		1		1							
Women coop. Deir Quanoun	1					1						
Btaishiye	1		1	1	1							
El Halloushieh	1		1		1							
Jabal Aamel	1						1					
Baalbeck												
Tal Abiad	1	1						1				
Minnie Dannieh												
Deir Aamar	1							1	1	1	1	
Zgharta												
Women in Zgharta	1					1	1					
Rashin (da Aitou)	1					1	1					
Koura												
Bkoumra	1	1			1							
Darbaachstar	1							1		1		
Batrun												
Ibrine	1				1							
Douma	1	1			1							
Totale visitate	**17**	**5**	**4**	**2**	**7**	**3**	**3**	**4**	**1**	**2**	**1**	
Totale investimenti progetti	69	20	20	15	32	6	4	12	2	7	4	
Copertura valutazione (%)	25	25	20	13	22	50	75	33	50	29	25	

			SERVIZI OFFERTI DALLA COOPERATIVA OO2																														
N.	Coop.	REGIONE	FRANTOIO	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	AT	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	POTATURA	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	RACCOLTA MECCANICA	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	TRATTAMENTI FITO	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	TILLAGE	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	COMMERCIALIZ	FINANZIATO DA	COSTO DEL SERVIZIO	PREZZO AGEVOLATO AI SOCI	CONTROLLO QUALITA' OO
1	Douma	Batroun	NO				SI	MdA	NO		NO				SI	USAID	costo simbolico	solo per i soci	NO				NO								SI MdA
2	Ibrine	Batroun	NO				SI	MdA	NO		NO				SI	USAID	SI	SI	SI	DONAZIONE	NO		SI	MdA E COOP	costo simbolico		NO				NO
3	Tal Abiad	Ballbeck	SI	OO + SOCI	SI	SI	SI	MdA + ONG	NO		NO				SI	MdA	NO		NO				NO				NO				NO
4	Bakoumra	Koura	NO				SI	NDA	NO		SI	MdA	NO		SI	MdA	NO		SI	COOP	costo simbolico		NO				NO				NO
5	El Hallousieh	Tyr	NO				NO				SI	OO 1	NO		SI	OO 1	NO		SI	OO 1	NO		SI	OO 1	NO		NO				NO
6	Jabal Aamel	Tyr	NO				SI	COOP			NO				NO				NO				NO				SI	OO 1	SI	SI	SI
7	Btaishieh	Tyr	NO				NO				SI	OO 1	NO		SI	OO 1	NO		SI	OO 1	NO		SI	OO 1	NO		NO				NO
8	Deir Amees	Tyr	NO				SI	ONG	NO		SI	OO 1	NO		SI	OO 1	SI	SI	SI	OO 1	SI		SI	OO 1	SI		NO				NO
9	Baakleen	Chouf	SI	UNDP 11	SI	NO	SI	COOP	NO		NO				SI	MdA	SI		NO				NO				NO				NO
10	Joune	Chouf	NO				NO				NO				NO				SI	OO 2	NO		NO				NO				NO
11	Doueir	Nabatyieh	SI	ICU	SI	NO	SI	COOP	NO		SI	ICU	SI	NO	SI	00 1	SI	NO	NO				NO				NO				NO
12	Arab Salim	Nabatyieh	NO				SI	COOP	NO		NO				NO				NO				NO				NO				NO
13	Deir Aamar	Minnieh Dannieh	SI	COOP	SI	SI	SI	COOP	NO		NO				NO				NO				NO				NO				NO
14	Darbashtar	Koura	si	UE + USAID	SI	SI	SI	COOP	NO		NO	SERVIZIO IN FASE DI PREPARAZIONE			SI	UE + USAID	SI	SI	SI	UE + USAID	SI	SI	SI	UE + USAID	SI	SI	SI	COOP	SI		SI

			CAPITALE			LIVELLO DI ADOZIONE DELLE BPA									RICEVUTA E PRIORITA' PERCEP			QUALITA' OLIO d'OLIVA				COMMERCIALIZZAZIONE OLIO d'OLIVA				
N.	Produttore	COOP. / REGIONE	ATT. PRINCIPALE	DUNUM	IRRIGAZIONE	CONTROLLO FITOSANIT.	IPM	FERTILIZZ	POTATURA	RACCOLTA MECC.	TILLAGE (T) SUPERFIC.	PRODUZ. (A/D)	COSTI PRODUZ. (A/D)	DIMINUZIONE COSTI (%)	TA DOPO LA FINE DEL PROGETTO (CHI ?)	NECESSITA DI TA	NECESSITA DI MeA (1)	CONOSCENZE QUALITA OO	FRANTOIO COOP. PRIVATO	ANALISI ACIDITA	AUMENTO QUALITA OO	A CHI VENDE	COME CONSERVA	ETICHETTA	CHI FISSA IL PREZZO (M/P) (2)	MAGGIORE POTERE NEGOZIALE
1	Nicola Maalouf	Douma/Batroun	SI	80	SI	SI	SI	NO	SI	SI	no T erb	A	D	20	SI ong / MDA	MARKET / IRRIG.	OPERAI SPECIAL. POTATURA	SI	P	SI	SI	Ind./negozi/ ingrosso	INOX	NO	M	NO
2	Ayub Issa	Douma/Batroun	SI	20	NO	SI	SI	NO	SI	SI	no T erb	A	D	20	NO	NO	NO	NO	P	NO	SI	Ind./chop/intermed.x exp	INOX	NO	M	SI
3	Alice Maalouf (f)	Douma/Batroun	NO	30	NO	SI	NO	NO	NO	SI	no T erb	A	D	10	NO	FERTIL.	TANK INOX	NO	P	SI (intermed.)	SI	intermed./restaur.	INOX	NO	M	SI
4	Elie Lattouf	IBRINE/Batroun	NO	2	NO	SI	SI	NO	SI	SI	NO	A	D	15	SI USAID/MDA	NO	NO	NO	P	NO	NO		INOX/BOT.VETRO			
5	Abbas Hussein	Tal Abiad/Ballbeck	SI	20	SI	SI	SI	SI	SI	SI	no T erb	A	D		NO	IRRIG./RACCOLT. MECC.	RACCOGLI. MECC.	NO	COOP	NO	SI	SHOP LOCALI	FERRO aliment:	NO	M	NO
6	Mohammad Yazbak	Tal Abiad/Ballbeck	SI	15	NO	SI	SI	SI	SI	SI	no T erb	A	D		NO	RACCOLT. MECCA.	RACCOGLI. MECC.	NO	COOP	NO	SI	IND / SHOP LOCALI	FERRO aliment:	NO	M	NO
7	Fayod Hussein	Tal Abiad/Ballbeck	SI	25	NO	SI	SI	SI	SI	SI	no T erb	A	D		NO	RACCOLT. MECCA.	RACCOGLI. MECC.	NO	COOP	NO	SI	IND / SHOP LOCALI	FERRO aliment:	NO	M	NO
8	Mustafa Hassan	Tal Abiad/Ballbeck	SI	10	SI	SI	SI	SI	SI	SI	no T erb	A	D		NO	RACCOLT. MECCA.	RACCOGLI. MECC.	NO	COOP	NO	SI	SHOP LOCALI	FERRO aliment:	NO	M	NO
9	Hassan El Hejj	Bakoumra/Koura	NO	10	NO	SI	SI	SI	SI	SI	SI	A	D		SI MDA	POTATUR.	FRANTOIO	SI	P	SI	SI	IND.	FERRO aliment:	NO	M	NO
10	Ahmed El Hejj	Bakoumra/Koura	NO	10	NO	SI	SI	SI	SI	SI	SI	A	D		SI MDA	POTATUR.	FRANTOIO	SI	P	SI	SI	IND.	FERRO aliment:	NO	M	NO
11	Mohammed Kashmar	El Hallousieh/Tyr	NO	10	NO	SI	NO	NO	SI	SI	no T erb		D		SI COOP (potatura)	aggiornamento nuove BPA	POT.MECC. / RACCOLT MECC.	NO	P	NO	SI	IND.	PLASTIC	NO	M	NO
12	Ali Kashmar	El Hallousieh/Tyr	NO	15	NO	SI	NO	NO	SI	SI	no T erb		D		SI COOP (potatura)	aggiornamento nuove BPA	POT.MECC. / RACCOLT MECC.	NO	P	NO	SI	intermed.x exp	PLASTIC	NO	M	NO

