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EVALUATION

Lebanon Industry Value Chain Development (LIVCD)

Project: Mid-Term Performance Evaluation

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Lebanon Industry Value Chain Development (LIVCD) Project: Mid-Term Performance Evaluation

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ACRONYMS

ADS	Automated Directives System
BBS	Beneficiary-based survey
BLC	Banque Libanaise pour le Commerce
CDCS	Country Development Cooperation Strategy
COP	Chief of Party
DAI	Development Alternative, Inc.
DEC	Development Experience Clearing house
DO	Development Objective
DCOP	Deputy Chief of Party
ET	Evaluation team
Eoi	Expression of interest
FGD	Focus Group Discussion
FTE	Full time equivalent
FTF	Feed the Future
FY	Fiscal Year (USAID Oct 1 to Sept 30)
GOL	Government of Lebanon
IM	Implementing Mechanism
IP	Implementing Partner
IR	Intermediate Result
KII	Key Informant Interviews
LARI	Lebanese Agricultural Research Institute
LIBNOR	Lebanese Standards Institution
LIVCD	Lebanon Industrial Value Chain Development
M&E	Monitoring and Evaluation
MFI	Micro-Finance Institutions
MTPE	Mid-term performance evaluation
MSME	Micro, Small and Medium Enterprises
NGO	Non-Governmental Organization
OBS	Observations
PIR	Project Intermediate Result
PIRS	Performance Indicator Reference Sheet
PMP	Performance Management Plan
PMSPL	Performance Management and Support Program for Lebanon
RF	Results Framework
SI	Social Impact
SOW	Scope of Work
STTA	Short-term technical assistance
USAID	United States Agency for International Development
USG	United States Government
Y4Q1	Quarter 1 of year 4

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EXECUTIVE SUMMARY

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The purpose of this mid-term performance evaluation is to provide a detailed evaluation of the Lebanon Industry Value Chain Development (LIVCD) interventions and adoption up to present, to provide recommendations for project improvement and moving forward to achieve project objectives.

Findings are expected to be used to improve the effectiveness and management of the project.

This evaluation is intended for USAID/Lebanon, specifically the Economic Growth Office, the Program Office, the Contractor and others at the discretion of the Mission.

Most important evaluation questions are:

- Are LIVCD project interventions appropriate for achieving Development Objective (DO) 2 as outlined in USAID/Lebanon's CDCS?
- To what extent has the value chain facilitation approach been adapted under LIVCD?
- To date, how have the LIVCD specific interventions addressed the identified competitive constraints and gaps of the selected value chains?
- To what extent has technical assistance, including training, addressed the needs of beneficiaries?
- What have been the primary achievements of LIVCD to date?
- To what extent has LIVCD been able to achieve project targets envisioned in the contract?
- What have been the barriers, if any, to efficient activity implementation as described in the work plan?
- To what extent has the project fulfilled the Mission's gender integration requirements (based on Gender toolkits)?
- How is the Contractor incorporating sustainable approaches into LIVCD implementation to ensure continued growth in the selected value chains after USG assistance is gone?

PROJECT BACKGROUND

Many Lebanese products and services suffer from a lack of competitiveness. The project aims to develop functional, competitive value chains to increase incomes of the rural population, including MSMEs.

The project has three main components: 1) an initial assessment of value chains which was intended to help the selection of value chains and to provide information to design interventions, 2) upgrading activities to increase the competitiveness of selected value chains by providing technical assistance, equipment and grants, 3) assistance in accessing value chain finance.

The following value chains were selected for eligible interventions: pome fruits, grape, stone fruits (avocado and cherry), olive oil, honey, processed food, rural basket (small livelihood diversification interventions) and rural tourism. As requested by USAID Lebanon, this evaluation focuses on all value chains, with the exclusion of Rural Basket.

EVALUATION DESIGN, METHODS AND LIMITATIONS

A mixed methods approach was used and it consisted in a desk review of available documents, a beneficiary-based survey, site visits to field interventions, interviews with key informants and focus group discussions.

A beneficiary-based survey (BBS) was required to address evaluation questions on the achievement of project targets. The survey was also used to validate or not the results reported by LIVCD M&E system.

The sample was made of 525 farmers, which were stratified by value chain and by governorate. The final number of respondents was 483. Given the wide variety of beneficiaries and of activities implemented in the rural tourism and processed foods value chains, beneficiaries in these two sectors were not part of the quantitative survey. A single questionnaire would have proved to be irrelevant to the majority of respondents of these two value chains. Moreover, the Feed-the-Future (FtF) sampling guide used to design the survey does not apply to rural tourism and process foods, which are not typical FtF areas of intervention.

Qualitative evaluation tools were also used and consisted in semi-structured interviews and focus groups. LIVCD staff, representatives of grantees, final beneficiaries and other informed stakeholders (e.g. representative of the ministry of agriculture, ministry of tourism, experts, etc.) were interviewed through such methods. In total the Evaluation Team (ET) held 69 separate interviews, along with two focus groups. Special attention was paid to cover the rural tourism and processed food sectors, which were not covered by the beneficiary based survey. In addition, the ET intentionally searched for female beneficiaries for semi-structured interviews, since the presence of female beneficiaries is low in the value chains that are covered by the beneficiary based survey.

LIVCD is a five-year project and the majority of interventions were on tree crops, which require at least three years to reach the production phase after planting and some additional years to reach full production capacity. The consequence is that many benefits could not be captured in the survey.

LIVCD reached the majority of beneficiaries through grants to cooperatives and private companies, and sub-contracted technical assistance. Cases where final beneficiary farmers interviewed during the survey were not aware that the services and equipment they received were from LIVCD limit the validity of attribution of changes to USAID.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Project interventions contribute to the Development Objective (DO) 2 of the 2014-2019 CDCS that advances inclusive economic growth. The activities conducted during the first year of the project were also coherent with the previous draft formulation of the DO2 that targeted the poorest segments of the Lebanese society.

The initial value chain assessment was useful to map stakeholders and to provide background information for the selected value chains. However, the initial assessments were of less value for the selection of the value chains to work on. This is because of flawed methodological procedures used for the final multi-criteria analysis that was supposed to guide the selection of value chains.

The value chain facilitation approach has been adopted through grants and technical assistance. The demand-driven approach through which grants are designed allowed the project to design interventions that in principle answer to the perceived needs of the beneficiaries. However, this same approach has made it difficult to promote interventions that are considered important by the project team for the value chain upgrade strategies, but that do not have grant applicants. This has been partially compensated by technical assistance interventions. The combined use of technical assistance and grants has been positive because these two intervention mechanisms have been used in a complementary way.

The project facilitation approach to develop the target value chains and to address competitive constraints and gaps has been more effective in some value chains than in others. More specifically, interventions in the pome fruits, olive oil, cherry, avocado and rural tourism have mainly targeted the upstream part of the value chain. The competitive constraints and gaps identified in the initial value chain assessments for the downstream part of these value chains are still unaddressed.

On the other hand, interventions in the honey and grape value chains have been designed in a more comprehensive way addressing the upstream and downstream aspects of the value chain. Moreover, in the grape value chain LIVCD has mainly played a facilitation role, since the greatest part of investments have come from farmers, who provided about 75% of investments in new orchards, whilst 25% were from USAID. In the honey value chain, LIVCD has been more interventionist, and where only 25% of investments in beehives are from beekeepers versus 75% being LIVCD's contribution.

One important competitive constraint of the olive oil value chain is the high production cost. The distribution of mechanical harvesters has strongly reduced harvesting costs, which represents the greatest part of production cost. Improvements in the quality of olive oil has been promoted through different interventions, however this does not necessarily translate in higher price for the farmer if market outlets are not properly addressed.

Interventions in the pome fruits were mainly channeled through the establishment of centers of services, which are supposed to provide technical assistance to farmers. The involvement of leading companies and traders in the pome value chain has been low.

In the grape value chain, effective coordination mechanisms have been promoted by involving leading export companies. In this way LIVCD has secured market outlets. The involved companies provide access to market and in some cases short-term loans for farmers. They also have agronomists to provide technical assistance when the project phases out. This is important because the project promoted planting of new varieties, which require agricultural techniques that are different from traditional practices.

The lack of strong partners has been an important limitation to developing effective interventions in the cherry value chain. Moreover, for security reasons LIVCD could not work in Aarsal, where, according to the initial Cherry VC Assessment (LIVCD, 2014), the cherry production is concentrated. One of the two grants in the cherry value chain does not seem very well targeted because beneficiary farmers have just a few trees of cherry (for them cherry production will never be a competitive enterprise or a substantial income generating activity).

LIVCD has strongly promoted avocado cultivation. In the next years, avocado production in the country is expected to double. Unless new market channels are created there is a risk that prices collapse. Trainings and technical assistance have been very important in avocado because technical knowledge of avocado is limited in Lebanon. Two main partners have been contracted and both are located in the South. The consequence is that farmers in the North will have nobody to turn to when they need technical assistance, and this may limit the sustainability of interventions in this value chain.

The majority of beneficiaries are in the honey value chain. Interventions on honey are designed in a comprehensive and holistic way because all aspects of the value chain have been addressed: queen bees rearing, honey production, harvest management, access to international markets and development of a new product regulation (which was approved by relevant institutions and which protects Lebanese beekeepers from imports). However, during the initial phase of the project (i.e. in 2013) the quality of beehives distributed was low and the delivery of hives was too late with respect to the harvest period (in 2014). Moreover, the relevance of some grants for small beekeepers is questionable. Recently LIVCD has taken remedial actions to improve the quality of procured beehives.

More than a quarter (26.9%, 130/483) of the surveyed beneficiaries stated that they made more profits in 2015 than 2014. Moreover, 27.9% (114/408) of beneficiaries experienced an increase in sales vs. 29.7% (121/408) who experienced a decrease in sales from 2014 to 2015. However, there is no reason to assume that the decrease in sales is due to the project, but rather to contextual factors such as the closing of the Syrian borders and bad weather conditions. Also, the percentage of farmers applying improved technologies or agricultural practices is relatively high (more than 70%), however about 40%

were applying improved technologies or practices before the project, thus only around 30% are applying the new technology following the LIVCD intervention.

Tree crops need three years before reaching the production phase, so the greatest part of benefits for interventions on avocado, cherry, grape, and pome fruits can only be assessed at a later stage.

In processed foods LIVCD has provided technical assistance and grants for a wide range of products. Interventions on freekeh and pickles are more effective because they have more backward linkages, thus indirectly benefitting more farmers.

In rural tourism LIVCD has spearheaded the development of the National Rural Tourism Strategy, which was officially approved by the government. This is a clear indicator of country ownership. In addition, the strategy puts rural tourism at the center of the government tourism policy. Various categories of beneficiaries have been involved in this sector. The highest potential income generating opportunities are for guest-house owners and guides. However, guest-house owners and guides represents a minority in the total number of beneficiaries of this sector.

A general gender assessment was developed, however the 13 assessments that were developed for each value chain address gender issues inconsistently, with almost all the reports lacking a gender mapping and dedicated gender analysis component. According to the project database, 18.5% of project beneficiaries are women. Food processing and rural tourism are not real value chains, however the inclusion of these two sectors among target value chains allowed LIVCD to strongly increase the number of women beneficiaries. In processed foods LIVCD included interventions tailored to women or women cooperatives through grants and equipment, which resulted in a better allocation of workforce in the production chain, additional income, and lower workload burden. Some value chains (i.e Cherries, Avocado, Pome fruits and Grapes) present a very low participation of women. This suggests that a gender component has not been systematically included in all activities.

Interventions aimed at promoting access to finance had limited success, since only a few MSMEs have actually submitted loan applications to financial institutions. According to KII, this is due to the fact that short-term loan opportunities are already available from traders and from input providers (who provide inputs on credit). Subsidized long-term loans are available from commercial banks. Moreover, according to the BBS, 78.9% (381/483) of beneficiaries reported that agricultural production is not their primary source of income. They are not characterized as “real” agricultural entrepreneurs and prefer to avoid taking risks to pay back loans, particularly amidst an unstable national economic and security context.

The majority of grant interventions have been channeled through cooperatives, which provide an efficient means for the Contractor to deliver interventions to a high number of beneficiaries, with relatively low coordination costs. However, some cooperatives were not very active before the grant and this casts doubt on the sustainability of technical assistance interventions channeled through cooperatives.

The capacity of cooperatives to provide marketing services is limited, which limits long-term successes. The majority of grants awarded to cooperatives are about distributions of beehives or of mechanical harvesters (these topics cover 67% of the number of grants awarded to cooperatives and 42% of the total awarded grant value). Given the nature of these grants the lack of marketing services provided by cooperatives will not represent a great problem for the majority of the grants. The quantity of honey that can be produced by the three or four hives distributed by the project per beekeeper can be easily sold by beekeepers through their personal network. Mechanical harvesters reduce production costs but do not increase quantity produced. In addition, mechanical harvesters are a simple-to-use technology that cooperatives can easily manage.

Barriers for an efficient management consisted in a slow process for grant submission and approval, in a weak capacity of the system used by LIVCD to differentiate the quality of expressions of interest (Eols) for grants, in the use of monitoring indicators that are not conducive to a proper assessment of project

progress, in a high turnover of key project staff, and in a lack of in-house expertise in beekeeping. Considering the amount of resources allocated for grants, LIVCD is clearly lagging behind with respect to grants commitment.

During the whole project life LIVCD can follow-up beneficiaries based only on two harvests (assuming the current project closure date September 2017). This may not be enough to develop harvests, post-harvest and market routines that are maintained in time.

Recommendations for the Contractor consist in numerous incremental changes for project activities to improve the effectiveness of delivered interventions, and in a greater involvement of private companies in the apple value chain.

Recommendations for USAID consist in providing a no-cost extension, plus including the Lebanese Agricultural Research Institute (LARI) among possible grant and TA recipients, and in the exclusion of non-additional costs in the estimation of costs share for grants.