13	Imad Kashmar	El Hallousieh/Tyr	SI	12	NO	SI	NO	SI	SI	SI	no T erb		D		SI COOP (potatura)	aggiornamento nuove BPA	POT.MECC. / RACCOLT MECC.	NO	P	NO	SI	IND.	PLASTIC	NO	M	NO
14	Fahid Harb	El Hallousieh/Tyr	SI	7	NO	SI	NO	NO	SI	SI	no T erb		D		SI COOP (potatura)	aggiornamento nuove BPA	POT.MECC. /RACCOLT MECC.	NO	P	NO	SI		PLASTIC			
15	Hussein Saada	El Hallousieh/Tyr	NO	2	NO	SI	NO	NO	SI	SI	no T erb		D		SI COOP (potatura)	aggiornamento nuove BPA	POT.MECC. /RACCOLT MECC.	NO	P	NO	SI	IND.	PLASTIC	NO	M	NO
16	Mohammed Fakih	Jabal Aaamel/Tyr	NO	12	NO				SI	SI			D	40	NO	BPA	FRANTOIO	NO	P	NO	SI	IND / SHOP LOCALI	INOX	NO	M	NO
17	Julio Gafari	Btaishieh/Tyr	NO	6	NO				SI	NO			D		NO			NO	P	NO	NO		INOX			
18	Elias Gafari	Btaishieh/Tyr	NO	10	NO										SI MDA			NO	P	NO	NO					
19	Sami Gafari	Btaishieh/Tyr	NO	7	NO				SI	NO					SI MDA	CONTRL. FITO.	POT. MECC.	NO	P	NO	NO		PLASTIC			
20	Jean Buari	Btaishieh/Tyr	NO	6	NO										SI MDA	CONTRL. FITO.	POT. MECC.	NO	P	NO	NO		INOX			
21	Hassan Aboud	Deir Amees/Tyr	NO	10	NO	SI	NO	NO	SI	SI	no tillage - erb.		D		NO	NO		NO	P	NO	NO	IND/SHOP LOCALI	PLASTIC	NO	M	NO
22	Odei Aboud	Deir Amees/Tyr	SI	7	NO	SI	NO	NO	SI	SI	no tillage - erb.		D		NO	NO	RACCOGLI. MECC.	NO	P	NO	NO	IND/SHOP LOCALI	PLASTIC	NO	M	NO
23	Toufic Aboud	Deir Amees/Tyr	SI	100	NO	SI	NO	NO	SI	NO					NO	NO	POT. MECC.	NO	P	NO	NO	IND/SHOP LOCALI	PLASTIC	NO	M	NO
24	Mounir Quaasomoni	Baakleen/Chouf	NO	40	NO	NO	NO	NO	SI	NO					SI MDA	MARKETING	RACCOGLI. MECC./LAVOR.	NO	COOP / P	NO	SI	IND/SHOP LOCALI/REST	PLASTIC/INOX	NO	M	NO
25	Hafez Hadek	Baakleen/Chouf	NO	20	NO	NO	NO	NO	SI	SI			D	15	SI MDA	QUALSIASI TA	RACCOGLI. MECC./LAVOR.	NO	COOP / P	NO	NO	IND/SHOP LOCALI	PLASTIC	NO	M	NO
26	Rafaat Rajeb	Baakleen/Chouf	NO	25	NO	NO	NO	NO	SI	SI					SI MDA	QUALSIASI TA	RACCOGLI. MECC./TILLAGE	NO	COOP / P	NO	NO	IND/SHOP LOCALI	PLASTIC	NO	M	NO
27	Kamol Abou	Baakleen/Chouf	NO	13	NO	NO	NO	NO	SI	NO					SI MDA	QUALSIASI TA	RACCOGLI. MECC./TILLAGE	NO	COOP / P	NO	NO	IND/SHOP LOCALI	PLASTIC / BOT. VETRO	NO	FARMER	NO
28	Samir Isac	Joune/Chouf	SI	6	NO	NO	NO	NO	SI	SI	SI		D	50	SI MDA / COOP	POTATURA	RACCOGLI. MECC./TILLAGE	NO	P	NO	SI	IND/SHOP LOCALI	INOX	SI	M	SI
29	Ibrahim Ali	Joune/Chouf	NO	5	NO	NO	NO	NO	SI	SI	SI				SI MDA / COOP		POT.MECC. /RACCOLT MECC.	SI	P	SI	SI	IND	INOX	NO	M	NO
30	Mukhtar Hassan	Joune/Chouf	SI	6	NO	NO	NO	NO	SI	SI	NO		D	60	SI MDA / COOP		RACCOGLI. MECC./TILLAGE	NO	P	NO	SI	IND/SHOP LOCALI/EXP	TERRACOTTA	NO	M /FARMER	SI
31	Hussein Abbas	Joune/Chouf	NO	8	NO	NO	NO	NO	NO	NO	NO				NO	POTATURA		NO	P	NO	SI	IND/SHOP LOCALI	INOX	NO	M	NO
32	Hassan Salam	Doueir/Nabatyieh	NO	6	NO	SI	NO	SI	SI	SI	NO	A	D	40	SI MDA USAID	POTATURA/LOTTA INTEG.	TILLAGE MECC.	SI	COOP	NO	SI	IND	INOX	NO	M	NO

COOPERATIVE OO1

			DATI GENERALI												FRANTOIO COOPERATIVO								AT RICEVUTA DOPO LA FINE DEL PROGETTO (5)							
N.	Coop.	REGIONE	TOTALE SOCI	uomo ETA SUPERIORE 40 ANNI	uomo ETA INFERIORE 40 ANNI	DONNE	P. TEC. - AMM.	P. STAGIONALE	NUMERO SOCI AUMENTATO ? (4)	SUPERFICIE TOTALE (1)	SUPERFICIE MEDIA / SOCIO (dunum)	PRODUZIONE OLIVE / DUNuM (Kg)	LASUPERFICIE A OLIVO è AUMENTATA ? (4)	PRINCIPALI PRODOITTI (6)	FRANTOIO COOPERATIVO	AVTRATT. (2)	SANSE COMPOSTATE	PRODUZIONE BLOCCHI DA SANSE	LA COOP FA ANALISI DI QUALITA' DELL'OO	LA QUALITA' DELL'OO è MIGLIORATA	CHI FISSA IL PREZZO (M / COOP)	MAGGIORE POTERE NEGOZIALE	GESTIONE COOP.	MARKETING	PRODUZIONE	RACCOLRA MECCANICA	TRASFORMAZIONE E CONTROLLO QUALITA	TRATTAMENO AV	BPA	TA PRIORITARIA (3) (6)
1	Douma	Batroun	19	10	7	2	0	0	U	550	28,95	700	U	OO	NO					SI				MdA 15	USAID 13	MdA 15	OO 10	USAID 10	GC / M
2	Ibrine	Batroun	95	55	30	10	1	0	U	300	3,16		U	OO	NO					SI				USAID 15	USAID 16	OO 2 13	OO 2 13		M
3	Tal Abiad	Ballbeck	73	30	30	13	1	8	SI	500	6,85	700	SI	OO	SI	SI	NO	SI OO 2	NO	SI	M	NO	OO 10	OO + ONG 13	OO 2 12	OO 2 MdA 12	FORNITORE FRANTOIO 10	OO 2 12		GC / M
4	Bakoumra	Koura	11	11	0	0	1	0	U	200	18,18	560	U	OO + sap.	NO					SI				OO 2 12	OO 2 MdA 12		MdA 14		OO 2 13	GC / M / T (Oo TEST - OT)
5	El Hallousieh	Tyr	18	14	4	0	3	0	SI	110	6,11	1000	SI	OO	NO					SI			ILO 12	OO 1 11					OO 1 11	T (Sap)
6	Jabal Aaamel	Tyr	30	22	8	0	3	5	D	500	16,67	750 - 1000	D	OO	NO									ONG 13	OO 1 12				00 1 11	GC / M
7	Btaishieh	Tyr	30	22	8	0	0	0	U	70	2,33	1000	SI	OO + sap.	NO										OO 1 11	OO 1 11	OO 1 11			
8	Deir Amees	Tyr	17	0	14	3	2	0	D	150	8,82	1000	SI	OO	NO								ILO 11	ONG 14		USAID 16				T (Sap)
9	Baakleen	Chouf	585	405	170	10	1	6	U	1500	2,56	700 - 1000	D	OO + sap. + SANSA BLOC.	SI	NO	NO	SI OO 2	SI		M	NO		ONG 14	ONG 14	MdA 16				GC / M
10	Joune	Chouf	22	22	0	0	2		SI	120	5,45	750	SI	OO + OT	NO										OO 2	OO 2	OO 2			GC / M
11	Doueir	Nabatyieh	22	19	3	0	3	3	U	250	11,36	500 - 700	SI	OO + OT	SI	NO	SI	NO	NO	SI	M	NO	MdA 14		ICU 08	UNIDO ICU 14	OO 1 12			T POTAT
12	Arab Salim	Nabatyieh	36	0	30	6	1	2	U	72	2,00	750	D	OO + ALTRO NON OLIVICOLO	NO			SI COMPRANO LE SANSE							OO 1 11	OO 1 11	MdA 16			T POTAT
13	Deir Aamar	Minnieh Dannieh	16	8	3	5	1	9	SI	200	12,50	500 - 600	D	OO + sap.	SI	NO	SI	SI	NO	SI	M	NO	OO 1 11	OO 1 11	MdA 16	OO 1 10	MdA 16	OO 1 11		
14	Darbashtar	Koura	16	8	8	0	1	5	U	400	25,00	400 - 500	SI	OO	SI	SI	SI	SI	SI	SI	M	SI	USAID 16	MdA 16	USAID 17	UDAID MdA 16	UDAID MdA 16	UDAID MdA 16		M