I. INTRODUCTION

Three years following the launching of the Lebanon Industrial Value Chain Development project (LIVCD), the Contract Officer's Representative (COR) requested a mid-term performance evaluation for the LIVCD project.

The evaluation was conducted during April, May and June 2016. The main purpose is to provide a detailed evaluation of the LIVCD interventions and adoption up to present and to provide recommendations for project improvement and moving forward to achieve project objectives.

This mid-term performance evaluation is intended for USAID/Lebanon, specifically the Economic Growth Office, the Program Office, the Contractor and others at the discretion of the Mission.

The evaluation is expected to be used to inform decisions for the remaining life of the project. This evaluation is to provide recommendation on specific actions that should be taken by the Contractor before the end of the project to address gaps in addressing beneficiary needs, including any identified gender gaps, gaps in the value chain approach, any needed improvements in project management, and sustainability of value chain investments. It also provides recommendation on what management strategies or actions should be taken by USAID/Lebanon to ensure achievement of end-of-project results. More specifically, this work addresses the following evaluation questions (as defined in the Evaluation SoW):

Relevance:

1. Are LIVCD project interventions appropriate for achieving Development Objective (DO) 2 as outlined in USAID/Lebanon's CDCS?

Approach:

2. To what extent has the value chain facilitation approach been adapted under LIVCD?
3. To date, how have the LIVCD specific interventions addressed the identified competitive constraints of the selected value chains?
4. To what extent has technical assistance, including training, addressed the needs of beneficiaries?

Results:

5. What have been the primary achievements of LIVCD to date?
6. To what extent has LIVCD been able to achieve project targets envisioned in the contract?

Project Management:

7. What have been the barriers, if any, to efficient activity implementation as described in the work plan?

Gender:

8. To what extent has the project fulfilled the Mission's gender integration requirements (based on Gender toolkits)?

Sustainability:

9. How is the Contractor incorporating sustainable approaches into LIVCD implementation to ensure continued growth in the selected value chains after USG assistance is gone?

Recommendations:

10. What specific actions should be taken by the Contractor before the end of the project to address gaps in addressing beneficiary needs, gaps in the value chain approach, any needed improvements in project management, Sustainability of value chain investments and gaps in the empowerment and equality of women throughout the value chain?
11. What management strategies or actions should be taken by USAID/Lebanon to ensure achievement of end-of-project results?

2. PROJECT BACKGROUND

2.1. OVERVIEW OF THE PROJECT CONTEXT

Lebanon has significant natural resources and advantages, which include sizeable expanses of fertile soils, a multitude of micro-climates, capacity to produce early season fruits and vegetables, a close proximity to Gulf and European markets, abundant natural landscapes and heritage, ecological diversity, a multitude of religious and historical sites, a liberal business environment, a large entrepreneurial population, and a large Lebanese Diaspora.

However, many Lebanese products and services suffer from a lack of competitiveness. This is due in large part to the negative economic effects of fifteen years of war and civil strife. Traditional markets and value chains have been disrupted; both private and public sector investments have stagnated. The impact on rural areas has been particularly acute as it has been exacerbated by a general absence of public sector services such as agricultural extension. Many rural areas have as a result become increasingly marginalized and economically isolated.

Real GDP growth diminished in Lebanon from 10.3% in 2009 to 2.2%, 0.9% and 2.0% in 2012, 2013 and 2014 respectively. The contribution of agriculture value added to the GDP was 6.1%, 7.2% and 5.5% in 2012, 2013, and 2014 (World Bank data). The most recent data on labor employment indicate that the labor force in agriculture was 6.3% in agriculture in 2009 (Central Administration Statistics of Lebanon).

Two types of agriculture are predominant in Lebanon: commercial agriculture, using modern production and post-harvest techniques for commodities destined for export and domestic markets; and family agriculture, devoted to the preservation of cultural and family heritage.

Agriculture and agro-industry represented 8% of total exports in 2009, while in 2014 it amounted to 23.6% of the total value of Lebanese exports (COMTRADE). These values indicate the increasing importance of the agro-food sector among exports.

The agro-food sector dominates the rural economy, and involves activities from input supply to final consumption, and includes agricultural production, food processing and packaging, wholesaling, retailing, and food services.

Lebanon has a competitive advantage in both fresh fruit and vegetables and in agro-processing. The comparatively underdeveloped state of Lebanon's ecological, historical, and religious assets, suggests that additional opportunities to create rural wealth exist in rural tourism including agro-tourism.

When the project was designed the RfPs identified the following gaps constraining the capacity of rural value chain actors to compete in international or domestic markets: i) lack of extension services, ii) absence of municipal revenue to fund market infrastructure and therefore often a lack of it, iii) limited access to credit in many rural areas, iv), lack of market intelligence to inform decision-making and preserve capital, v) lack of transparency in value chain market information and transactions, vi) high production costs, vii) high transaction costs, viii) a general absence of appropriate post-harvest handling generating large crop losses, ix) lack of agricultural product sorting, grading, packaging, or cold chain facilities in some areas.

The economic potential of rural tourism is additionally constrained by a lack of adequate infrastructure and insufficient international awareness of the possibilities of rural historical, religious, eco- and agro-tourism in Lebanon.

2.2. THE LIVCD PROJECT

The United States Agency for International Development (USAID) signed the Lebanon Industry Value Chain Development (LIVCD) contract with DAI in September 2012 (No. AID-268-C-12-00001) for a total value of \$41,682,272. The five-year activity will run until September 30, 2017.

The project purpose is “Develop functional, competitive value chains to increase incomes of the rural population, including MSMEs”.

A functional value chain is defined in the contract as a competitive and inclusive value chain. Whereby, competitiveness can be measured by increase in sales, improvement in quality and productivity; and inclusiveness can be measured by the number of value chain participants including micro, small and medium enterprises (MSMEs), farmers and other organizations receiving assistance.

To achieve its objective, LIVCD collaborates with actors within the selected value chains by providing technical assistance, equipment, grants, and access to investment for value chain financing in order to overcome constraints to competitiveness and inclusiveness. The LIVCD activities are designed to achieve the following four LIVCD Intermediate Results (IRs):

- IR1: Increased access to markets in target value chains
- IR2: Increased business linkages in target value chains
- IR3: Increased productivity in target value chains
- IR4: Constraints to lending and investment reduced in target value chains.

The LIVCD contract SoW specifies that the Contractor is expected to undertake tasks under the following three components:

- 1) Conduct a complete assessment of the prospects for rural value chains in Lebanon based on secondary and primary market research, analysis of the current environment for value chains in Lebanon, and a reconciliation of market intelligence with the capacity of Lebanon’s rural sector to select the value chains for LIVCD intervention.
- 2) Undertake value chain upgrading activities to increase the competitiveness of selected Lebanese value chains that have the potential to raise incomes of the rural population, supply key markets, and increase export growth and/or the number of rural tourists.
- 3) Provide assistance in accessing value chain finance for producers and other value chain actors in the rural economy.

In May 2013, eight value chains were approved for inclusion in the project: i) Pome Fruits, ii) Stone Fruits (Cherries and Avocados), iii) Grapes, iv) Olive Oil, v) Rural Basket of Products (including honey, eggs, pine nuts and herbs), vi) Processed Foods, vii) Rural Tourism and Handicrafts, viii) Floriculture. In May 2014, LIVCD updated the floriculture value chain assessment to decide whether to include it in the LIVCD portfolio. Based on the results of the assessment, LIVCD with the approval of USAID, eliminated floriculture from LIVCD’s portfolio.

2.3. EVALUATION FOCUS

This mid-term performance evaluation (MTPE) examines the following value chains: i) Pome Fruits, ii) Stone Fruits (Cherries and Avocados), iii) Grapes, iv) Olive Oil, v) Processed Foods, vi) Rural Tourism. Rural Basket of Products is not assessed upon a specific request from the USAID Mission. This is because interventions under Rural Basket of Products were mainly about livelihoods diversification rather than development of competitive agricultural value chains. In addition, this MTPE assesses intervention on rural tourism but excludes the handcraft component, which was excluded from the LIVCD interventions following the recommendation of the 2014 RIG Audit Report.

3. EVALUATION METHODS AND LIMITATIONS

The ET used utilization-focused approach to ensure that the information generated by the evaluation is useful to USAID. The ET used the initial kick-off meeting to confirm USAID/Lebanon's goals and objectives and the type of information and insights that are most useful to USAID.

LIVCD is a wide-ranging program with an ambitious scope. The ET consisted of five experts, with wide experience in agricultural value chain development, rural tourism, statistics, project evaluations and operational research. The ET used a mixed methods approach consisting of a desk review of available documents, a beneficiary-based survey, site visits to field interventions, interviews with key informants and focus group discussions.

3.1. DESK REVIEW

The ET benefitted from a rich project document set (Annex 10 reports the full list of consulted documents). Prior to the initiation of field work, the team reviewed the USAID/Lebanon CDCS, DAI/LIVCD contract, list of LIVCD sub-contracts and grants, LIVCD Results Framework, LIVCD M&E plan, initial value chain assessments, annual reports and work plans, along with other sectoral key documents for target value chains. This phase informed the background of this MTPE and allowed the ET to gain an initial appreciation of the interventions developed by LIVCD and related challenges. It also represented a critical opportunity for the team to identify interviewees and site selection, develop draft protocols and data collection instruments.

3.2. BENEFICIARY-BASED SURVEY

The ET conducted a beneficiary-based (BBS) survey to address the evaluation questions that needed a quantitative analysis to be answered. These are the evaluation questions of the Results criterion. More specifically, the BBS was used to measure indicators designed by the ET, thus quantifying primary achievements and assessing whether the project is on target regarding expected results. The survey was also used to validate the results reported by LIVCD M&E system, which also contributed to inform findings for the evaluation question on project management. Through data analysis, the ET designed indicators to answer the evaluation questions. A detailed explanation on how each indicator is designed is included in Annex 8.

Rural tourism was not included in the beneficiary-based survey because the categories of beneficiaries of this value chain is extremely diversified (and includes guides, managers of reserves, owners of restaurants and guest houses, municipalities representatives, handcraft producers, etc.). The activities implemented by LIVCD are also extremely varied. A single questionnaire would prove to be irrelevant to the majority of the interviewees. The processed food sector was also excluded from the survey. This is because the majority of the beneficiaries included in the LIVCD list belong to a small number of enterprises or cooperatives. In addition, the activities implemented in this value chain are not the same across the beneficiary companies/cooperatives. Moreover, the FtF sampling guide used to design the survey does not apply to rural tourism and processed foods, which are not typical FtF areas of intervention. Findings on rural tourism and processed food are based on qualitative semi-structured interviews.

Honey, avocado, cherry and grape producers reported as the beneficiaries in quarter 1 and 2 of year 4 (i.e. Y4Q1 and Y4Q2) were excluded from the sampling frame along with olive and pome farmers enrolled in Y4Q2. This is because farmers enrolled as beneficiaries during these periods still have not

harvested their products, so a great part of the questionnaire would be irrelevant. The resulting sampling frame is made of 6,731 beneficiaries.

In order to ensure that all value chains and regions were adequately represented in the sample, farmer beneficiaries were stratified by value chain and by governorate. Farmers were randomly drawn from each stratum. The number of sampling units per stratum was determined by proportional allocation. A standard formula¹ was used to calculate sample size with the calculated result being 364 farmer-beneficiaries. However, following the recent recommendations of the FtF sampling guide for beneficiary based surveys (Stukel and Friedman, 2016), it was decided to increase the sample size to 525 beneficiaries. The actual number of completed interviews was 483 beneficiaries (which is equivalent to a general response rate of 92%)². The distribution of the sampled beneficiaries across VC, governorate (muhafaza) and gender are coherent with the distribution of the original population of beneficiaries (Annex 4).

A questionnaire was developed (see Annex 5) and pre-tested. On average each interview lasted 35 minutes. All enumerators had a background in agriculture, and had signed a no conflict of interest disclosure.

3.3. QUALITATIVE DATA COLLECTION TOOLS

While the beneficiary-based survey provides answers to *how much* questions, qualitative data collection tools answer *why* questions and allows the ET to deeply analyze perceptions, constraints and strengths of the different value chains and of the initiatives undertaken by LIVCD. The ET also used qualitative data collection tools to complement and explain the findings obtained through the BBS tools.

Qualitative data collection tools consisted in Key Informant Interviews (KII) and Focus Group discussions (FGD).

LIVCD staff, representatives of grantees, final beneficiaries and other informed stakeholders (e.g. representative of the ministry of agriculture, ministry of tourism, experts, etc.) were interviewed through such methods. Interview guides were developed (see Annex 5). The ET held a total 69 separate interviews and two focus groups.

A list of persons and organizations interviewed is reported in Annex 6. This list was developed by purposeful sampling³ and it consisted of representatives of grantees, beneficiaries of technical assistance interventions, experts and other stakeholders. More specifically, the *maximum variation criterion*⁴ was used (Patton, 1990). The selected interviewees covered a wide range of activities proposed by the LIVCD, thus including all LIVCD value chains and varied categories of stakeholders. The ET paid special attention to include for female beneficiaries.

¹ The ET used the formula suggested by Stukel and Friedman (2016) on the estimated proportion of an attribute that is present in a population.

² 20% of non-responded simply refused to take part in the survey or hung up the phone, 8% stated that knew nothing about the project or did not take part in any training, 3% stated that did not get any benefits, and 5% were no more interested in orchard farming or beekeeping, for 39% of non-respondents the phone was out of service or the farmer did not answer, for 17% the list of beneficiary reported a wrong telephone number, and 9% of non-responses were due to other reasons.

³ It is a non-probability sampling technique and it relies on judgment of the researcher to select units of analysis. It is widely used in qualitative research for the identification and selection of information-rich cases. This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest.

⁴ A maximum variation sample contains cases that are purposefully as different from each other as possible.

3.4. LIMITATIONS

Many of the performance indicators included in LIVCD's performance tracking table are formulated in a way that suggests clear causal attribution of the activity for detected changes. This MTPE measured similar indicators through the beneficiary-based survey. However, robust attribution is impossible without a control group, which was not used in this MTPE. The ET addressed this problem by introducing specific questions in the survey aimed at detecting the reasons for changes as reported by respondents. More specifically, the BBS respondents that stated to have made more profit in 2015 than in 2014 were firstly asked to identify the reasons for the higher profits by choosing one or more answers among a pre-determined list of reasons (the pre-determined list of answers for higher profits were: better selling price, higher productivity, higher quantity sold and lower production cost). Second, BBS respondents were asked whether the reasons identified was the result of the project,

The majority of the respondents (76%; 367/483) stated that they did not keep records of sales for 2015, which limits the accuracy of the reported data.

LIVCD reached the majority of beneficiaries through grants to cooperatives and private companies, and sub-contracted technical assistance. Cases where final beneficiary farmers involved in the survey were not aware that the services and equipment they received were actually from USAID/LIVCD limit the validity of attribution of changes to USAID. In addition, the LIVCD beneficiary list includes both direct and indirect beneficiaries (e.g. olive oil farmers using the milling service of a private mill supported by the project) without distinguishing between these two categories. Often indirect beneficiaries are not aware that they used are supported by the project. In order to limit the problem, the enumerators were instructed to use easily understandable wording in the questionnaire survey for identifying the USAID-funded Project.

This is a five-year project and the majority of interventions were on tree crops, which require at least three years to reach the production phase after planting and some additional years to reach full production capacity. Consequently, it is too early to provide a complete assessment of the extent to which project's targets have been achieved (Question 5).

5. FINDINGS AND CONCLUSIONS

4.1. FINDINGS

This section reports main findings, which are presented around the evaluation criteria set in the SoW. Evaluation questions are also included. Similar questions are grouped together. Interventions in individual value chains are analyzed in the approach section, while all other sections only include the most relevant findings, without analyzing all value chains individually.

4.1.1. Relevance

Question 1: Are LIVCD project interventions appropriate for achieving Development Objective (DO) 2 as outlined in USAID/Lebanon's CDCS?

The CDCS and its development objectives were not mentioned in any of the project design documents such as the Action Memorandum for the Mission Director, the LIVCD RfP, or the contract SoW⁵.

The LIVCD project was designed when the 2009-2013 Country Strategy was effective, and while the new CDCS (covering the 2014-2018 period) was still a draft. The draft version of the CDCS 2014-2018 (under which the LIVCD project was designed) had as an objective: "Enhance economic opportunity for the poorest segments of the Lebanese society, particularly in areas outside Metro Beirut". This objective had a clear focus on the poorest segments of the population. However, the DO2 of the approved 2014-2018 CDCS is formulated in a different way, which is: "Inclusive economic growth enhanced." Here the main focus is on economic growth, as detailed by the two intermediate results which are about (inclusive) private sector competitiveness and access to finance.

The LIVCD focus on agricultural value chains is consistent with the draft 2014-2018 CDCS emphasis on poorest segments. Although in Lebanon the majority of the poor are located in urban areas (World Bank, 2011), the 2004-2005 Multipurpose Household Survey (UNDP, 2008) found that compared to Lebanon's overall poverty rate of 8%, more than 20% of households engaged in agriculture fall below the poverty line. The LIVCD interventions not directly related to agricultural in rural areas (e.g. rural tourism) may lay the foundation for income growth (which is coherent the 2014-2018 CDCS) but do not necessarily target the poorest segment of the Lebanese society. About 88% of the Lebanese population lives in urban areas and in a poverty-mapping exercise carried out in 2004, Lebanon's Economic and Social Fund for Development found more poor people in small pockets of dense poverty in the suburbs of large towns than in all of rural Lebanon (World Bank, 2011).

This different emphasis of the CDCS and of the previous draft CDCS is reflected also in the interventions implemented by LIVCD. The initial phase of the LIVCD was characterized by substantial interventions aimed at supporting the poorest segments. However, the focus of LIVCD changed since the beginning of 2014 when activities were mainly aimed at promoting economic growth of actors in targeted value chains, with less emphasis on targeting the poorest segments.⁶ The rural basket value chain explicitly targeted the poorest segments of the rural population and promoted livelihoods diversification. In 2013 LIVCD awarded and started 17 grants, for a total amount of \$646,000 (plus co-share). Nine grants were for rural basket interventions and their total value was 58% of the total awarded amount. During the following years (i.e. from January 2014 to February 2016) only three more grants (for a total value of \$193,000 plus cost-share) were awarded for rural basket interventions, while all other value chains had 151 grants for a total value of more than \$6 million.

⁵ LIVCD was designed without a project appraisal document.

⁶ USAID Automated Directive System (ADS 201.3.14) advises realignment of the portfolio of activities when new Mission strategies are adopted.

4.1.2. Approach

Question 2: To what extent has the value chain facilitation approach been adapted under LIVCD?

Question 3: To date, how have the LIVCD specific interventions addressed the identified competitive constraints of the selected value chains?

The value chains LIVCD is working on were selected after an initial six-month assessment, which consisted in Component I of the Contractor's SOW.

This initial assessment laid the foundations for the definition of interventions. The initial study period allowed LIVCD staff to gain a comprehensive knowledge of the constraints and opportunities in relevant value chains. In addition, the initial value chain assessments allowed LIVCD staff to map and acquaint most relevant stakeholders in each value chain through interviews and participation in workshops presenting the final results of the assessment.

The assessment took into considerations eight major value chains along with other value chains that were initially categorized either as secondary agricultural value chains (e.g. banana, citrus), or non-agricultural value chains (e.g. furniture, pharmaceuticals, printing and packaging, ICT, alternative energy, etc.). The final selection of target value chains was completed at the end of the assessment phase. The Contractor's SoW specifies three dimensions that are to be used for the selection of value chains: competitiveness, development impact and feasibility. The LIVCD Value Chain Synthesis Report (2013) explains the methodology that was used to rank and select value chains. Essentially it consisted in a multi-criteria analysis. However, the methodological and procedural coherence of the way this method was applied is unclear. Twelve (12) different criteria were selected.⁷ The relevance of the 12 selected criteria for the three dimensions is not straightforward and it is not clear which criteria were used to reflect each of three dimensions set in the contractor's SOW. Moreover, some important criteria for the feasibility dimension were not considered in the analysis, such as the presence of potential strong partners. Also, many of the selected criteria were defined in a way that entailed a high degree of uncertainty in assigning scores, since they required predictions with a five-year time horizon (e.g. cumulative sales). Finally, the ranking resulting from the aggregation of the scores of the 12 criteria was not used to select value chains. In fact, all value chains that were initially classified as "major value chains" were retained, including those value chains that ranked in the lowest positions on the aggregated score (i.e. olive oil and rural tourism).

Interviews with stakeholders and an analysis of studies developed by LIVCD revealed that some important agricultural value chains were never considered. These included vegetables, potato and berry. The inclusion of these value chains in the initial assessment may have caused a different selection of value chains (however, the ET understands that USAID had already a project in place on vegetables when LIVCD was implementing the initial assessment phase). The initial value chain assessments did not include cost analyses. One common remark made by interviewed experts and that also appears in the initial value chain assessment studies is the lack of competitiveness for Lebanese agricultural value chain. Life cycle cost analyses (i.e. from planting to sales to final consumers) would have provided valuable information to design cost-reduction interventions.

⁷ The 12 criteria were: Total value of production; Number of farmers or employees expected to be reached; Number of farmers or employees reached as percentage of farmers/employees working in the selected value chains; projected cumulative five-year sales of LIVCD beneficiaries; projected sales of LIVCD beneficiaries in year 5 as percentage of total value chain output in base year; projected cumulative 5-year export sales of LIVCD beneficiaries; projected exports of LIVCD beneficiaries in year 5 as percentage of total value chain output in base year; strength of export market demand; strength of domestic market demand; potential for collaboration with anchor firms; synergies with GOL or donor activities and investments; and relevance to women, disadvantaged groups and youths.

Component II of the project envisaged upgrading of activities in agricultural production, produce aggregation and marketing. The grant component was implemented on the basis of requests developed by applicants. This approach allowed LIVCD to develop upgrade interventions in target value chains without drawing on pre-determined technical assistance packages, thus responding to needs of value chain actors.

Identified competitive constraints of the olive oil value chain are high production costs, lack of competitiveness on the international market, low volumes of high quality oil, and consumers' poor capacity to distinguish good quality oil and small incentives for actors to increase productivity. An important cost-reduction intervention promoted by the project was the delivery of mechanical harvesters. This activity amounted to 50% of the total value of grants for the olive oil value chain. Also during interviews, olive farmers reported their high appreciation for this equipment. Mechanical harvesters have been mainly distributed to cooperatives. This choice was positive since it made it possible to reach out to a high number of farmers in a cost-effective way. In addition, mechanical harvesters are a simple-to-use technology that cooperatives can easily manage.

Improvements in olive oil quality were pursued by providing training to farmers and by supporting four mills with different equipment and technical assistance. However, improvements in quality do not translate in a better price at farm gate or quantity sold if market issues are not addressed. According to all interviewees, market outlet remains the main problem in the value chain. The initial value chain assessment also envisaged the promotion of a seal, which was aimed at signaling origin and quality of Lebanese extra virgin olive oil among consumers. This activity was initiated by sub-contracting a quality control inspection company for the development of the quality seal and of the related standards. However, this activity was abandoned. Without a clear ownership, LIVCD thought that the implementation of a quality seal was too complicated. These typologies of interventions require a proper legal institutional infrastructure along with government support. In addition, interviews with stakeholders revealed that previous similar experiences in this value chain (supported by the Italian Cooperation for Development) do not seem to be successful. For instance, the Ministry of Agriculture has a quality seal for Lebanese extra virgin olive oil but it was never used (due to lack of ownership among cooperatives, which are entitled to use the seal).

The pome value chain faces a number of challenges that are sketched in the initial assessment. These include a highly fragmented production, shortage of high quality apples (i.e. grade I), a high variability in fruit size and color (which is incompatible with international standards), shortage of highly demanded red apple varieties, poor coordination between producers and packers on quality harvests and post-harvest handling protocols, and a low diversification of export channels (with Egypt being the most important market). LIVCD has mainly channeled interventions through the so called centers of services. These are supposed to provide technical assistance services to farmers, to facilitate market access for products and to organize purchase of fertilizers and pesticides. LIVCD has supported the creation of three centers of services and has planned to set up three more service centers. Of the three existing service centers, one is managed by an NGO and is not operational, one is fully working (and is managed by a cooperative) and the third is still in the set-up phase (also managed by a cooperative). Visited service centers mainly provide technical assistance services, which are very important given the reduced quantity of Grade I apples that Lebanon produces. However, their contribution for facilitating access to markets for farmers still has to be confirmed since only one of the three centers is offering marketing services. The initial value chain apple assessment for pome fruits mentions that there are about 20 specialized exporters in Lebanon, however only two were involved by the project. Access to market was mentioned as a key problem in all interviews with representatives of the sector.

The main challenges in the grape value chain include a low participation of small and medium farmers in export channels, and losses in post-harvest operations. LIVCD channeled interventions through three leading export companies, which suggested a list of farmers to work with. Only small producers were

retained. The coordination mechanisms promoted by LIVCD secure a market outlet for producers. New varieties have been suggested by exporting companies on the basis of their clients' needs. In a few cases these three companies also provide credit to their long-term grape suppliers. LIVCD also provided technical assistance to the three involved companies on pre-cooling. However, transport quality losses from the field to the companies' facilities is an area that is only partially addressed. One grant was awarded for a mobile cold storage system in the South, but such intervention was not replicated in the Bekaa, where it also was needed.

Avocado cultivation is not widespread in Lebanon and it is a relatively new crop. Main challenges consist in a fragmented production, in the small quantity produced (according to FAOSTAT avocado production was only 8,270 tons in 2013) and in a limited knowledge base among farmers and education institutions. LIVCD interventions have mainly focused on agricultural production to increase volumes and on developing training modules. The LIVCD focus on production, training and knowledge development is coherent with the sector challenges. Market issues are still to be addressed.

The cherry value chain presents substantial constraints. Production is extremely fragmented and post-harvest infrastructure is limited. The initial assessment also noted that farmers were abandoning cherry cultivation. LIVCD has promoted interventions on production, through training, technical assistance and promotion of new varieties and rootstocks. Two grants have been awarded for this specific value chain, including one in Keserwan area . However, the survey results show that only a few farmers have a substantial number of cherry trees in this area (the median number of cherry trees in the Keserwan-Jbeil area is seven). The other grant was awarded to a private input supplier, which provides spraying and pruning services to cherry producers in North Lebanon. More cherry producers are concentrated in this area and the demand for spraying and pruning services that this grantee receives is so high that the company cannot satisfy all requests. No interventions have been implemented on other aspects of the value chain (i.e. post-harvest management, market channels, etc.).

LIVCD initiatives addressed all aspects of the honey value chains, thus including strengthening of production capacities for beekeepers and cooperatives through trainings and distribution of beehives, queen rearing, organization of promotion campaigns, support to exporters (through subsidizing listing fees, participation in fairs, and involvement of distributors), and update of the regulation. Cooperatives and NGOs represented the main mechanism through which LIVCD reached beekeepers for beehive distribution and training. Cooperatives offered an efficient way to reach out to a high number of beekeepers. However, some cooperatives visited by the ET did not seem very active. More than collective action enterprises, they rather seem to be one-man show initiatives. A total of 25 different cooperatives have received grants for beekeeping along with five NGOs, however the initial value chain assessment mentions that there are only nine cooperatives actively working in beekeeping. This suggests that some of the grants were given to cooperatives that are not really active.