(1) DUNUM (1000 M2 O 1/10 HA) (2) AV: ACQUE DI VEGETAZIONE (3) GESTIONE COOP. (GC) / MARKETING (M) / TECNICA (T) (4) D: DIMINUITO - U: UGUALE (5) Si menziona l'ultima AT ricevuta per ogni tema, ente offerente e l'anno in cui è la AT è stata effettuata

(6) sap. = sapone; potat = potatura; OT = olive da tavola

33	Ismail Hotteit	Doueir/Nabatyieh	NO	6	NO	SI	NO	SI	SI	SI	NO	A	D	40	SI MDA USAID	POTATURA/LOTTA INTEG.	TILLAGE MECC.	SI	COOP	NO	SI	IND	INOX	NO	M	NO
34	Muhammad Narar	Arab Salim/Nabatyieh	NO	3	NO	SI	SI	SI	SI	NO	NO	A	A		NO	NO	TILLAGE MECC.	NO	P	NO	SI		PLASTIC			
35	Abbas Farhat	Arab Salim/Nabatyieh	NO	4	NO	NO	NO	NO	SI	NO	NO	A	A		NO	LOTTA INTEG.	POT.MECC.	NO	P	NO	SI		INOX			
36	Sofwan El Dahibi	Deir Aamar/Minn. Dann.	NO	4,5	SI	SI	SI	NO	SI	SI	SI				NO	RACCOLT. MECCA.	RACCOGLI. MECC.	SI	COOP	SI	SI	IND	INOX/PLASTIC/VETRO	NO	M	NO
37	Mohammad El Dahibi	Deir Aamar/Minn. Dann.	NO	5	NO	SI	SI	NO	SI	SI	SI		D		NO	POTATURA/LOTTA INTEG.	RACCOGLI. MECC.	SI	COOP	NO	SI	IND	PLASTIC	NO	FARMER	SI
38	Montaha El Dahibi	Deir Aamar/Minn. Dann.	SI	5	NO	SI	NO	NO	SI	SI	SI		A		NO	FERTLIZ.	RACCOGLI. MECC./ATOMIZZATORE	SI	COOP	NO	NO	IND	PLASTIC	NO	M	NO

(1) MeA: MACCHINARIA E ATTREZZATURA

(2) M/P : MERCATO / PRODUTTORE

ANNEX 6 LIST OF PARTICIPANTS TO WORKSHOPS FOR THE FINAL REPORT PRESENTATION

12 SEPTEMBER 2017, MINISTRY OF AGRICULTURE, BEIRUT (LEBANON)		
NAME	**QUALIFICIATION**	**ORGANIZATION**
Valerio Giorgio	First Secretary	Italian Embassy
Donatella Procesi	Director	AICS Beirut
Dietmar Ueberbacher	Responsible for Agriculture projects	AICS Beirut
Majida Mcheik	Ministry councillor (focal point in the frame of the evaluation)	MoA
Lama Haidar	Dir. Plant Protection (OO 2 coordinator)	MoA
Fatima Hassan	Dir. EEA	MoA
Charles Zarzour	Plant Protection (OO 1 national coordinator)	MoA
Sylvana Gerges	Dir. Plant Protection	MoA
Amal Salibi	Head of economic studies service	MoA
Mona Siblini	Dir. Plant production	MoA
Rania Hayek	Head of import/export quarantine service	MoA
Mariam Eid	Resp. Dir. Agroindustry	MoA
Lamia El Tawm	Head of projects and programs service	MoA
Eustachio Dubla	AGRONOMIST	IAM Bari
Salwa Es Sakhi	Project manager Oil 3	IAM Bari
Lama Bashour	Administrator	ECOCENTRA
Daniela Antonacci	Evaluator, Evaluation service coordinator	TIMESIS
Massimo Canossa	Evaluator, Team Leader evaluation	TIMESIS

22 SEPTEMBER 2017, MINISTRY OF FOREIGN AFFAIRS, ROME (ITALY)		
NAME	**QUALIFICATION**	**ORGANIZATIONS**
Laura Aghilarre	Head Office III	MAECI - DGCS
Mauro Ghirotti	Technical coordinator	AICS
Domenico Bruzzone	Programme Evaluation	AICS
Lorna Beretta	Civil servant	AVSI
Eustachio Dubla	Agronomist	CIHEAM BARI
Alberto Dragotta	Agronomist	CIHEAM BARI
Maura Viezzoli	Civil servant	CISP-LINK/CCV
Giosue' Consiglio	Administrative, accounting and consular officer	DGAP VIII
Grammenos Mastrojeni	Ambassador Adviser	DGCS
Francesco De Stefani	Councillor	DGCS 3
Angelo Ferricelli	Administrative, accounting and consular officer	DGCS 4
Donatella Genzano	Administrative, accounting and consular collaborator	DGCS 4
Valerio Giomini	Secretary of Legation	DGCS 5
David Michelut	Manager	DGCS Internal Audit
Daniela Tonon	Secretary of Legation	DGCS I
Maria Letizia Zamparelli	Administrative, accounting and consular officer	DGCS UNITA'
Elena Casciaro	Civil servant	ICU
Carlo Ponzio	Evaluator	TIMESIS
Daniela Antonacci	Evaluator, Evaluation service coordinator	TIMESIS
Massimo Canossa	Evaluator, Team Leader	TIMESIS
Gianni Vaggi	Full Prof. of Economy	University of Pavia

ANNEX 7 LOGICAL FRAMEWORKS OF THE PROJECTS

OO 1 E OO 2 OIL COMPONEN

	OLIO DEL LIBANO 1 (OO 1) **SOCIAL AND ECONOMIC SUPPORT FOR THE FAMILIES OF PRODUCERS IN OLIVE-GROWING MARGINAL REGIONS IN LEBANON (AID 8241)**		**OLIO DEL LIBANO 2 (OO 2)** **NATIONAL PROGRAMME FOR THE IMPROVEMENT OF OLIVE OILS QUALITY** **(OIL COMPONENT AID 9527)**	
	Intervention logic	**Indicators**	**Intervention logic**	**Indicators**
GENERAL OBJECTIVE	Improving the economic conditions of the Lebanese olive growers through actions of support for the olive industry, in terms of agronomy and environment, as well as the promotion and development of productive and human resources.	Improved income of agricultural households.	To contribute to enhance the food security in the country through the requalification of agriculture productions in line with international standards.	
OBIETTIVI SPECIFICI	1) Supporting individual olive growers to increase the quantity of their production and improve its quality, preserving the environment and reducing the production costs. 2) Reinforcing and stimulating management and planning activities of existing olive cooperatives/groups of targeted producers in poor olive-growing regions in Lebanon, through training, technical assistance and subsidies in technical means "*sub condicio*". 3) Promoting the products and sub-products in the olive industry by ensuring the sale of the production.	Number of groups/cooperatives assisted by the project. Number of grants assigned. Production increased by 20%. The acidity of the oil is decreased at least 0.3. Reducing production costs by 25%. Number of cooperatives assisted by the project. Net benefit of cooperatives assisted and financed by the project. Number of analysis, olives, compost.	Qualitative and quantitative improvement of the production of olive oil (OO) in four productive regions in the country in line with European commercial standards and the establishment of a National Laboratory for the certification of the high quality OO.	Increase of at least 10% of oil exports produced in the four regions concerned by the project. Improvement of the chemical and organoleptic characteristics of at least 20% of the quantity produced of virgin olive oil and extra virgin olive oil in the four selected regions (Koura, Batroun, Chouf, Nord Bekaa)
EXPECTED RESULTS 1	Selected local technicians (from Cooperatives, Ministry of Agriculture, and NGOs) and trained in Lebanon and/ or in Italy.	N. stages in Italy (Total 72 weeks) N. training in Lebanon N. technicians selected and trained local N. local consultants selected and trained	Public divulgation network of the MoA in 4 provinces in the country (Chouf, Batroun, Khoura, North Bekaa) is updated and strengthened	MoA agri-centres provide TA
2	Preliminary study for the selection of cooperatives/target groups.	N. investigations carried out N. cooperatives/groups surveyed		