Processed food is not a value chain per se, and some of the products addressed by the project in this area have nothing to do with the other value chains. Competitive constraints mainly consist in the use of outdated and unproductive old equipment by processors and in limited market outlets. These areas were addressed by LIVCD through technical assistance for companies, and through grants to develop new market channels and to install new equipment (mainly for cooperatives). Targeted processed food include pickles, ready-to-eat (frozen) products (like kibbeh), vinegar, juice, jams and freekeh. Of these, pickles present important backward linkages, which allowed the project to indirectly benefit a relatively high number of farmers. Also interventions in freekeh promoted some backward linkages with wheat producers. Initiatives on the other products brought advantages to the few beneficiary processors, but do not seem to have significantly increased the quantity of raw material bought from farmers.

Rural tourism is not properly a value chain. It is a niche sector that LIVCD has addressed as a means to increase income in rural areas. According to the initial assessment, the main challenges this sector faces

are inconsistent and poor service quality, absence of quality labelling and of trained guides, very limited presence of information centers at municipality level, travel agents mainly focused on traditional touristic destinations, along with a general lack of coordination and strategic vision for this sector. LIVCD has addressed these issues with interventions at national and local level. At national level LIVCD spearheaded the development of a national strategy, which was officially approved by the government. Also a national promotion campaign was organized. Various interventions have been delivered at local level through grants awarded to NGOs to develop tourist packages, to implement marketing strategies and to improve the capacities of local agents to receive tourists.

Both the Contractor’s SOW and the initial value chain assessments identified access to finance as a critical area. LIVCD has provided considerable assistance to promote access to finance. However, loan applications have been quite low. When this evaluation was conducted only 26 feasibility studies for loan applications were developed with the assistance of LIVCD (of which 22 resulted in a loan request). One Lebanese bank has been highly involved by LIVCD. However, this bank has received less than 40 loan applications (of which 35 were granted) by LIVCD beneficiaries. There are speculative explanations for the low uptake of LIVCD promotion activities. Access to short-term finance does not seem to be a problem. Farmers can easily get short-term loans to pay for harvest operations from traders and can buy inputs from suppliers on credit. Long term finance has to be sought from financial institutions. However, the survey results show that, agricultural production is not the main source of income for the majority of project beneficiaries. More specifically, only a small minority of beneficiary beekeepers and olive oil producers (estimated at 2% and 22% respectively) report beekeeping or farming as their main source of income (see Table I).

Table I shows that for 66.5% of the Beneficiary Based Survey (BBS) respondents farming and beekeeping are not their main source of income. This suggests that many of the LIVCD beneficiaries are not agricultural entrepreneurs. They prefer to avoid taking risks to pay back loans, particularly amidst an unstable economic and security national context. This is also confirmed by the fact that most frequent answers to the survey questions on reasons for not taking subsidized loans were “I don’t need it,” “I’m afraid not to be able to pay back,” or “I’m too old.”

Table I: Importance of farming and beekeeping as a source of income⁸

Value chain	Estimated % of beneficiaries reporting farming or beekeeping as main source of income (CI ₉₅)*	N of BBS respondents reporting farming or beekeeping as main source of income*	N of BBS respondents
Avocado	48 (32-63)	21	44
Cherry	45 (27-64)	14	31
Grape	47 (29-65)	15	32
Olive oil	22 (15-29)	32	145
Pome fruits	52 (34-70)	17	33
Beekeeping	2 (0-4)	3	198
All value chains	21 (18-25)	102	483

* The figures refer to farming for avocado, cherry, grape, olive oil and pome fruits producers and to beekeeping for honey producers. Figures in parenthesis are the total value upon which the percentage was calculated. Numbers in parenthesis are the upper and lower bonds of 95% confidence interval.

⁸ The aim of presenting this amount of information in the tables is to present the results in a more accurate way. The means (averages) calculated in this survey remain estimate. Confidence intervals provide a range of values around this estimate, within which the true value can be expected to fall with 95% probability. The minimum and maximum values are the minimum and maximum absolute values reported by the participants in the survey.

Question 4: To what extent has technical assistance, including training, addressed the needs of beneficiaries?

Needs of beneficiaries are different in the target value chains. In the olive oil value chain trainings on the use of mechanical harvesters have been very useful according to all experts and farmers interviewed. Through these trainings farmers have learnt how to use mechanical harvesters and LIVCD has encouraged the uptake of this technology. However, a few farmers have stopped using mechanical harvesters because they found that mechanical harvesters take away shoots along with olives. This may be due to the type of mechanical harvesters, to the wrong ways in which they are used or to the way trees are pruned. In any case, the high demand of mechanical harvesters from cooperatives for consecutive years suggests that damages provoked by mechanical harvesters are not common.

In the grape value chains trainings have been very important since the project has encouraged farmers to plant new varieties, which require agricultural practices that are different from the practices used in traditional varieties. The excessive use of pesticides on grapes is a key problem in Lebanon, and LIVCD has properly included this topic in trainings.

A great part of technical assistance provided in the avocado value chain has been about developing training curricula for avocado cultivation. This was important because in Lebanon avocado planting is not very widespread (concentrated in South Lebanon) and there is a clear lack of technical knowledge in this field. Overall, trainings in avocado have been quite short since they were delivered over a period of just one month. Also, about 100 farmers had never planted avocado before the trainings organized by LIVCD. A critical aspect of avocado cultivation is the choice of seedlings. LIVCD is advising to buy seedlings from one nursery because of its assumed lower price and because its seedlings are sold as virus-free certified. However, the superior quality of this nursery's seedlings was not verified by the ET. On the contrary the ET had access to a recent certificate issued by LARI that certify the presence of *Cylindrocarpon* (a fungal pathogen causing the "Black foot disease", which is common in nurseries) on an avocado seedling that was still in the pot as sold by the nursery. Also, by triangulating information from this nursery and other, the ET could not confirm its assumed lower prices.

Technical assistance to deal with plant diseases is still needed. One important problem reported by framers during the survey was the presence of peacock spots on olive trees and gummosis in cherry trees. Presence of *varroa mites* in beehives was also reported by beneficiaries.

In the pome and cherry value chains a great part of trainings was on pruning. According to interviewed experts this was certainly important because, farmers do not often apply correct pruning practices. On pruning there were also synergies with another USAID-funded project named Farmer-To-Farmer. One grantee received pruning equipment from LIVCD and relevant training (for cherry) from US-based experts through the Farmer-to Farmer project.

The great majority of the honey value chain beneficiaries had never attended a formal training on beekeeping before⁹. Also queen bees raising requires specific techniques and LIVCD correctly included this topic for specific beekeepers.

In the honey value chain trainings were coupled with distribution of beehives. Although the majority of beneficiaries had already experience in beekeeping, almost all grants included distribution of beehives to persons with no experience at all in this field. More specifically, from the BBS it results that 26.6% of

⁹ Only 27% of the beneficiaries of this value chain had participated in some previous training. The total number on which this percentage is calculated is 171. This value includes the total number of respondents answering Yes or No to questions d23d or d24d. These questions were asked only to those respondents that answered Yes to question d23a or d24a.

those who received hives had no previous experience in beekeeping.¹⁰ According to interviewed experts and to the opinion of the ET for those who had never produced honey before, trainings were certainly too short. This is also because in beekeeping the actions of a few unexperienced beekeepers can compromise the honey production of a whole region (e.g. by not properly treating bees for *varroa mites*). In general terms training in beekeeping should be held in different moments over the year, so that participants can learn all aspects of the production cycle. However, trainings were concentrated in one single period. In some cases, beehives were distributed at the beginning of trainings (and not when participants had completed all the training sessions). Also, during the first year of the project attendance to trainings was promoted by giving tools as gifts. Such an approach is risky since it also attracts people who are more interested in getting gifts than in learning. Distribution of beehives among beneficiaries has been fully organized by beneficiary cooperatives. However, many cooperatives are not really active (they do not actively meet and they do not provide any service to their members), so the final selection of beneficiaries resulted to be a choice of one single person as reported by the KII.

In Lebanon the local native bee variety is *Apis Mellifera Syriaca*, however many other varieties were imported over the last years, such as *Apis Mellifica Ligustica*. LIVCD has supported the installation of an artificial insemination center of queen bees through a grant. This is the first artificial insemination center in Lebanon and it is meant to be used for reproduction of *A. Mellifica Ligustica* queen bees. The productive superiority of *A. Mellifica Ligustica* is debatable and depends on flora, weather conditions and management of beehives. In Lebanon there are no formal guidelines on genetic resources for beekeeping. Also there is not an official selection plan, which is generally developed by public research or government institutions. However, the establishment of the artificial insemination center may have effects on the genetic resources base of bees in Lebanon at the expenses of the prevalence of the local native variety.

In the processed food sector assistance of technical aspects has been very effective in pickles production as demonstrated by the significant investments made by five processors in new fermentation tanks. Technical assistance in freekeh production has also allowed cooperatives to substantially increase their production volumes. Also, an apple juice production line has been reactivated (in Besharré), which uses low quality apples. The effectiveness of technical assistance on marketing aspects seems only partial. While new market channels have been developed for freekeh production in Lebanon, the participation in the Gulfood Show supported by LIVCD has not allowed jam producers to find new buyers. This is because according to what was reported to the ET by interviewees who participated in the Gulfood Show, the volumes sought by buyers attending the Gulfood Show are too high for the production capacities of processors supported by LIVCD. LIVCD has also provided technical assistance on Hazard-Analysis and Critical Control Points (HACCP) certification and Food and Drug Administration (FDA) registration. In principle these activities are conducive to an expansion of market outlets, however their concrete impact can be evaluated only at later stage.

Technical assistance and trainings for rural tourism beneficiaries has addressed the needs identified in the initial assessment. LIVCD provided continuous support to the development of online communication tools, and coaching sessions on standards and on marketing for guesthouses, along with many other activities. An area that seems to need further coaching is price setting and cost calculations for guesthouses. According to the perceptions of interviewed informants, guesthouses tend to overcharge for their services.

¹⁰ The total value upon which the percentage was calculated is 64 and it includes the number of respondents that received at least one hive from the project.

4.1.3. Results

Question 5: What have been the primary achievements of LIVCD to date?

Question 6: To what extent has LIVCD been able to achieve project targets envisioned in the contract?

The targets envisioned in the contracts are not easily measurable without relying on the M&E system developed by the project. In addition, targets in the contract were defined in rather general terms. This MTPE assesses the extent to which the targets of the LIVCD M&E plan have been achieved for key selected indicators (i.e. Value of incremental sales attributed to FTF implementation; Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance; Number of MSMEs, including farmers, benefiting from new horizontal & vertical linkages) that can be measured through the beneficiary-based survey.

The project mobilized \$4.42 million of private investments as co-financing from grantees, plus substantial investments resulting from applying suggestions following technical assistance. This was certainly the case for the new fermentation tanks suggested for pickle processors (more than \$1 million).

Avocado cultivation has been expanded from its traditional South Lebanon area to the North and Mountain Lebanon. The majority of the number of loan applications supported by LIVCD have been in the avocado value chain.

Highly demanded varieties have been planted for apples, cherry, avocado, and grapes. This lays the foundations to easier market outlets when planted trees enter into production.

Among olive farmers the introduction of mechanical harvesters has substantially reduced production costs. From the BBS, it results that farmers using the mechanical harvesters distributed by LIVCD spent on average 2.7 million Lebanese pounds less than those farmers that did not use them. This is equivalent to a saving of 42% for all agricultural annual operation costs.

The use of improved technologies among beneficiary farmers was high. 73% of the respondents of the BBS have applied some improved technology, whose use was the topic of trainings they attended. Table 2 also shows that the percentage of beneficiary farmers that applied improved technologies/practices, and that were not doing this before the training, is much lower. The highest reported use of technology was in the grape value chain. In this case all interviewed farmers applied at least one improved technology/practice they learnt in the training, and 86% of them were not doing this before the project. The lowest reported use of technology was among cherry producers. Only 48% of those who attended a training on cherry production applied at least one improved technology/practice, and only 12% of them were not doing this before. The use of improved technologies among olive farmers was relatively high but only a minority of them (37%) were not applying the same technologies before the project.

Table 2: Uptake of improved technologies

	Estimated % of beneficiaries applying improv. tech/practices (CI ₉₅)*	Estimated % of beneficiaries applying improv. tech/practices and that were not applying before (CI ₉₅)*	N. of BBS respondents who attended training on improv. tech/practices	N. of BBS respondents who applied improv. tech /practices after training	N. of BBS respondents not applying improv. tech/practices before	N. of BBS respondents applying improv. tech after training and that were not applying before
Avocado	78 (61-90)	58 (37-77)	36	28	26	15
Cherry	48 (29-67)	12 (1-36)	29	14	17	2
Grape	100 (88-100)**	86 (57-98)	30	30	14	12
Olive oil	70 (62-78)	37 (26-49)	122	86	76	28
Pome fruits	74 (49-91)	17 (5-39)	19	14	23	4
Beekeeping	73 (66-80)	50 (40-60)	173	127	112	56
All value chains	73 (69-77)	44 (38-50)	409	299	268	117

* Numbers in parenthesis are the upper lower and upper bounds of 95% confidence interval. ** Numbers in parenthesis are the one-sided 97.5 % confidence interval

The ET estimated that the number of farmers applying new technologies or improved practices is 4,329 (out of 5,958 beneficiary farmers). This was calculated by multiplying the percentages reported in Table 2 by the number of individuals of the relevant value chain, who have received USG-supported short-term agricultural sector productivity training (Indicator 11 of the performance tracking table) as reported by LIVCD. Of the 4,329 farmers, the ET estimated that 2,649 had not applied the considered technologies/practices before the trainings. In April 2016, for the same value chains LIVCD records reported 4,978 individuals applying new technologies or management practices as a result of USG assistance, out of a LOP target of 8,250. The project is in line with the target if it is assumed that all 4,978 beneficiaries reported by LIVCD have applied improved practices as a result of USG assistance. However, this is unlikely since the results reported in Table 2 show that 44% of those applying improved technologies or practices were already doing so before the project.

The results of the BBS show that profits from selected values chains have decreased for the majority of farmer beneficiaries from 2014 to 2015 (detailed values are included in Table 3). Only 27% (77/285) of the orchard farmers stated that their profit has increased for the selected crop in the same period, while 56% (160/285) stated their profit has decreased. Moreover, of 27% orchard farmers reporting higher profit in 2015 only 28% (22/77) relate higher profits to LIVCD. For beekeepers only 24.2% (48/198) reported higher profit in 2015 (with 34% of respondents linking higher profit to LIVCD), while 74.7% (148/198) reported lower profit.

Table 3: Beneficiaries reporting making more money in 2015 than 2014

Value Chain	during your last harvest (in 2015) did you make more money than in 2014?			Total (%)
	Yes (%)	No (%)	No Answer/Not Applicable/Don't Know (%)	
Avocado	8 (18.2%)	28 (63.6%)	8 (18.2%)	44 (100.0%)
Cherry	4 (12.9%)	26 (83.9%)	1 (3.2%)	31 (100.0%)
Grapes	6 (18.8%)	21 (65.6%)	5 (15.6%)	32 (100.0%)
Olive Oil	52 (35.9%)	63 (43.4%)	30 (20.7%)	145 (100.0%)
Pome Fruits	7 (21.2%)	22 (66.7%)	4 (12.1%)	33 (100.0%)
Beekeeping	48 (24.2%)	148 (74.7%)	2 (1.0%)	198 (100.0%)
All value chains	125 (25.9%)	308 (63.8%)	50 (10.4%)	483 (100.0%)

Reported sales variation analysis of the BBS farmers and beekeepers from 2014 to 2015 indicates that the positive sales variation are mostly reflected in the olive oil value chain and pome fruit value chain (28.3% and 30.3% from those two VC respectively reported positive variation in their sales) while the most negative variation is reflected in the grape and pome fruits value chains (32.8% and 36.4% beneficiaries from those two VC respectively reported a decrease in the value of the sales from 2014 to 2015.) Table 4 illustrates how sales variations vary between each of the LIVCD selected value chains.

Table 4: Number of beneficiaries (farmers and beekeepers) reporting sales variation

Value Chain	Sales variation from 2014 to 2015			No sales / sales not reported (%)	Total (%)
	Positive (%)	Negative (%)	No variation (%)		
Avocado	7 (15.9%)	7 (15.9%)	1 (2.3%)	29 (65.9%)	44 (100.0%)
Cherry	4 (12.9%)	10 (32.3%)	4 (12.9%)	13 (41.9%)	31 (100.0%)
Grapes	8 (25.0%)	11 (34.4%)	2 (6.3%)	11 (34.4%)	32 (100.0%)
Beekeeping	39 (19.7%)	65 (32.8%)	3 (1.5%)	91 (46.0%)	198 (100.0%)
Olive Oil	41 (28.3%)	22 (15.2%)	7 (4.8%)	75 (51.7%)	145 (100.0%)
Pome Fruits	10 (30.3%)	12 (36.4%)	2 (6.1%)	9 (27.3%)	33 (100.0%)
All Value Chains	109 (22.6%)	127 (26.3%)	19 (3.9%)	228 (47.2%)	483 (100.0%)

As shown in Table 4, out of the 483 surveyed beneficiaries, 255 beneficiaries reported on their sales values. Differences in 2014 and 2015 sales figures showed that 109 respondents had a positive variation, 127 had a negative variation and 19 had no variation in sales. The remaining 228 beneficiaries reported having no sales in 2014 nor in 2015. According to those respondents, this was due to the fact that:

- The avocado, apples and grape value chains' farmers do not have productive trees yet.
- The cherry, olive and apple value chains' farmers stated having few trees that they use for their own consumption.
- Beekeepers stated diverse reasons including selling the hives, not being the direct person taking care of the hives, not receiving hives although they were promised by LIVCD, bees were dead for diverse reasons, or not having enough experience to manage the hives.

When taking into consideration the overall performance of the value chains in terms of sales generated in 2015 and 2014 with respect to the agricultural commodities, BBS results show an average decrease in sales per beneficiary in the cherry, grapes and honey value chains resulting in overall decrease in sales across all value chains (See Table 5). This is because the beekeepers represent the largest number of beneficiaries in the sample and they had a dramatic reduction in production, which was due to weather conditions. The remaining value chains (i.e. avocado, olive oil, and pome fruits) show a positive increase in sales variation. The figures are based on the sales reported by 255 farmers who reported sales.

Table 5: Variation of sales (\$US) of all beneficiaries who reported on 2014 and 2015 sales

Value Chain	Mean variation	95% Confidence Interval for Mean		Median	Std. Deviation	Minimum	Maximum	Number of beneficiaries included in the analysis
		Lower Bound	Upper Bound					
Avocado	925.2	-5,705.3	7,555.7	0.0	11,973.2	-18,543.4	30,426.8	15
Beekeeping	-3,735.3	-5,832.4	-1,638.1	-669.4	10,941.8	-55,782.4	16,227.6	107
Cherry	-1,073.2	-2,460.3	313.9	-473.3	2,789.4	-10,142.3	2,704.6	18
Grapes	-3,812.2	-9,406.8	1,782.4	-676.2	12,290.5	-40,569.0	16,903.8	21
Olive Oi	911.0	-884.6	2,706.5	611.9	7,530.4	-45,640.2	25,017.6	70
Pome Fruit	2,439.5	-3,134.0	8,012.9	-169.0	13,199.0	-7,978.6	60,853.6	24
All Value Chains	-1,423.0	-2,701.2	-144.7	0.0	10,364.8	-55,782.4	60,853.6	255

The activities conducted by LIVCD on production aspects with farmers mainly consisted in technical advice and in trainings. Production is supposed to increase if a farmer correctly implements the technical advice he or she has received. There is no reason to assume that the activities implemented by LIVCD provoked a negative change in sales (if not in the few cases where a farmer was advised to conduct a drastic pruning, which is required when trees have been neglected for many years and which results in higher yields after two or three years). Figures for incremental sales included in Table 6 were calculated for only 128 beneficiaries that had a positive change (109 beneficiaries) or no change (19 beneficiaries) in sales from 2014 to 2015. When negative variation is excluded from the analysis results show a higher average increase in sales for the pome fruits, avocados and grapes value chains. The overall increase across value chains is \$461,013.1 from 2014 to 2015.

Table 6: Incremental sales (\$US) of beneficiaries who reported a no variation or a positive variation in sales from 2014 to 2015

Value Chain	Mean variation	95% Confidence Interval for Mean		Median	Std. Deviation	Minimum	Maximum	Number of beneficiaries included in the analysis	Incremental sales
		Lower Bound	Upper Bound						
Avocado	7,277.1	-2,391.3	16,945.5	1,217.1	11,564.8	0.0	30,426.8	8.0	58,216.6
Beekeeping	2,398.0	1,271.6	3,524.4	676.2	3,614.6	0.0	16,227.6	42.0	100,716.0
Cherry	568.8	-248.7	1,386.3	77.8	977.9	0.0	2,704.6	8.0	4,550.5
Grapes	4,604.6	-199.1	9,408.3	507.1	6,715.1	0.0	16,903.8	10.0	46,045.9
Olive Oil	3,354.6	2,016.6	4,692.6	1,859.4	4,607.9	0.0	25,017.6	48.0	161,021.9
Pome Fruit	7,538.5	-3,468.6	18,545.7	831.7	17,324.0	0.0	60,853.6	12.0	90,462.2
All VC	3,601.7	2,338.4	4,864.9	879.0	7,222.6	0.0	60,853.6	128.0	461,013.1

As mentioned in the Methodology section BBS respondents that stated higher profits in 2015 than in 2014, were first asked to identify one or more reasons for this and then were asked whether the identified reasons were due to LIVCD. In total, 28% farmers identified at least one cause for their higher profits that they perceived to be linked to LIVCD support.

The absolute frequency of answers for reasons attributed by farmers to LIVCD are included in Table 7. The table only includes the number of answers from farmers for reasons that they attributed to the support of LIVCD (the frequency of answers for reasons that the farmers did not relate to the support of LIVCD are not included).

A reduction in production cost was perceived by farmers as caused by the project only among olive oil producers. For the honey value chain, BBS respondents attributed to the project the reason why they had higher production. Among BBS respondents producing avocado and reporting an increase in sales, none of them stated that this was the result of the project

Table 7: Profit increases - Frequency of reasons perceived by farmers to be the result of LIVCD support

Value chain	Better selling price	Higher quantity harvested	Higher quantity sold	Lower production costs	Selling hives
Avocado	0	1	2	0	N/A
Cherry	1	0	0	0	N/A
Grape	1	3	0	0	N/A
Olive oil	1	10	4	11	N/A
Apple	0	1	0	0	N/A
Honey	1	13	3	0	0
Total	4	28	9	11	0

Statistically weighting the survey findings and generalizing to the total population of LIVCD beneficiaries' database is speculative and not advised due to the low number of sampled farmers perceiving that their 2015 higher profits were the result of LIVCD support. However, this evaluation has estimated that out of the \$US 461,031 of incremental sales estimated for sampled farmers only \$69,291 (15.03%) can be attributed to LIVCD. Based on the result of sampled beneficiaries, the 10% annual target increase for incremental sales was reached for all except the avocado and cherries value chains.

Changes in incremental sales and in export values in companies is the subject matter of a data verification exercise that was ongoing when this evaluation was conducted and it is not discussed here.

Table 8: Estimated value of incremental sales (\$US) attributed to LIVCD

Value Chain	Incremental sales of beneficiaries attributing profit to LIVCD assistance	N of cases
Avocado	0	0
Stone Fruits-Cherry	0	1
Grapes	21,095.91	3
Beekeeping	18,053.23	8
Olive Oil	30,041.37	9
Pome Fruits	101.42	1
Total	69,292.0	22

The Honey VC beneficiaries are the most represented among all LIVCD beneficiaries (with 40.5%; 2,724/6,357 of total beneficiaries of the surveyed population). The results of the BBS show that the average number of beehives per beneficiary increased from 28.1 beehives/beekeeper (in 2014) to 34.1 beehives/beekeeper in 2015, and to 42.2 beehive/beekeeper in 2016. However, this is due to a few large beekeepers. Table 9 includes figures per beneficiary beekeeper and shows that, when only beekeepers with less than 50 hives (in 2014) are included in the analysis, the average number of beehives per beekeeper has increased by 2.6 hives from 2014 to 2015, and by 1.8 hives from 2015 to 2016¹¹.

Not all beekeepers listed as beneficiaries under LIVCD records have received hives. More specifically, the BBS results show that 33.3% of LIVCD beneficiaries in the honey value chain received hives¹². LIVCD distributed not less than three hives per recipient. Table 9 shows that USAID hive recipients have on average increased the number of hives by 1.3 from 2014 to 2015 and by 3.9 from 2015 to 2016. The most probable reason for the low increase in the number of hives from 2014 to 2015 was weather conditions, which affected beekeepers. This is also reflected in the quantity of honey harvested (included in Table 10), which strongly decreased for all beekeepers.

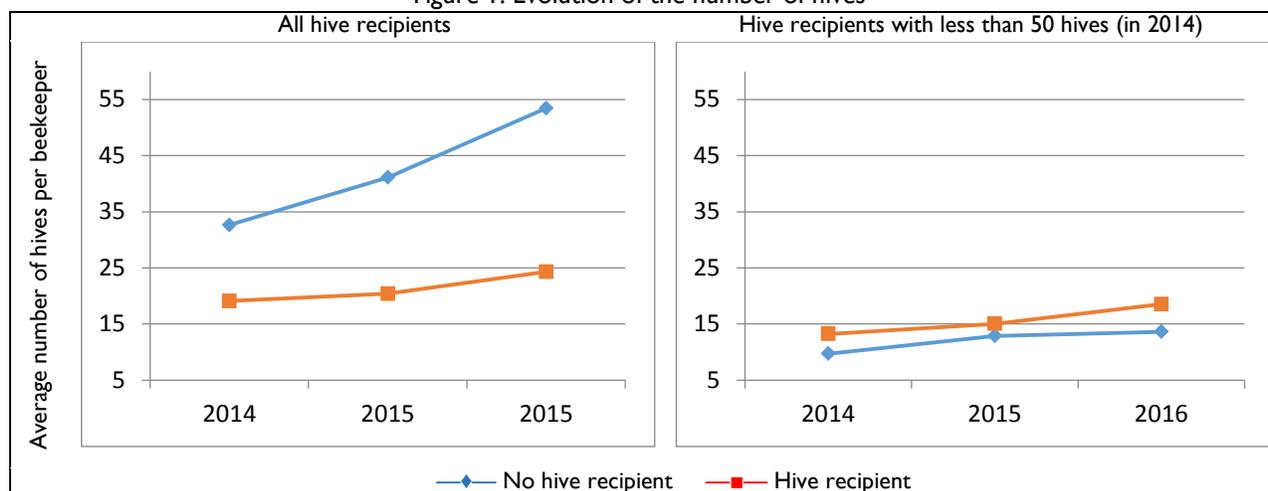
¹¹ The survey data collection took place when the 2016 hive distribution is supposed to be already over.

¹² The total value upon which this percentage was calculated is 198

Table 9: Beehives and quantity of honey

	All beekeepers			Beekeepers with less than 50 hives			USAID hive recipients		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
Number of hives									
Obs	192	196	196	165.0	165	165	62.0	63	63
Estimated									
Average	28.10	34.1	42.4	10.9	13.5	15.3	19.1	20.4	24.3
Median	9	10	10	7	8.00	8.00	10	12.00	11.00
Min	0	0.00	0.00	0.00	0	0	0	0	0
Max	400	450	700	45.0	130	165	220.0	200	250
SD	58.5	69.1	94.1	12.3	16.9	22.4	31.8	31	39.1
Quantity of honey harvested (Kg)									
Obs	195	195	.	163.00	164.00	.	63	62	.
Estimated									
Average	255.3	116.1	.	72.6	41.1	.	117.9	44.7	.
Median	28	10	.	15	6	.	25	3.5	.
Min	0	0	.	0	0	.	0	0	.
Max	5,000.0	5,000	.	3,000	700	.	2,000	700	.
SD	705.1	414.9	.	247.2	82.4	.	297	107.6	.