3	Training and technical assistance on production practices to producers and management to cooperatives/farmer groups.	20% increase in quantities produced oil/ olives/Acidity of olive oil at least reduced by 0.3%. Reduce production cost by 25%. 150 technical training received by the beneficiaries. 600 technical visits to individual / group. 10 demo field made. N. of specific training on the management of cooperatives / groups realized.	The productive capacities of the OO farmers and of the oil-press and the management skills of the cooperatives in the 4 provinces are improved	10% of increase in agriculture production
4	Youth employed as professionals in the olive chain production.	N.12 training on the mechanical pruning of olive N. 12 training for olive nursing N. 12 training for the mechanical harvesting.		
5	Valorise olive production chain by-products (lamp oil/ soap, vegetation water, pomace and pruning wood).	N. site for composting implemented N. tons of pomace used for compost N. tons of vegetation water use as fertilizer/ herbicide natural N. tanks adapted and used for the distribution of vegetation water on the soil.		
6	Promote olive chain products and by-products (oil, olives, soap, compost, etc.) in Lebanon and/ or abroad and sensitize the consumer.	A promotional unit established in Beirut N. of schools and students involved in the awareness campaign N. 6 appearances on the media. N. 4 participations forum / exhibition / panel of local oil N. promotional initiatives local / regional	Risult 3: OO (of Lebanon) certificated according to international standards (chemical and organoleptic characteristics) through news and updated methodologies is produced.	improvement of the chemical and organoleptic characteristics of al-minus 20% of the quantity produced.
7	Provide specific subsidy for cooperatives/ groups of producers.	N. cooperatives financed Average amount of funding for cooperative / group N. mills renovated N. shops soap made / refurbished N. storage units made / refurbished N. packaging units made / refurbished N. centers of production of table olives realized/restructured		

8	Valorise quality of work and increase rural women revenue	N. training on table olives N. training for the production of soap N. training on packaging, design and decoration N. cooperatives participated by women		
9	Sensitization and dissemination of the results.	N. 2 national workshops N. 2 brochures about the project's activities N. appearances on TV of the project video Project web site online		

OO 2 PHYTOPLASMA COMPONENT

NATIONAL PROGRAM FOR THE IMPROVEMENT OF OLIVE OIL QUALITY AND ACTIONS TO TACKLE THE DIFFUSION OF STONE FRUIT PHYTOPLASMA AID 9527 PROJECT

	INTERVENTION LOGIC	INDICATORS
GENERAL OBJECTIVE	To contribute to the enhancement of food security in the country by promoting national actions aiming to fight the spread of phytopathology that threat the productivity of drupes	
OBIETTIVO SPECIFICO	Provide the Lebanese ministry of Agriculture with technical tools for monitoring phytopathology that threat the national production of the drupes, especially almond, and develop the research on the insect vector of the "*Candidatus phytoplasm Phoenicium*"	Eradication of the infected plants and public subsidies to the farmers (substitution of cultivation and/or economic subsidies). Set up of a permanent monitoring system for the control of the illness diffusion
RESULT 4	A national GIS in order to monitor the spread of the illness between the orchard and in plant nurseries is put in place	Georeferenced national system including historical data on the spread of the disease
RESULT 5	A diagnostic protocol to control the illness is in place and the research on the insect vectors and secondary guests is completed	Number of new cases of the disease identified through the diagnostic protocol. % of positive samples on identified insects.
RESULT 6	The monitoring of the spread of the illness on national level including the plant nurseries in the country is completed and the farmers, technical personnel of the MoA and plant nurseries personnel have been trained	At least 100 trained nurses on the diagnosis of the disease Number of new cases of symptomatic plants reported by farmers. Number of new sites affected by phytoplasma and epidemiology of the disease after eradication.

EULEBPOT: ACHIEVING EUROPEAN STANDARDS FOR QUALITY CONFORMITY OF POTATO PRODUCTION (AID N. 9491)

N°	INTERVENTION LOGIC	INDICATORS	SOURCES OF INFORMATION	ASSUMPTIONS
GENERAL OBJECTIVE	Increasing stakeholders' income and food security by fostering potato quality production through application of good practices and proper varieties fulfilling the Lebanese-EU association agreement	Quantity of marketed potatoes complying with EU quality standards	Project report Official National Agriculture Statistics	No international issues preventing the export of Lebanese potatoes. Socio political conditions stable. MoA will to implement and support potato quality improvement.
SPECIFIC OBJECTIVE	Increasing sustainable quantity and quality of potato production in Lebanon, in order to comply with EU standards for export	X Tons of exported potato abroad to EU; X Tons of Improved quality potato produced	Project report Regional Extension Offices report Custom report Official statistics	Reiterated will of the Government to improve and increase the amount of good quality and healthy potato association agreement with EU stays in force A quota of high quality potato is allowed to be imported in Europe Stakeholders motivated to improve the potato quality.
R0	Management and Coordination	N 1 Office operational in Beirut N 2 Regional offices operational N 1 IAMB Project Coordinator N 1 MoA Project Coordinator N 2 Steering committee meetings N 1 Office equipped and operational N 1 Project car	Minutes of meetings SC Minutes of meetings Project report	No administrative constraints Italian funds available Local involved administrations collaborate Logistic support Car available Steering committee operational and Memorandum signed
R1	A legislative framework for potato phytosanitary status is setup and operational.	N 1of amendments to national law N 200 of Survey and procedure manuals printout N 200 Import/export manuals printout	Presence list Analyses Report Minutes of meetings Project report	Personnel motivate. Available cars. Logistic available Planning unit operational Elaboration of amendments in legal terms proceeds fast Decisions are applied fast

R2	A dedicated phytosanitary field control is setup and operational.	N. 2 of technicians trained on laboratory procedures and employed; N. 2 of import-export inspectors trained on survey procedures; N of kits distributed; N 4.000 analyses on Brown rot and Ring rot Detection; N 2,200 of technical visits.	Inspectors' Report Training Report Project Report Analyses records	Stakeholders motivated LARI personnel motivated MoA Personnel motivated Cars available No Administrative constraints
R3	A monitoring and traceability network system is setup and operational.	N 8of farmers applying quality practices; N 2 of warehouse applying quality procedures; N 8 of exporters applying quality procedures; N 4 of technical workshops; N 8 of farmer field record sheets distributed and filled; N 160 of technical visits. N 1 format conceived and distributed N 2 of meeting among MoA and Italian Border officers N 1 traceability software	Project Report Technical assistance records Minutes of Meeting Mission report Presence list Certificates for export	All Lebanese stakeholders interested in quality improvement Cars available Logistic available Farmers available to fill record sheets LARI, MoA, NPPO Personnel motivated Software sharing is possible fast
R4	Technical assistance for quality improvement is assured.	N. 4 Awareness workshops organized in main potato producing areas; N. 8 of demonstration plots implemented among pilot leader farmers.	Presence list Project Report Mission report Demo plot report	Technical support from MoA granted Personnel motivated Farmers available to fill record sheets Participatory choice of demo plot Cars available and operational
R5	Visibility and communication	N 1 project brochure N 2 National Seminars	Project report Brochures Presence list	Print house available

ALLEGATO N. 1

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

Ufficio IX

Sezione Valutazione

TERMINI DI RIFERIMENTO PER LA VALUTAZIONE INDIPENDENTE

LIBANO
VALUTAZIONE DI TRE PROGRAMMI AGRICOLI

AID N. 8241 – 9527 - 9491 -

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

TITOLO DEL PROGETTO	***"Sostegno socioeconomico per le famiglie delle regioni olivicole marginali"*** AID N. 8241
LUOGO DEL PROGETTO	Libano
LINGUA DEL PROGETTO	Italiano e Inglese
DURATA	*3 anni*
BUDGET TOTALE	EURO 4.095.758,00
Finanziamento a dono	EURO 3.299.258,00
Contributo del Governo libanese	EURO 795.800,00
ORGANISMO ESECUTORE	CHEAM – IAM di Bari

TITOLO DEL PROGETTO	***"Programma nazionale per il miglioramento della qualità dell'olio d'oliva e azioni di contrasto alla diffusione del fitoplasma delle drupacee"*** AID N. 9527
LUOGO DEL PROGETTO	Libano
LINGUA DEL PROGETTO	Italiano e Inglese
DURATA	*1 anno*
BUDGET TOTALE	EURO 2.105.600,00
Finanziamento a dono al Governo	
Art. 15 Reg. L. 49/87	EURO 1.775.400,00
Contributo del Governo libanese	EURO 330.200,00
ORGANISMO ESECUTORE	Ministero dell'agricoltura libanese

TITOLO DEL PROGETTO	***"Raggiungimento di standard europei di qualità per la conformità della produzione di patate in Libano"*** AID N. 9491	
LUOGO DEL PROGETTO	Libano	
LINGUA DEL PROGETTO	Italiano e Inglese	
DURATA	*2 anni*	
BUDGET TOTALE	EURO	582.114,00
Contributo volontario al CHIEAM-IAMB finalizzato al progetto	EURO	400.000,00
Contributo del Governo libanese	EURO	182.114,00
ORGANISMO ESECUTORE	CHEAM – IAM di Bari	

"*Sostegno socioeconomico per le famiglie delle regioni olivicole marginali*" *AID 8241* - Valutazione ex-post

1. Obiettivi del progetto

L'obiettivo generale del progetto è il miglioramento delle condizioni economiche degli olivicoltori libanesi, attraverso azioni di sostegno alla filiera oleicola di natura agronomica, ambientale, di promozione e di valorizzazione delle risorse umane e produttive.