Figure 1: Evolution of the number of hives*



* hive recipients have received at least one hive from LIVCD at any moment during the project life

Figure 1 shows the evolution of the average number of hives by comparing LIVCD hive recipients versus LIVCD beneficiaries beekeepers that have not received any hive. Results show that Those who did not receive any hive from LIVCD had the numbers of their hives increased faster than those who received hives from the project. This is again the effect of large beekeepers. In fact, if only small beekeepers are included in the analysis (i.e. beekeepers that had less 50 hives in 2014), beneficiaries who have received hives from the project increased on average by 3.4 the number of hives from 2015 to 2016, while those who have not received hives decreased by one hive the average number of their hives.

The proportion of beneficiary farmers benefitting of new business deals calculated through the BBS is similar to the figures reported by LIVCD and it is consequently in line with the project target. More specifically, by dividing the number of orchard farmers and beekeepers that benefitted of new linkages (as reported in LIVCD records) by the total number of beneficiary orchard farmers and beekeepers, it

results that 12% of farmer beneficiaries were introduced to new business linkages. The results of the BBS show that the proportion of farmers experiencing deals that were facilitated by the project is 17%¹³ (the difference is due to the fact that LIVCD mainly list olive oil beneficiaries as farmers benefitting from new business linkages, while ignoring other business linkages¹⁴). Table 10 shows that beneficiaries in the olive oil value chain and in the grape value chains are the categories of farmers that have benefitted more from new business linkages. For the olive oil value chain the high value reported in Table 10 is due to the use effect of mechanical harvesters, which were rented by farmers from cooperatives. Avocado, cherry and pome fruits producers have benefitted less along with beekeepers.

Table 10: New business linkages

	Estimated % of beneficiaries benefitting from business linkages developed through LIVCD (CI ₉₅)*	N. of BBS respondents benefitting from business linkages developed through LIVCD	BBS respondents
Avocado	2 (0-12)	1	44
Cherry	3 (0-17)	1	31
Grapes	22 (7-37)	7	32
Olive oil	44 (36-52)	64	145
Pome fruits	3 (0-16)	1	33
Beekeeping	5 (2-8)	10	198
All value chains	17 (14-21)	84	483

* Figures in parenthesis are lower and upper bounds of 95% confidence interval

In processed food all visited women cooperatives have substantially increased their productivity. For instance, a freekeh producing cooperative passed from 100 Kg of freekeh produced in 2013 (with an average selling price of \$5/kg) to 1 ton in 2015 (with an average selling price of \$8/kg). As a result of technical assistance two pickle processors have established contractual relationships with more than 20 farmers.

Rural tourism is not the typical sector that provide high values for FtF indicators. Rural tourism covers various categories of project beneficiaries, which includes guest-houses owners, guides, municipalities officers, handicraft producers, restaurant personnel and individuals who took part in wide range of events organized by LIVCD; the highest potential for income growth are for guest-house owners, guides and restaurant owners.

LIVCD monitoring records include 1,297 beneficiaries in Rural Tourism, with guest-house owners, guides and restaurants being only 49, 36 and 73, respectively, in addition to 291 of other rural tourism service providers. These are the categories that have potential for income generating activities and they represent 34.6% of the total reported rural tourism beneficiaries. According to LIVCD M&E team, the remaining 755 beneficiaries are mostly individuals who attended training sessions or grant related activities and are reported as individuals that are part of enterprises, employees or individuals from firms, in addition to 52 representative of municipalities who are not supposed to increase their personal income, and 150 handicrafts beneficiaries who are no longer supported by the LIVCD following the recommendations of the 2014 RIG Audit report.

¹³ The total value upon which the percentage is calculated is 483 (Annex 8 explains how this value was calculated)

¹⁴ According to LIVCD records 86% of farmers benefitting from new business linkages are in the olive value chain.

4.1.4. Project Management

Question 7: What have been the barriers, if any, to efficient activity implementation as described in the work plan?

- **Grant management:**

One important barrier was the length of the approval and implementation process of grants. LIVCD staff has actively participated in writing grant proposals. This facilitated the preparation of grant proposals, however, during many interviews grantees complained that the grant approval process was too long. In some cases, the lengthy approval process of grants and the procurements of the related goods compromised the effectiveness of grants because equipment could not be delivered on time to implement the agricultural operations in the season for which it was planned. Table II reports a distribution of the number of grant by length of process time.

Only two persons in the USAID Mission have to deal with all the process required for grant approval (including due diligence, environmental approval, and technical aspects). The median number of days from submission of grant proposals to approval from USAID mission is 37 days, while the median number of days from grant approval to grant implementation start is 17 (these value exclude mechanical harvesters, which are the most frequent kind of grants and have the lowest award amount). These values do not take into account the time required to prepare a full grant proposal, which can take up to several months.

Table II: Days for grant approval and start¹⁵

	Number of grants by days from submission to Mission to approval	Number of grants by days from approval to start
Less than 30	59	87
From 31 to 60	35	28
From 61 to 90	11	2
More than 90	20	8

From April 2013 (i.e. when the first grant proposal was submitted to the USAID Mission) to March 2016, LIVCD committed \$6.98 million for an average of \$193,697/month. No grant commitment is going to take place during the last six months of the project life (i.e. the phase-out period), so LIVCD will have to commit the remaining \$5.02 million in 12 months, at an average of \$418,097/month, that is, more than twice its current grant commitment monthly rate.

- **Staff turnover:**

Turnover for top management positions of LIVCD staff has been quite high. The project has had three different DCOPs, and two COPs. The person in charge of grants also changed. This high turnover may be one of the reasons for the slow spending capacity for grants.

- **Grant assessment:**

The assessment of the expressions of interests (Eols) of grant proposals by LIVCD staff is based on five criteria: relevance for LIVCD goals, sustainability, capacity of the grantee of implementing the grant proposal, cost-share and budget, and number of beneficiaries. Criteria are assessed individually and on a scale that is different for each criterion (i.e. from 0 to 25 for sustainability, from 0 to 40 for relevance, etc.). The scores assigned to each criterion are then summed up together. Only grants whose

¹⁵ Mechanical harvesters are excluded from calculations along with grants withdrawn.

aggregated score is higher than a pre-defined threshold are considered. This method presents two main problems: 1) the use of different scales of evaluation for the five criteria makes the assessment very unnatural and complicated for the evaluators, 2) the aggregation procedure (i.e. summing up individual scores) implies full compensability among the considered criteria. The latter means that a very bad assessment in one criterion (e.g. capacity of the grantee to implement the proposal) could be compensated by a very good assessment in another criterion (e.g. relevance). As an evidence of the low discrimination capacity of the proposed method it is here reported that almost all Eols have been accepted by the LIVCD grants assessment committee.

In addition, the relevance criterion is about coherence of the Eols with the LIVCD SoW and objectives. This a very general criterion that can easily be met by many Eols that are about the target value chains. A more useful and restrictive definition of this criterion is the relevance for the gaps and competitive constraints in the value chain upgrade strategy, which are identified in the initial value chain assessments, and which are not already covered by other grants.

- In-kind grants and procurement:

Regarding procurements almost 80% of the grants have been awarded in-kind. This created a high burden for DAI staff, who had to procure all goods and services under in-kind grants. Moreover, grantees were not given the possibility to have a say in procurements. Very often grantees have a good technical knowledge and know very well the specifications that goods should have to satisfy their needs. In some cases, the procured goods did not fit with the needs of the grantees. This is, for instance, the case of too small diameter irrigation tubes for a demo plot or of a food dehydrator with the wrong amperage.

- Activity M&E plan indicators:

Five of the 14 monitoring indicators are not conducive to a proper assessment of the project progress. Four of them were ill-defined at the design stage (Indicator 2, 3 and 6) because they imply the attribution of causality on a very large scale, which is very difficult to demonstrate for a project monitoring team (since measurements of control groups are not taken) or because they include an unclear terminology (Indicator 5). One indicator is not properly measured (Indicator 14) since the number of people attending credit training sections are counted rather than the intended outcome, which is number of loan applications (a detailed assessment of data quality issues with the indicators is included in Annex 7).

- Value chain management:

Regarding individual value chains, the lack of beekeeping experts among LIVCD staff has affected the quality of procurements and grants for this value chains in an initial phase of the project (in 2013 and in 2014 for one vendor). More specifically various interviewees complained that hives were delivered too late and refused to take them (when hives are delivered after June beekeepers have to feed bees for one full production cycle before harvesting honey). Another frequent complaint was about the poor quality of hives in 2013. Some had not queens or had bees of different variety. Boxes and frames were already used. LIVCD has recently addressed these problems by introducing a penalty of \$5 for each day of delay for beehive delivery in procurement contracts, and by allowing cooperatives' representatives to inspect beehives and apiaries before delivery. LIVCD staff has certainly increased their knowledge in beekeeping since the beginning of the project (as acknowledged by project beneficiaries); the poor quality of procurement for beehives seems to have mainly occurred during the initial phase of LIVCD (in 2013). However, some of the equipment bought under a grant (i.e. extractor and wax uncapping machines) are

oversized to be used by small producers (i.e. the intended target group of the grants) and in fact they have almost never been used (this is also because in 2015 honey production was very low in Lebanon).

Regarding the cherry value chain, the main barrier for an efficient implementation has been the lack of strong partners to work with. The limited number of companies willing to work in the cherry value chain has posed the greatest constraints. Moreover, about 20% cherry trees are concentrated in Aarsal, which could not be reached by LIVCD staff for security reasons.

4.1.5. Gender

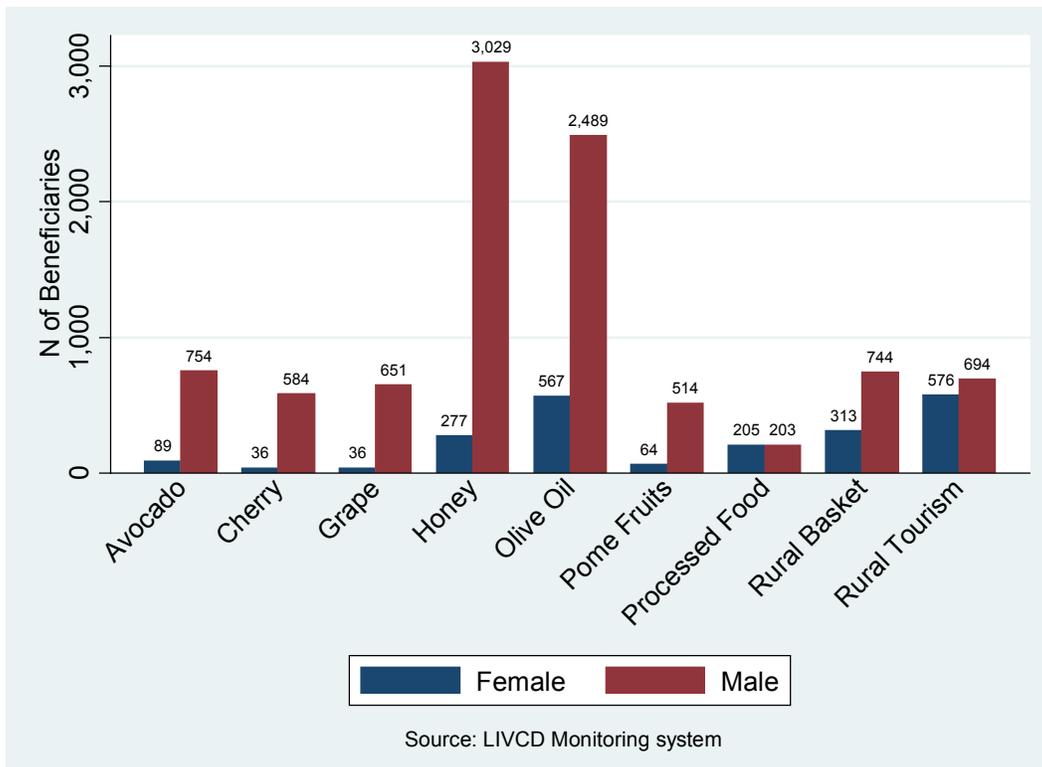
Question 8: To what extent has the project fulfilled the Mission's gender integration requirements (based on Gender toolkits)?

The statement of work is in line with the Mission's gender requirements, since it has a clear emphasis on attempts to maximize opportunities and minimize constraints to women across the chain, with the ultimate aim of increasing women's income. In addition, one of the criteria group (i.e. named "development impact") to select value chains specifically included the potential for positive development impact on gender disparity.

A general gender assessment report was developed by LIVCD and it effectively identifies social and economic differences and needs in the status, perceptions and priorities of men and women in different geographical regions and value chains. However, individual value chain assessment reports address gender issues inconsistently, with most lacking a gender mapping and analysis component

To date, 18.5% of the total number of project beneficiaries are women. Figure 2 reports the number of beneficiaries by value chains and by sex. The majority of female beneficiaries are active in Rural Tourism, Olive Oil, and to a lesser extent in Rural Basket Honey and Processed Foods. Avocado, Cherry, Grape and Pome Fruit value chains feature a low number of female beneficiaries in comparison with males. In Processed Food, Rural Tourism and Olive Oil female beneficiaries are 49.6%, 44.4%, and 18.5% respectively. Olive oil has a high number of female beneficiaries, which is due to the introduction of mechanical harvesters, thus reducing the burden of harvesting operations. There is also a low overall percent of female beneficiaries in the honey sector. This suggests that the selection of beneficiaries by IPs for the distribution of beehives or other equipment has not systematically included a gender component.

Figure 2: LIVCD beneficiaries by value chain and by sex



According to LIVCD successful women that have developed their agricultural activities thanks to project support serve as role models, attracting other women to non-traditional value-chain activities. There is a case of a female beekeeper who is now investing in beekeeping and promoting beekeeping among others in her region, and of a woman who has promoted avocado cultivation to other women.

LIVCD staff asserts that effort is made to adapt training scheduling to beneficiaries' activities. However, the timing of training sessions was reported as sometimes unsuitable by some interviewed beneficiaries. Some trainings have been conducted towards noon time, a time during which agricultural producers or food processors are busy in their economic activity, and women engaged in domestic responsibilities. In some cases trainings started with a substantial delay and some beneficiaries left before the start.

LIVCD includes interventions tailored to women or women cooperatives, notably in rural tourism and food processing. The positive impact of LIVCD interventions is evident in women food processing cooperatives and female-headed companies, where grant assistance has been often related to the use of new equipment. The introduction of adapted technologies has effectively helped grantees to improve production efficiency and quantities, resulting in a better allocation of workforce in the production chain, additional income, or lower workload burden.

Three events have been organized by LIVCD in partnership with the Women Empowerment Initiative of BLC Bank to facilitate women's access to loans. LIVCD has also developed feasibility studies for four women to apply for a loan. To date, only three women have accessed agricultural loans through LIVCD.

The prevalence of women among LIVCD staff in field, technical and managerial positions reflects the internal adoption of gender equality values. The LIVCD project team includes a gender focal point person who supports value chain leaders and coordinators on a regular basis to ensure gender mainstreaming in the planning, implementation, evaluation and follow-up of project activities.

A total of four gender trainings are reported by LIVCD in the Annual Report for Year 3. In addition, LIVCD collects gender disaggregated data. In some cases, the number of female beneficiaries listed under LIVCD may not accurately reflect the number of females involved in the project. The ET noted during fieldwork that a woman's official membership in a cooperative is not always indicative of her effective involvement in agricultural production. The national law for cooperatives forbids registration in more than one cooperative. Also, in remote rural areas of Akkar and the Bekaa, where enrollment in the army and security forces is high, women are registered in agricultural cooperatives, while it is in fact their husband who takes care of the land.

No gender explicit criterion exists for the assessment of the Eols of grant proposals. This limits the use of gender considerations to assess the grant-worthiness of applicants (however, in the following grant preparation phases LIVCD develops a gender component with the applicant in the proposal to be funded).

Activities planned in the Contractor SoW also included the establishment of a Women's Agricultural Forum to foster capacity building through trainings and exchanges. However, such an initiative has not been developed.

4.1.6. Sustainability

Question 9: How is the Contractor incorporating sustainable approaches into LIVCD implementation to ensure continued growth in the selected value chains after USG assistance is gone?

A crucial sustainable approach is to develop coordination mechanisms for output markets, for input market, for access to finance and for technical assistance. This is what has been done in the grape value chain by involving leading export companies in the identification of beneficiaries and in the selection of varieties. To some extent these companies also provide finance to their supplying farmers and two of them have agronomists to provide technical assistance to farmers once the project is over. Interventions in the apple value chain are more supply-side oriented and have been organized around centers of service. Their sustainability can be evaluated only at a later stage. However, the very limited involvement of private trading companies is likely to be an issue for sustainability in the pome value chain.

LIVCD has promoted avocado farming in the North and in Mount Lebanon, that is, outside its traditional cultivation area (in the South). Two partners have been involved for trainings and technical assistance. They are both located in the South, so avocado farmers in the North or in Mount Lebanon have nobody to turn to for technical advice. This may represent a limiting factor to sustainability since technical knowledge on avocado seems limited among farmers.

In the next two or three years, avocado production is expected to double. Unless market outlets are properly addressed this may cause a collapse of prices.

LIVCD has also contributed to facilitating the development of new standards for honey and for freekeh. The new standards for honey have been recently approved by the Lebanese Standards Institution (LIBNOR) and by relevant ministries. The new standards have higher MRL for substances that typically Lebanese honey contains (i.e. antibiotics) while the maximum residues limit (MRL) of substances that most imported honeys contain were not increased (i.e. HMF) as initially planned. If enforced, the new regulations represent a significant non-tariff barrier against imported honey. In order to develop a market new standards for freekeh would be important but the development of relevant regulations is stuck and it does not seem to be a priority for LIBNOR.

LIVCD spearheaded the development of a Rural Tourism Strategy. This was approved by the government, which assigned clear responsibilities for rural tourism within the ministry of tourism. The approval of the Strategy is a clear indicator of country ownership. In addition, the Rural Tourism

Strategy set rural tourism at the center of tourism policy agenda. Some municipalities started paying the salaries of the tourist reference person after the end of the grant, which contributes to financial sustainability. Interventions in the rural tourism sector have promoted local networks of guest houses and restaurants, which are put in contact with tourists in different way. However, no fee contributions from members are requested to be part of local networks.

Cooperatives are the most represented category of grantees. 57% of the total number grants and 41% of total grant value was awarded to cooperatives. Some of the grants awarded cooperatives that were visited by the ET did not seem very active. On one side, the lack of substantial cooperatives' activities on technical assistance before the grant casts doubts on the sustainability of the grants once the project is over. On the other side, the majority of interventions channeled through cooperatives consisted in the distribution of mechanical harvesters and in the distribution of beehives (these three areas absorbed 42% of the total value of grants awarded to cooperatives and 67% of the total number of grants). These areas do not pose serious marketing problems. The quantity of honey that can be produced by the three or four hives distributed by the project per beekeeper can be easily sold by beekeepers through their personal network. Mechanical harvesters reduce production costs but do not increase quantity produced.

For grants to be funded, minimum thresholds of cost-share contributions are requested, which contributes to ownership of grant proposals since the grantee has a clear stake in the grant. However, often cost-share estimations also include expenses that do not represent additional costs (e.g. labor costs for mechanical harvesters). In this way, cost-share is reduced.

4.2. CONCLUSIONS

Project interventions contribute to the DO2 of the 2014-2018 CDCS that advances inclusive economic growth. The activities performed during the first year of the project were also coherent with the previous draft formulation of the DO2 that targeted the poorest segments of the Lebanese society.

The value chain facilitation approach was adopted through grants and technical assistance. The demand-driven approach through which grants are designed allowed the project to design interventions that answer to the perceived needs of the beneficiaries. However, this same approach has made it difficult to promote interventions that are considered important by the project team for the value chain upgrade strategies, but that do not have grant applicants. This has been partially compensated by technical assistance interventions. The combined use of technical assistance and grants has been positive because these two intervention mechanisms have been used in a complementary way (however, from an evaluation point of view it is impossible to separate the effects of grants from the effects of technical assistance on final results).

The initial value chain assessment was more useful to map stakeholders and potential partners rather than to select value chains to work on.

The project facilitation approach to develop the target value chains and to address competitive constraints and gaps has been more effective in some value chains than in others. More specifically, interventions in the pome fruits, olive oil, cherry, avocado and rural tourism have mainly targeted the upstream part of the value chain. Competitive constraints and gaps in the downstream part of the of these value chains are still unaddressed. Moreover, the participation of leading trading and export companies is limited in these value chains.

Interventions in the honey and grape value chains have been designed in a more comprehensive way addressing both upstream and downstream aspects of the value chain. Moreover, in the grape value chain LIVCD has mainly played a facilitation role, since the greatest part of investments have come from farmers, who provided about 75% of investments in new orchards, whilst 25% were from USAID. But in

the honey value chain, LIVCD has been more interventionist where only 25% of investments in beehives are from beekeepers versus 75% being LIVCD's contribution.

The development of a value chain requires coordinated complementary services which include input supply, output markets, finance and technical assistance. The underdevelopment of just one of these elements may compromise the take-off of a whole sector. Opportunities for access to finance are available either embedded in inputs and output markets (from agro-dealers and traders) or from commercial banks.

Trainings and technical assistance to farmers have partially addressed their needs. This is because trainings have been too short for new beekeepers and avocado farmers. The percentage of farmers applying improved technologies or agricultural practices is relatively high (more than 70%). Also, the ET estimated that 44% farmer beneficiaries were not applying improved technologies or practices before the project. It is noteworthy that more than 80% of beneficiary grape farmers have applied improved technologies or practices that were not applying before the project began.

Interventions on market aspects are still needed especially in olive oil, avocado, and pome fruits. This is also confirmed by the fact that the percentage of avocado, olive oil, and pome fruits farmers benefitting from new business linkages is less than 4%.

Of the eight target value chains, six are about tree crops, which require three years from planting to the first harvest (and some more years to reach the full production phase). So the greatest part of benefits of delivered interventions could not be captured by this evaluation and will materialize at a later stage.

The decrease in profit encountered by the majority of the orchard farmers from 2014 to 2015 cannot be attributed to the LIVCD interventions. Benefits in the honey value chain are lower than expected because of two main reasons: i) last year's weather conditions caused a serious reduction in the quantity of honey produced and, ii) part of the beehives distributed by the project during an initial phase were not of good quality. The quantities of harvested honey have decreased for all beekeepers. However, large beekeepers have managed to cope with adverse weather conditions, thus increasing the number of beehives much faster than small beekeepers. Small beekeepers have only slightly increased the number of beehives. However, those small beekeepers that have received hives from the project performed better than those who have not (in terms of number of hives).

In processed food most benefits of the LIVCD interventions have come from technical assistance provided to companies that produce products with strong backward linkages (i.e. pickles and freekeh) since they indirectly benefit smallholder farmers too. Grants provided to women-led cooperatives are also successful experiences in terms of efficiency, increases in sales and reduction of workload burden.

Some gender oriented activities promoted by the project have included interventions aimed at reducing the physical burden for women, which has facilitated female participation in targeted value chains. Rural tourism and processed foods are not real value chains. However, their inclusion in the project strategy has allowed LIVCD to strongly increase the number of female beneficiaries. Rural tourism and processed foods are also the two sectors that present the higher percentage of female beneficiaries. Excluding olive oil, in the other value chains women's participation has been quite low. This suggests that a gender component has not been systematically included.

LIVCD is lagging behind on grant commitments. With the current time frame there is a risk that grants are committed without a proper assessment of grant proposals. Moreover, the method chosen for the assessment of EoI for grant proposals presents important weaknesses.

With the exclusion of some harvest related interventions in the olive oil value chain in 2014, LIVCD has provided assistance for one harvest period only (in 2015). Before the current closure date, LIVCD will be able to follow up beneficiaries for one more harvest. This may not be enough to develop harvests, post-harvest and market routines that are maintained in time.

A convincing exit strategy is built in interventions in the grape value chain. Here, the private exporters are already taking a leading role. In cherry, avocado, and pome fruits an exit strategy is still needed. In olive oil, cooperatives will be able to manage the most frequent LIVCD intervention in this value chain, that is, the distribution of mechanical harvesters, but their capacity to provide marketing services for their members is limited. In rural tourism NGOs and municipalities are expected to inherit the knowledge and experience developed through the project. In food processing, the sustainability of interventions rely on the capacity of individual companies and cooperatives that benefitted from the project. In the honey value chain, cooperatives are not able to provide technical assistance and marketing services to their members but for small beekeepers marketing is not expected to be a problem. Given the small quantity of beehives distributed to each beekeeper (four), the additional honey produced can be sold through beekeepers' personal network.

5. OTHER OBSERVATIONS

A total of 15 sub-contracts were issued to the benefit of 12 beneficiaries. Six of these sub-contracts ranged between \$140,000 and \$149,500. None of the contracted entities had a single subcontract that exceeded \$150,000. However, three of the subcontracted entities received two subcontracts which sum exceeds \$150,000 with less than 4.5 months between the end of a contract and the start of the new contract. By not exceeding \$150,000 limit the Contractor avoided the involvement of USAID in the contract approval process.

Some individual beneficiaries benefited through multiple contract channels from LIVCD: as providers of STTA, as subcontractors, as owners of companies that were awarded grants, as members of cooperatives that were awarded different grants and as supply providers in procurement.

One of the grantees provided second-hand equipment as a cost-share/leverage contribution and this equipment was USAID branded (only a supplementary sensor was provided by LIVCD).

6. RECOMMENDATIONS AND LESSONS LEARNED

6.1. RECOMMENDATIONS

Question 10: What specific actions should be taken by the Contractor before the end of the project to address gaps in addressing beneficiary needs, gaps in the value chain approach, any needed improvements in project management, Sustainability of value chain investments and gaps in the empowerment and equality of women throughout the value chain?

Recommendations for the Contractor:

1. Some of the grants have been awarded to cooperatives that appear very weak with no substantial activities before the grant. This casts doubts on the sustainability of grants awarded to these cooperatives. A careful assessment of previous cooperatives' activities should be carried out before the grants are awarded. One possible indicator are the values of the profit and loss account (the absence of revenues or expenditures suggests that no activity took place in the accounting period covered by the profit and loss account).
2. The method of assessment of grants Eol presents weaknesses. It is a fully compensatory method (see Section 4.1.4) and is based on criteria that are evaluated over different scales, which makes the assessment very difficult. Moreover, it does not include an explicit criterion for gender. The assessment method of Eol should be reviewed. Some suggestions include the use of veto thresholds for most important individual criteria to address the full compensability problems. A veto threshold is the minimum score that one given criterion has to reach. If such score is not reached the Eol should be rejected, no matter the value resulting from the aggregation of the score of all criteria (for instance, if the pre-assigned veto threshold of the capacity of management of grantee is 3 and the score assigned to this criterion is 2 the grant should be rejected even if the total score obtained by aggregating the scores of all criteria is very high). Also one unique scale of assessment should be used for all criteria (e.g. from 1 to 10). In order to reflect the relative importance of criteria, different weights should be used for each criterion, so that the score of each criterion is multiplied by its relative weights before final aggregation.
3. The criteria used for the assessment of the Eol do not include an explicit criterion for gender. This should be added to the already existing criteria. In addition, the current scope of the relevance criterion is too wide. It should be restricted to the relevance of the Eols for the gaps and competitive constraints in the value chain upgrade strategy, which are identified in the initial value chain assessments, and which are not already covered by other grants.
4. The specifications of some procurements were not fit for the intended purposes. Often grantees have the technical knowledge to provide valuable inputs for the specifications of procurements. The Contractor should consider giving grantees greater say in procurement specifications.
5. The way some monitoring indicators have been defined or measured presents important deficiencies. This evaluation does not suggest to change the definition of indicators since more than half of the project life has already passed. It is here only recommended to change the way indicator 14 is measured. This indicator should reflect the effect of the project assistance on access to finance. Rather than counting the number of people attending training sessions on credit, the number of people submitting loan applications to banks should be used.