Tre sono gli **obiettivi specifici** che il progetto si è prefisso:

1. sostenere e organizzare i singoli olivicoltori ad accrescere la loro produzione in qualità e in quantità nel rispetto dell'ambiente e a ridurre i costi di produzione;
2. rinforzare e dinamizzare le attività di gestione e pianificazione delle cooperative olivicole esistenti e i gruppi di produttori nelle regioni olivicole povere, attraverso la formazione, l'assistenza tecnica e sovvenzioni in mezzi tecnici "sub condicio";
3. promuovere i prodotti della filiera e i loro sottoprodotti assicurando il conseguimento della produzione.

Il progetto, con un contributo a dono in sostegno del settore olivicolo-oleicolo, ha lo scopo di favorire lo sviluppo socio-economico delle municipalità rurali, dove le famiglie vivono in condizioni economiche critiche.

In alcune regioni marginali del Libano, il settore della coltura dell'olivo rappresenta la sola forma di sussistenza della popolazione. Il settore, sebbene strategicamente importante, manca di strutturazione, di linee di utilizzo dei prodotti e dei sottoprodotti e genera problemi ambientali.

Nel dicembre 2004, il Governo libanese, attraverso il Ministero dell'Agricoltura, ha chiesto all'Italia un contributo per definire le linee di azione atte a migliorare le condizioni di vita delle popolazioni delle zone olivicole.

L'iniziativa intende affrontare i problemi tecnici del settore dell'olio d'oliva e le problematiche socio-economiche che rallentano lo sviluppo di tutta la filiera.

Il CIHEAM-IAM (*Centre Internationale de Hautes Etudes Agronomiques Méditerranéennes* – Istituto Agronomico Mediterraneo) è l'organismo esecutore del progetto, le cui attività mirano a organizzare gli operatori del settore, a sostenere i giovani e le donne, a rinforzare le cooperative agricole già esistenti, a sovvenzionare le necessarie tecnologie e a rinforzare i servizi di assistenza tecnica esistenti, a sostegno degli interlocutori locali, in modo da organizzare adeguatamente i differenti processi di produzione della filiera e valorizzare i prodotti e i relativi sottoprodotti, nel rispetto dell'ambiente e con la riduzione dei costi sociali.

I **risultati attesi** sono nove:

- selezione di tecnici locali, tra cooperative, Ministero dell'Agricoltura, ONG, e loro formazione in Libano e Italia;
- studio preliminare per la selezione di cooperative/gruppi bersaglio;
- formazione e assistenza tecnica agricola per produttori e formazione per la gestione delle cooperative;
- impiego dei membri delle cooperative come professionisti della filiera olivicola;

- valorizzazione dei sottoprodotti della filiera (olio lampante/sapone, acqua di vegetazione, sansa e residue di potatura);
- promozione dei prodotti e sottoprodotti della filiera (olio, olive, sapone, compost, ecc.) in Libano e all'estero, anche attraverso campagne informative;
- sostegno alle cooperative e a gruppi di produttori;
- valorizzazione del lavoro e aumento del reddito della donna rurale;
- sensibilizzazione e diffusione dei risultati.

La documentazione di base del progetto da valutare, sarà allegata ai Termini di Riferimento.

Nella fase di *Desk Analysis*, potrà essere fornita altra documentazione.

2. Scopo della valutazione

La valutazione dovrà accertare se e in che misura le attività siano state realizzate in coordinamento e secondo il principio della complementarietà e in che misura le azioni del progetto siano state coerenti con le politiche, le strategie e i programmi nazionali del Governo locale.

La valutazione dovrà esaminare i risultati raggiunti dal progetto e pervenire a un giudizio generale sul grado in cui le strategie progettuali abbiano contribuito al raggiungimento degli obiettivi: organizzazione e sostegno ai singoli olivicoltori al fine di accrescere la loro produzione in qualità e quantità, nel rispetto dell'ambiente; sostegno e rinforzo delle attività di pianificazione e gestione delle cooperative olivicole esistenti e dei gruppi di produttori bersaglio nelle regioni olivicole povere del Paese, attraverso la formazione, l'assistenza tecnica e le sovvenzioni di mezzi tecnici; promozione dei prodotti della filiera e dei sottoprodotti.

La valutazione dovrà evidenziare le lezioni apprese e fornire raccomandazioni. La valutazione dovrà anche rilevare le buone pratiche e le *good lessons* da usare per la disseminazione dei risultati del progetto.

La valutazione del progetto *"Sostegno socioeconomico per le famiglie delle regioni olivicole marginali"* dovrà accertare in che misura gli obiettivi siano stati raggiunti e in che misura l'iniziativa sia stata rilevante, efficiente, efficace negli obiettivi e nel sostegno alle cooperative olivicole esistenti e dei gruppi di produttori bersaglio, nonché all'aumento dell'*income* delle famiglie di agricoltori e delle filiere nelle aree marginali del Libano.
La valutazione darà un giudizio sull'approccio strategico del progetto, basato sulla stretta collaborazione tra operatori privati locali, municipalità, consulenti esteri e esperti del locale Ministero dell'Agricoltura.

Nello specifico, il *team* di valutazione baserà il proprio esercizio sulla base delle indicazioni di sotto riportate:

- verificare se e in che misura il progetto ha promosso e rilanciato le attività redditizie nel settore olivicolo, attraverso il sostegno alle famiglie di produttori della filiera;
- esaminare se e in che misura il progetto ha sostenuto e valorizzato il lavoro delle donne rurali, contribuendo all'innalzamento del reddito;
- analizzare se e in che misura il progetto ha rafforzato le capacità gestionali e potenziato le capacità di coordinamento delle Istituzioni coinvolte nelle attività di progetto e pronunciarsi sulla strategia d'insieme e sulle azioni che sono state intraprese;

- analizzare il grado di rafforzamento operativo dei tecnici e in che misura il progetto ha consolidato i servizi di assistenza tecnica esistenti;
- stabilire in che misura la formazione e l'assistenza tecnica sono state determinanti per l'innalzamento delle capacità tra i produttori, i gruppi e le cooperative della filiera olivicola;
- esaminare se la formazione e le sovvenzioni di mezzi tecnici "sub condicio" abbiano dinamizzato le attività di pianificazione e gestione delle cooperative e gruppi olivicoli esistenti;
- analizzare se e in che misura il progetto è riuscito a organizzare in modo adeguato i differenti processi di produzione della filiera e a valorizzarne i prodotti e i sottoprodotti;
- pronunciarsi sul grado in cui il progetto ha sensibilizzato i produttori della filiera ai temi ambientali
- pronunciarsi sull'adeguatezza del modello usato, in risposta alla specificità del contesto e stabilire se l'abbandono degli uliveti è sensibilmente diminuito
- stabilire se il progetto ha contribuito a relazioni commerciali sufficientemente stabili
- indicare una previsione di sostenibilità del progetto
- esprimere un giudizio sul livello di *ownership* raggiunto dal progetto.

Il *team* di valutazione potrà suggerire e includere altri aspetti congrui allo scopo della valutazione.

"*Programma nazionale per il miglioramento della qualità dell'olio d'oliva e azioni di contrasto alla diffusione del fitoplasma delle drupacee*" – *AID 9527* - Valutazione finale

1. Obiettivi del progetto

L'obiettivo generale del progetto è contribuire al miglioramento della sicurezza alimentare del Paese attraverso la riqualificazione di produzioni agricole secondo standard internazionali e promuovere azioni nazionali di contrasto alla diffusione di fitopatologie che minacciano la produttività delle drupacee.

Due sono gli **obiettivi specifici** che il progetto si è prefisso:

- migliorare qualitativamente e quantitativamente la produzione d'olio di oliva in quattro regioni produttive del Libano, secondo standard commerciali europei, e istituire un laboratorio nazionale di certificazione dell'olio di oliva di qualità ;
- dotare il Ministero dell'agricoltura libanese di strumenti per il monitoraggio delle fitopatologie che minacciano la produzione nazionale delle drupacee, sviluppando la ricerca sull'insetto vettore del *Candidatus Phytoplasma Phoenicium*;

Il progetto, con un contributo a dono al governo libanese, ha lo scopo di sostenere il programma nazionale per il miglioramento della qualità dell'olio di oliva e di attivare azioni di contrasto alla diffusione del fitoplasma degli alberi da frutto, che ha severamente colpito le coltivazioni di mandorle in diverse aree del Paese.

L'iniziativa è gestita direttamente dal Ministero dell'agricoltura e si sviluppa su due assi, intervenendo su due produzioni importanti per lo sviluppo del settore agricolo.

In particolare il progetto risponde alla richiesta del Ministero dell'agricoltura di:

- estendere gl'interventi di miglioramento della qualità dell'olio di oliva a quattro regioni di produzione olivicola non incluse nel progetto "Supporto socio economico alle famiglie dei produttori di olive nelle regioni marginali del Libano", realizzato dallo IAM di Bari. La componente "Olio del Libano", che interviene sul miglioramento della qualità della coltura, continua la formazione e prevede l'istituzione del Laboratorio nazionale, secondo standard europei, per la certificazione della qualità dell'olio di oliva degli olivicoltori libanesi;
- fornire strumenti tecnici per studiare e monitorare l'epidemiologia del fitoplasma delle drupacee in tutto il territorio del Libano. Tale componente prevede attività di ricerca, coordinate dalla ONG AVSI, in collaborazione con le Università libanesi e quelle italiane di Milano e Torino.

I **risultati attesi** per la componente 1. sono:

- rafforzare e aggiornare la rete di divulgazione pubblica del Ministero dell'agricoltura in 4 province: Chouf, Batroun, Khoura e Nord Bekaa;
- migliorare le capacità produttive degli olivicoltori e dei frantoiani e innalzare le capacità gestionali delle cooperative nelle quattro province scelte;
- tramite l'aggiornamento metodologico, produrre olio di qualità certificata secondo standard internazionali - caratteristiche chimiche e organolettiche -.

I **risultati attesi** per la componente 2. sono:

- realizzare un *Geographic Information System – GIS* nazionale per il monitoraggio della diffusione della malattia nei frutteti e nei vivai;
- definire di un protocollo diagnostico della malattia e finalizzare la ricerca sugl'insetti vettori e ospiti secondari;
- Eseguire il monitoraggio della diffusione della malattia a livello nazionale, includendo i vivai. Formare i vivaisti, gli agricoltori e il personale tecnico del Ministero dell'agricoltura.

La documentazione di base del progetto da valutare, sarà allegata ai Termini di Riferimento.

Nella fase di *Desk Analysis*, potrà essere fornita altra documentazione.

2. Scopo della valutazione

La valutazione dovrà accertare se e in che misura le attività siano state realizzate in coordinamento e secondo il principio della complementarietà e in che misura le azioni del progetto siano state coerenti con le politiche, le strategie e i programmi nazionali del Governo locale.

La valutazione dovrà esaminare i risultati raggiunti dal progetto e pervenire a un giudizio generale sul grado in cui le strategie progettuali abbiano contribuito al raggiungimento degli obiettivi: miglioramento quali-quantitativo della produzione dell'olio di oliva; raggiungimento degli standard europei di produzione olivicola; monitoraggio delle fitopatologie legate alle drupacee.

La valutazione dovrà evidenziare le lezioni apprese e fornire raccomandazioni. La valutazione dovrà anche rilevare le buone pratiche e le *good lessons* da usare per la disseminazione dei risultati del progetto.

La valutazione del progetto *"Programma nazionale per il miglioramento della qualità dell'olio d'oliva e azioni di contrasto alla diffusione del fitoplasma delle drupacee"* dovrà accertare in che misura gli obiettivi siano stati raggiunti e in che misura l'iniziativa sia stata rilevante, efficiente, efficace negli obiettivi e nel miglioramento della produzione e qualità dell'olio di oliva, nel miglioramento della competenza dei servizi di supporto agli agricoltori del Ministero dell'agricoltura, nell'innalzamento delle competenze delle cooperative olivicole esistenti e dei gruppi di produttori, nonché nel consolidamento delle competenze relative alla diffusione del fitoplasma delle drupacee in Libano.
La valutazione darà un giudizio sull'approccio strategico del progetto, basato sulla collaborazione tra operatori privati locali, le municipalità, i consulenti esteri e gli esperti del locale Ministero dell'Agricoltura.

Nello specifico, il *team* di valutazione baserà il proprio esercizio sulla base delle indicazioni di sotto riportate:

- verificare se e in che misura il progetto ha promosso e rilanciato il sistema integrato per la tracciabilità della produzione di qualità dell'olio di oliva;
- stabilire in che misura la formazione e l'assistenza tecnica sono state determinanti per l'innalzamento delle capacità tra i produttori, i gruppi e le cooperative della filiera olivicola;
- stabilire se il progetto ha contribuito a relazioni commerciali sufficientemente stabili;

- analizzare se il progetto ha innalzato il livello generale delle conoscenze tecniche degli agricoltori e ha colmato la carenza di assistenza tecnica di campo riguardo la scelta dei fitofarmaci, della tempistica dei trattamenti, della gestione dei frutteti e dei vivai;
- dare un giudizio sugli strumenti di monitoraggio adottati a livello nazione per contrastare la diffusione del fitoplasma;
- dare un giudizio sull'importanza o meno dell'attività di ricerca svolta dalle università libanesi e italiane con le Istituzioni di riferimento, riguardo il contrasto della diffusione del fitoplasma;
- analizzare se e in che misura il progetto ha rafforzato le capacità gestionali e potenziato le capacità di coordinamento delle Istituzioni coinvolte nelle attività di progetto e pronunciarsi sulla strategia d'insieme e sulle azioni che sono state intraprese;
- analizzare il grado di rafforzamento operativo dei tecnici e in che misura il progetto ha consolidato i servizi di assistenza tecnica esistenti;
- indicare una previsione di sostenibilità del progetto;
- esprimere un giudizio sul livello di *ownership* raggiunto dal progetto.

Il *team* di valutazione potrà suggerire e includere altri aspetti congrui allo scopo della valutazione.

"*Raggiungimento di standard europei di qualità per la conformità della produzione di patate in Libano"*
AID 9491- Valutazione ex-post

1. Obiettivi del progetto

L'obiettivo generale del progetto è il miglioramento della sicurezza fitosanitaria e l'aumento del reddito dei produttori di patate, attraverso l'applicazione di procedure e protocolli appropriati, così da armonizzare i regolamenti libanesi agli standard dell'Unione europea.

L'obiettivo specifico che il progetto si è prefisso è l'aumento della quantità e qualità della produzione di patate del Libano, anche ai fini dell'esportazione.

Il progetto, con un contributo volontario al CHIEAM-IAMB in sostegno del settore produttivo delle patate, ha lo scopo di migliorare la qualità, la sicurezza fitosanitaria e la quantità della produzione delle patate, attraverso: il rafforzamento della rete libanese per il controllo fitosanitario, il rafforzamento del quadro legale e procedurale libanese; l'assistenza tecnica ai produttori di patate, attraverso la creazione di un laboratorio capace di monitorare e analizzare la sicurezza della patata libanese in accordo con gli standard europei.

Il settore, sebbene strategicamente importante, manca della necessaria armonizzazione del regolamento libanese agli standard dell'Unione Europea, che garantiscono il monitoraggio e il controllo della qualità durante la catena di distribuzione.

Nel luglio 2010, il Governo libanese, attraverso il Ministero dell'Agricoltura, ha chiesto all'Italia un contributo per sostenere azioni atte a migliorare le condizioni di vita delle popolazioni, attraverso il miglioramento della produzione delle patate libanesi.

Il CIHEAM-IAM (*Centre Internationale de Hautes Etudes Agronomiques Méditerranéennes* – Istituto Agronomico Mediterraneo) è l'organismo esecutore del progetto. Le attività mirano a organizzare la rete libanese per il controllo fitosanitario, a rafforzare il quadro legale e procedurale libanese, a fornire assistenza tecnica alle Istituzioni e ai produttori, attraverso la creazione di un laboratorio per il monitoraggio e la sicurezza alimentare e il *training on the job,* a sostegno di produttori locali.

I **risultati attesi** sono cinque:

- predisposizione di un quadro legislativo e procedurale per il controllo dello stato fitosanitario della patata del Libano, così da armonizzare le procedure libanesi a quelle dell'UE;
- predisposizione di piano operativo fitosanitario per l'indagine di campo sullo stato fitosanitario della produzione;
- predisposizione di un network per il monitoraggio e la tracciabilità, che connetta l'importazione dei semi alla produzione e all'export;
- assistenza tecnica per il miglioramento e controllo della qualità della produzione, ai fini di ottenere una maggiore competitività sui mercati esteri;
- sensibilizzazione e diffusione dei risultati del progetto.

La documentazione di base del progetto da valutare, sarà allegata ai Termini di Riferimento.

Nella fase di *Desk Analysis*, potrà essere fornita altra documentazione.

2. Scopo della valutazione

La valutazione dovrà accertare se e in che misura le attività siano state realizzate in coordinamento e secondo il principio della complementarietà e in che misura le azioni del progetto siano state coerenti con le politiche, le strategie e i programmi nazionali del Governo locale.

La valutazione dovrà esaminare i risultati raggiunti dal progetto e pervenire a un giudizio generale sul grado in cui le strategie progettuali abbiano contribuito al raggiungimento degli obiettivi: sostegno alle Autorità locali per il disegno e l'applicazione di procedure e protocolli appropriati, così da armonizzare i regolamenti libanesi agli standard dell'Unione europea; sostegno e rinforzo delle attività di monitoraggio e gestione della produzione, attraverso l'assistenza tecnica; aumento della quantità e della qualità della produzione di patate del Libano

La valutazione dovrà evidenziare le lezioni apprese e fornire raccomandazioni. La valutazione dovrà anche rilevare le buone pratiche e le *good lessons* da usare per la disseminazione dei risultati del progetto.

La valutazione del progetto *"Sostegno socioeconomico per le famiglie delle regioni olivicole marginali"* dovrà accertare in che misura gli obiettivi siano stati raggiunti e in che misura l'iniziativa sia stata rilevante, efficiente, efficace negli obiettivi e nel sostegno al Governo libanese riguardo la cornice legislativa e procedurale per raggiungere gli standard europei richiesti ai produttori ed esportatori della patata del libano.
La valutazione darà un giudizio sull'approccio strategico del progetto, basato sulla stretta collaborazione tra operatori privati locali, municipalità, consulenti esteri e esperti del locale Ministero dell'Agricoltura.

Nello specifico, il *team* di valutazione baserà il proprio esercizio sulla base delle indicazioni di sotto riportate:

- verificare se e in che misura il progetto ha promosso e rilanciato la produzione della patata del Libano;
- esaminare se e in che misura il progetto ha sostenuto i produttori e gli esportatori;
- analizzare se e in che misura il progetto ha rafforzato le capacità gestionali e potenziato le capacità di coordinamento delle Istituzioni coinvolte nelle attività di progetto e pronunciarsi sulla strategia d'insieme e sulle azioni che sono state intraprese;
- analizzare il grado di coinvolgimento dei tecnici del *Lebanese Agricultural Research Institute/LARI* e del *National Plant Protection Organization/NPPO* e stabilire in che misura il progetto ha consolidato i servizi di assistenza tecnica esistenti;
- stabilire in che misura l'assistenza tecnica è stata determinante per l'innalzamento delle capacità dei produttori di patate e degli addetti ai depositi;
- pronunciarsi sull'adeguatezza del modello usato, in risposta alla specificità del contesto e stabilire se e in che misura è aumentata la qualità, la produzione e l'esportazione della patata del Libano;
- indicare una previsione di sostenibilità del progetto;
- esprimere un giudizio sul livello di *ownership* raggiunto dal progetto.

Il *team* di valutazione potrà suggerire e includere altri aspetti congrui allo scopo della valutazione.

CRITERI E METODOLOGIA DELLA VALUTAZIONE

Utilità della valutazione

La DGCS colloca al primo posto tra i settori prioritari d'intervento l'Agricoltura e la Sicurezza alimentare, quale risposta alla povertà estrema e alla fame. L'azione della Cooperazione nel settore si è esplicitata in programmi atti a stimolare l'innovazione, la ricerca e tecniche innovative delle imprese agricole e della filiera alimentare; nonché nella valorizzazione delle tradizioni alimentari - considerati elementi culturali e d'identità locale – e nella difesa della bio-diversità e degli eco-sistemi in agricoltura.
Si precisa, quindi, che l'*Inception Report*, il Rapporto finale e il *Summary Report*, oltre all'approfondito esame di ciascuno dei tre progetti da valutare considerato singolarmente, dovranno fornire indicazioni d'insieme sugli interventi della DGCS, in campo agricolo in Libano.

La valutazione darà un giudizio indipendente sull'utilizzo delle risorse delle tre iniziative, che renda conto in modo trasparente dei risultati. Le conclusioni della valutazione saranno basate su risultati oggettivi, credibili, affidabili, validi e dovranno fornire alla Cooperazione italiana raccomandazioni utili e operative.

La valutazione, attraverso le lezioni apprese e le raccomandazioni, darà notizie utili atte a indirizzare al meglio i futuri finanziamenti di settore e a migliorare la programmazione politica dell'aiuto pubblico allo sviluppo. I risultati serviranno, inoltre, a dare elementi al Parlamento e all'opinione pubblica circa le attività di cooperazione svolte e i risultati conseguiti.

Gli esiti della valutazione saranno disseminati e studiati per conformare le politiche future. Le esperienze acquisite saranno condivise con le principali Agenzie di cooperazione.

Quadro analitico suggerito

I criteri di valutazione si fondano sui seguenti aspetti:

- **Rilevanza**: Il *team di valutazione* dovrà verificare in che misura il progetto tiene conto del contesto specifico, delle priorità e delle politiche del Paese e della DGCS. La valutazione stimerà in che misura gli obiettivi del progetto sono coerenti con le prerogative e le esigenze dei beneficiari. Nel valutare la rilevanza dell'iniziativa, si considererà: 1) in che misura gli obiettivi dell'iniziativa sono validi; 2) in che misura sono coerenti; 3) la percezione dell'utilità dei progetti da parte dei beneficiari.
- **Validità del *design* del progetto:** La valutazione esaminerà il grado di logicità e coerenza del *design* del progetto.
- **Efficienza:** La valutazione analizzerà se l'utilizzo delle risorse sia stato ottimale per il conseguimento dei risultati del progetto (*value for money*), indicando come gli *inputs* siano stati convertiti in *outputs*.
- **Efficacia:** La valutazione valuterà se l'approccio adottato sia strategico e misurerà il grado di raggiungimento degli obiettivi del programma. Nel valutare l'efficacia sarà utile: a) considerare se gli obiettivi, generale e specifico, siano stati chiaramente identificati e quantificati, b) verificare la coerenza delle caratteristiche progettuali con il relativo obiettivo generale e quelli specifici, c) verificare in che misura l'obiettivo generale sia stato raggiunto, d) analizzare i principali fattori che hanno influenzato il raggiungimento o meno degli obiettivi.
- **Sostenibilità:** Si valuterà la potenziale sostenibilità del progetto di produrre benefici nel tempo.

Metodologia

Il *team* di valutazione userà un *Results based approach* che comprenderà l'analisi di varie fonti informative e di dati derivanti dalla documentazione di progetto, relazioni di monitoraggio, interviste con le controparti governative, con lo *staff* del progetto, con i beneficiari diretti, sia a livello individuale sia aggregati in *focus groups*.

A questo scopo, il *team* di valutazione intraprenderà una missione in Libano.

Il metodo utilizzato dal *team* di valutazione dovrà tenere conto degli obiettivi che la valutazione si propone. A tale scopo la proposta tecnica dovrà:

1- elaborare la teoria del cambiamento

2- elaborare la matrice di valutazione

3- proporre le principali domande di valutazione e le domande supplementari

4- stabilire il livello di partecipazione degli *stakeholders* alla valutazione.

Le domande di valutazione sull'efficienza dovranno basarsi sul rapporto esistente tra *inputs* e *outputs*, quelle sull'efficacia sul rapporto tra *outputs* e *outcomes*, quelle sulla rilevanza sul rapporto tra risultati e impatto presunto. I dettagli dovranno essere rinvenibili nella Matrice di Valutazione, che sarà proposta dal *team* di valutazione, durante l'incontro per la presentazione dell'*inception report*.

***Data Collection*:**

Il *team* di valutazione userà un metodo di approccio multiplo che includerà l'esame della documentazione del progetto, l'analisi dei dati derivanti dalle attività di monitoraggio, le interviste individuali, i *focus groups* e la visita delle zone interessate dal progetto.

Validazione:

Il *team* di valutazione userà diversi metodi (inclusa la triangolazione) al fine di assicurare che i dati rilevati siano validi.

Coinvolgimento degli *stakeholders*

Sarà usato un approccio inclusivo, con un ampio numero di *stakeholders* e di *partners*.

Dovranno essere coinvolti i rappresentanti delle Istituzioni centrali e periferiche di riferimento e, soprattutto, i beneficiari del progetto:

- ✓ **Progetto *"Sostegno socioeconomico per le famiglie delle regioni olivicole marginali":***

- i tecnici e i divulgatori del Ministero dell'Agricoltura
- le Municipalità
- CNRS
- *Lebanese Agricultural Research Institute/LARI*
- ONG ICU
- i Gruppi e Cooperative oleicole delle regioni olivicole marginali
- gli agricoltori e frantoiani delle regioni olivicole marginali

- i/le giovani e le donne coinvolte nel progetto

- ✓ **"*Programma nazionale per il miglioramento della qualità dell'olio d'oliva e azioni di contrasto alla diffusione del fitoplasma delle drupacee":***

- i tecnici degli Uffici regionali di supporto del Ministero dell'Agricoltura
- le Municipalità
- IAM di Bari
- ONG AVSI
- le Università e istituti di ricerca libanesi (AUB, USEK, LU, LARI) e italiane (Facoltà di agraria di Milano – Di.Pro.Ve – e di Torino – Di.Va.P.R.A.)
- le cooperative oleicole, gli agricoltori e i frantoiani delle 4 regioni
- gli agricoltori dei frutteti e i proprietari dei vivai

- ✓ **Progetto "*Raggiungimento di standard europei di qualità per la conformità della produzione di patate in Libano":***

- i tecnici e i funzionari ai diversi livelli e dei diversi dipartimenti del Ministero dell'Agricoltura
- i ricercatori e i tecnici del *Lebanese Agricultural Research Institute/LARI*
- i tecnici del *National Plant Protection Organization/NPPO*
- le Municipalità
- gli agricoltori di patate e gli addetti ai depositi

Profilo del *team* di valutazione

Il servizio di valutazione dovrà essere svolto da un *team* di esperti valutatori (composto da almeno tre membri), con una documentata esperienza nel settore della valutazione dello sviluppo e nella conduzione di valutazioni. Nello specifico, i componenti del team dovranno possedere i requisiti minimi richiesti:

- Diploma di laurea triennale (tutti i componenti);
- Conoscenza di sviluppo rurale, filiere agricole e commercializzazione dei prodotti (almeno un componente);
- Conoscenza di gestione, sviluppo rurale e controllo di qualità (almeno un componente);
- Padronanza della lingua veicolare (tutti i componenti);
- Ottima conoscenza della gestione del ciclo del progetto e dei progetti di cooperazione allo sviluppo (almeno un componente);
- Documentata esperienza professionale in monitoraggio e valutazione di progetti di sviluppo (almeno un componente).

Prodotti dell'esercizio di valutazione.

Gli *outputs* dell'esercizio saranno:

- Un *Inception Report*, 20 giorni dopo il primo incontro con gli Uffici della DGCS.
- Un Rapporto finale, in formato cartaceo rilegato in brossura, 10 copie in lingua italiana e 10 copie in lingua inglese, e su supporto informatico in formato Word e Pdf (max 3Mb).

- Un *Summary Report* di max 20 pagine, 10 copie in lingua italiana e 10 copie in lingua inglese, comprensivo di quadro logico, griglia dei risultati per ciascun progetto e sommario delle raccomandazioni.
- Documentazione fotografica (in alta definizione) sulle iniziative valutate e loro contesto, a sostegno delle conclusioni della valutazione, fornita su supporto informatico.
- *Workshop* di presentazione del rapporto sui tre progetti presso la DGCS
- *Workshop* di presentazione del rapporto finale dei tre progetti, nel Paese.

Disposizioni gestionali, piano di lavoro

Desk Analysis	Esame della documentazione delle tre iniziative. Dopo la firma del contratto la DGCS fornirà al *team* di valutazione ulteriore documentazione. Il *team* incontrerà il personale della DGCS e altri soggetti chiave, che il *team* riterrà utile consultare per il completamento del quadro conoscitivo.
Inception report	Il *team* dovrà predisporre l'*Inception Report* con le domande di valutazione specifiche e dettagliate, i criteri e gli indicatori da utilizzare per rispondere alle domande, la catena di ragionamento logico per rispondere alle domande e il piano di lavoro delle fasi successive. L'*Inception Report* sarà soggetto ad approvazione da parte della DGCS.
Field visit	Il *team* di valutazione visiterà i luoghi delle tre iniziative, intervisterà le parti interessate, i beneficiari e raccoglierà ogni informazione utile alla valutazione. Il *team* di valutazione si recherà sul campo per un periodo orientativamente stimato di almeno quindici giorni (la durata effettiva sarà determinata dall'offerente).
Bozza del rapporto di valutazione	Il *team* predisporrà la bozza del rapporto di valutazione, che dovrà essere inviata, per l'approvazione da parte della DGCS.
Commenti delle parti interessate e *feedback*	La bozza del rapporto circola tra le parti interessate per commenti e *feedback*. Questi sono raccolti dalla DGCS e inviati al *team* di valutazione.
***Workshop* presso la DGCS**	Sarà organizzato un Workshop per la presentazione della bozza del rapporto di valutazione, per l'acquisizione di commenti e *feed back* da parte dei soggetti coinvolti nel programma, utili alla stesura del rapporto definitivo.
Rapporto finale	Il *team* di valutazione definirà il rapporto finale, tenendo conto dei commenti ricevuti e lo trasmetterà alla DGCS, per l'approvazione finale. Al rapporto saranno allegate le raccolte analitiche e complete dei dati raccolti ed elaborati, gli strumenti di rilevazione utilizzati (questionari etc.), i documenti specifici prodotti per gli approfondimenti di particolari tematiche o linee di intervento, le fonti informative secondarie utilizzate, le tecniche di raccolta dei dati nell'ambito di indagini ad hoc, le modalità di organizzazione ed esecuzione delle interviste, la definizione e le modalità di quantificazione delle diverse categorie di indicatori utilizzati, le procedure e le tecniche per l'analisi dei dati e per la formulazione delle risposte ai quesiti valutativi.
***Workshop* in loco**	Sarà organizzato un Workshop in loco per la presentazione alle Controparti del rapporto finale di valutazione. I costi organizzativi saranno integralmente a carico dell'offerente. Le modalità organizzative di massima del seminario dovranno essere illustrate nell'offerta del concorrente e concordate in tempo utile nel dettaglio con la DGCS.

FORMATO SUGGERITO DEL RAPPORTO DI VALUTAZIONE

Copertina	Il file relativo alla prima pagina sarà fornito dall'Ufficio IX della DGCS.
Lista degli acronimi	Inserire una lista degli acronimi.
Localizzazione dell'intervento	Inserire una carta geografica relativa alle arre oggetto dell'iniziativa.
Sintesi	Quadro generale che evidenzi i punti di forza e di debolezza, di max 4 pagine per iniziativa, con focus sulle lezioni apprese e raccomandazioni dei risultati dell'azione della Cooperazione in ambito agricolo nel Paese.
Contesto delle iniziative	- Situazione Paese (max 2 pagine) - Breve descrizione delle necessità che i progetti hanno inteso soddisfare - Analisi della logica delle iniziative - Stato di realizzazione delle attività di ciascun progetto
Obiettivo	- Tipo di valutazione. - Descrizione dello scopo e dell'utilità della valutazione.
Quadro teorico e metodologico	- Gli obiettivi della valutazione - I criteri della valutazione - L'approccio e i principi metodologici adottati - Fonti informative: interviste, *focus groups*, *sites visit* - Le eventuali difficoltà incontrate
Presentazione dei risultati	
Conclusioni	Le conclusioni dovranno includere un giudizio chiaro in merito a ciascuno dei criteri di valutazione (rilevanza, efficienza, efficacia, impatto, sostenibilità)
Raccomandazioni	Le raccomandazioni dovranno essere volte al miglioramento dei progetti futuri e delle strategie di settore della DGCS.
Lezioni apprese	Osservazioni, intuizioni e riflessioni generate dalla valutazione, non esclusivamente relative all'ambito del progetto, ma originate dai *findings* e dalle raccomandazioni.
Allegati	Devono includere i *ToRs*, la lista delle persone contattate e ogni altra informazione e documentazione rilevante.