6. Market access remains an issue in the apple value chain. The involvement of private companies has been low. Strategic partnership with leading trading companies should be developed as in the grape value chain, thus addressing the lack of market channels and business contacts for farmers. In addition, a detailed assessment of the private sector should be developed to inform the design of new actions to promote private sector involvement in the apple value chain.
7. Market outlets remain an issue also in the olive oil value chains. One main problem is the high cost of Lebanese olive oil. Some farmers have managed to export olive oil to Canada by selling to members of the Lebanese diaspora. This specialty market segment should be targeted since this is a segment characterized by higher willingness to pay.
8. One constraint of the grape value chain is transport from the field to private companies' cooling systems. LIVCD should consider further promotion of mobile cold storage systems.
9. LIVCD has promoted avocado cultivation in the South, in Mount Lebanon and in the North through the help of two partners located in the South. Farmers in the North will have no near organizations to turn to for technical assistance in the future and will have to cross the whole country to search for technical advice. New partnerships with technical assistance providers should be promoted in the North on avocado.
10. LIVCD is suggesting avocado farmers to buy seedlings from one specific nursery because of its assumed superior quality and lower prices. These characteristics were not confirmed by this evaluation. Moreover, suggesting one single supplier creates undue advantages for one single nursery. The contractor should provide a list of nurseries to farmers rather than a suggesting a single seedling providers. Hariri Foundation nursery is one example whose demo plot is already supported by LIVCD. This nursery should be also promoted.
11. Interventions on avocado have mainly focused on production aspects. No substantial intervention has taken place to increase market outlets. However, in the next two years avocado production will strongly increase. New market channels should be developed before the end of the project.
12. A few farmers have stopped using mechanical harvesters for olive trees since they noted that they take away shoots along the olives. Special attention should be given to prevent this phenomenon by promoting a proper pruning of trees, by a careful procurement of harvesters and by training on the use of the harvesters.
13. Diseases like *gummosis* on cherry trees, *peacock spots* on olive trees and *arroa mites* in beekeeping represent a problem for many beneficiaries. More training is needed to deal with these pathogens.
14. Some targeted processed foods (e.g. pickles and freekeh) have substantial backward linkages that involve smallholder farmers, other have much less (e.g. kibbeh). Grants and technical assistance should be targeted only to processed foods that have important backward linkages (thus indirectly benefitting Lebanese small producers) or to initiatives with higher social value (e.g. women cooperatives).
15. Low quality and second grade products will always be produced. Interventions in processed foods to add value to low quality apples, grapes and cherries should be promoted (e.g. juice and syrups production, dried fruit, etc.)
16. LIVCD is strongly promoting freekeh production by providing more efficient and automated equipment to women cooperatives, who also need technical assistance on marketing. A list of potential freekeh buyers should be provided to freekeh producers.
17. Training for beekeepers was concentrated in short periods while beekeeping is a production activity that is characterized by different seasonal operations, which take place at different

moments during the year. This is why training for beekeepers should be spread over the year (when most important operations take place).

18. In some cases, beehives were delivered after one or two hours of trainings on beekeeping, that is, at the beginning of the training sessions. Beehives should be distributed at the end of training sessions only to those beekeepers that have attended all sessions.
19. The Contractor has limited in-house expertise for beekeeping. This affected the quality of procurements in an initial phase of the project, and in some cases of the evaluations of grant proposals. LIVCD has already taken some remedial actions to correct initial problems. However, external experts should be involved for the evaluation of grants and to assess the quality of beehives before delivery (obviously experts should not have no conflict of interest for the grants and procurements they are evaluating).
20. A good part of beneficiaries of the honey and avocado value chains have never produced honey or avocado before. The short trainings they received was not probably enough and more technical training should be organized for them.
21. Various beekeepers complained about lack of transparency in the distribution of beehives from beneficiary cooperatives or NGOs. LIVCD should properly monitor how beneficiary beekeepers are selected by grantees; providing guidelines or standards for beneficiary selection.
22. LIVCD installed the first artificial insemination laboratory for queen bees in Lebanon. These type of activities are generally hosted in research centers. LIVCD should consider promoting partnership with universities, so they can provide their contributions and they can also benefit from the use of artificial insemination center. In addition, the insemination laboratory installed by LIVCD will may affect the prevalence of local native variety bees (i.e. *A. Mellifica Syriaca*). The installation of an artificial insemination laboratory aimed at reproducing local variety queen bees should be considered in addition to the laboratory already established.
23. Participation in the Gulfood Trade Show was promoted by LIVCD. However potential customers in this fair mainly look for high volume and mass production products, which many of Lebanese exporters cannot provide. Participation in niche products fairs and specialty markets should be also promoted.
24. In rural tourism value chain some guest-houses do not seem to provide good quality for price services. An area that deserves further attention in training is price setting and cost calculations.
25. In some occasions trainings have been organized around noon, when women beneficiaries are busy with household chores. Special attention should be paid to held trainings at times that are convenient for female beneficiaries.

Question 11: What management strategies or actions should be taken by USAID/Lebanon to ensure achievement of end-of-project results?

Recommendations for USAID/Lebanon:

1. At the time of this evaluation, LIVCD has still to commit slightly more than \$5 million for grants in 12 months. Considering the spending rate of LIVCD up to date, this is a very short period for the remaining amount of resources. In addition, by the end of the current closure date LIVCD, will have followed-up beneficiaries for only two main harvests during the whole project life. This is not enough to develop sustainable routines in harvest and post-harvest operations and in marketing. A no-cost extension should be provided. No-cost extensions also depend on the

capacity of the Contractor to cover running costs. Different options are here proposed on the basis of harvesting periods:

- A 6-month no-cost extension would allow LIVCD to properly cover one more harvest for all agricultural value chains, however there would not be in time to follow-up beneficiaries on market aspects.
- A 10-month no-cost extension would also allow LIVCD to follow up olive oil and pome fruits beneficiaries on market aspects for one more agricultural season.
- In 2018 avocado production is expected to double and market aspects may become a serious issue. An 18-month no-cost extension would allow LIVCD to provide technical assistance to avocado farmers and traders when it is most needed.

Interventions in the different value chains could be phased out at different moments, so that only most needed activities are kept. This would reduce running costs.

2. Cost-share estimations have sometimes included non-additional costs, that is, costs that the grantees would have borne even without grants. Grant proposals that include clear non-additional costs in cost-share should not be accepted because they imply a hidden reduction in grantees' contribution.
3. There is a lack of certified seedlings. The current USAID approach of not contracting government institutions should be reconsidered to build on a strategic partnership with LARI to certify nursery seedlings.
4. The greatest part of benefits of the project could not be captured by this evaluation. This is because in six of the eight value chains that are here discussed, the benefits of the project will materialize at a later stage (when planted trees enter into the production phase). A follow-up evaluation is recommended in 2019.

6.2. LESSONS LEARNED FOR NEW PROJECTS

This section was added upon a specific request from the Mission.

Attribution of causality (i.e. assessing the cause of a detected change,) is very difficult (if not impossible) for a project monitoring team. This is because monitoring indicators are generally based on a before-and-after comparison (with no use of control groups). However, five monitoring indicators of the performance tracking table have been defined in a way that implies the attribution of causality, since they attribute changes to the project. When indicators are measured over a low number of observations (e.g. a few sales from few companies) deciding whether a change can be attributed to a project may still be feasible by going over the events characterizing each individual observation. However, at large scale such an exercise is very difficult and not reproducible by an external verification. A more realistic approach for a project monitoring system would be to define indicators that do not imply the attribution of causality. Indicators whose definition does not include a causal attribution simply measures a change in time of a given quantity without specifically attributing the reason of change of the indicator to a project. This approach would be less ambitious but more transparent (and measurements would be less subject to criticisms). Whether or not detected changes are caused by USAID interventions could still be assessed through a proper a counterfactual analysis (i.e. an impact assessment).

Although the term multi-criteria analysis was not used, LIVCD applied a multi-criteria analysis to facilitate the choice of the value chains to work on. If properly applied, multi-criteria analyses can be a very useful tools to select interventions among different alternatives. However, the way multi-criteria analysis was applied presents important shortcomings. A multi-criteria problem can be defined by a set of alternatives (e.g. different value chains to target) and by a family of evaluation criteria (e.g. poverty level of potential beneficiary, new of potential beneficiaries, competitiveness of the product, presence of potential partners, etc.). A typical multi-criteria analysis makes it possible to explore a problem by

providing a ranking of alternatives according the set of criteria. It generally implies the following steps: i) choice of alternatives, ii) choice of criteria, iii) translation of criteria in quantitative or qualitative indicators, iv) scoring of each alternative for each criterion and building of an evaluation matrix (whose elements report the performance of each alternative according to each criterion), v) choice and application of an aggregation procedure to obtain a final ranking, vi) sensitivity analysis. Specific analytical skills are required to apply a multi-criteria analysis. If a project staff has not such multi-criteria analysis skills, a recruitment of external multi-criteria experts should be considered to guide and facilitate multi-criteria assessments.

A gender analysis was done as a general assessment by LIVCD. However, a gender analysis was not systematically included in value chain assessment reports, which were supposed to provide a comprehensive analysis of the value chains and to propose interventions. A gender analysis in value chain assessments would have probably facilitated the design of tailored women-oriented interventions and it should be promoted in future projects.

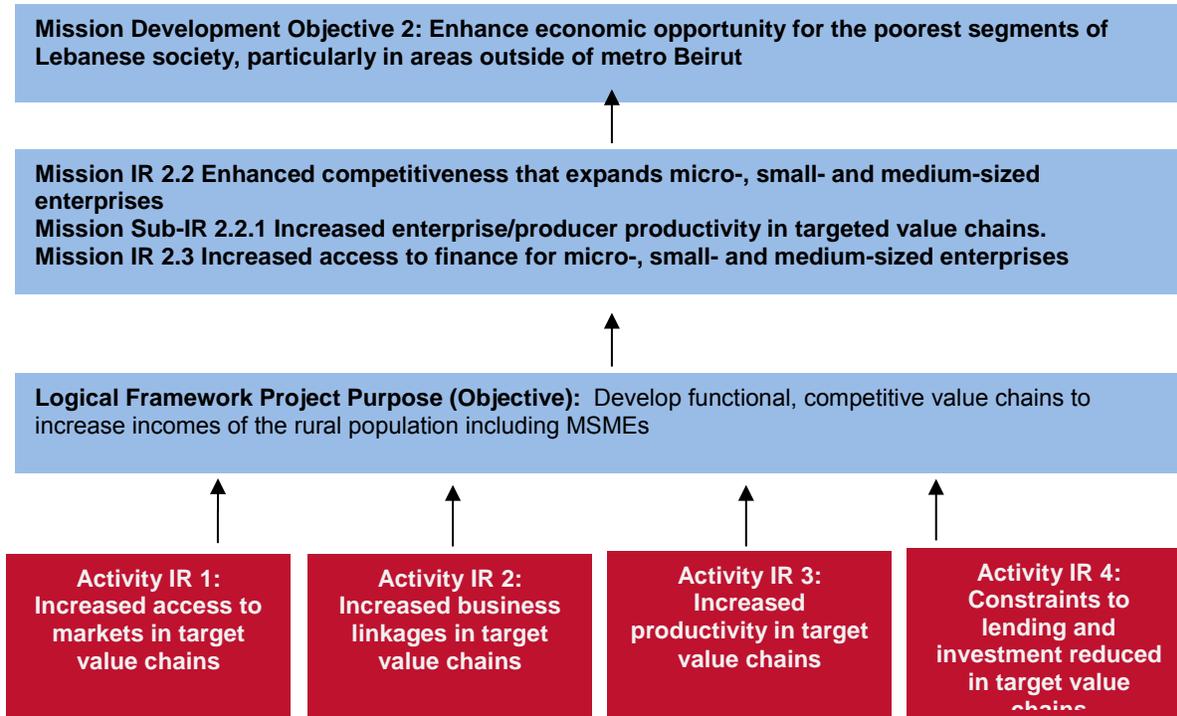
The project has showed little results in promoting access to finance, although opportunities to access loans at subsidized rates are widely available for farmers and food processing companies. Unless more successful access to finance promotion strategies are developed, the inclusion of access to finance in future value chain projects should not be considered a priority.

Annex I: Evaluation SoW



LIVCD mid-term
evaluation SOW.doc

Annex 2: LIVCD Logical Framework (Based On The 2014-2018 draft CDCS)



Annex 3: LIVCD Performance Tracking Table

The values of the indicators of the LIVCD Tracking Table are reported in following Table A3.I as reported by DAI.

Table A3.I: LIVCD Performance Track Table at March 2016

Indicator Title - Disaggregation-Reporting Freq.	Unit of measurement	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Target Y4	Actual Y4
USAID/Lebanon Development Objective 2: Enhance Economic opportunity for the poorest segments of Lebanese society, particularly in areas outside Beirut									
CDCS Goal: insert when approved									
LIVCD Objective: Develop fully functioning, competitive value chains to increase incomes of the rural population including MSMEs									
1. Number of MSMEs, including farmers, and other organizations receiving business development services from USG assisted sources - (custom) based on FTF 4.5.2-37 (S) - Quarterly	MSMES, including farmers/producers	35	648	2,550	2,779	4,463	4,830	4,463	1,063
2. Value of exports of targeted agricultural commodities as a results of USG assistance - FTF 4.5.2-36 - Annually	Volume (Tons)	N/A	N/A	26	34	37.03	336.5	10%	
	Value	N/A	N/A	\$ 252,314.70	\$ 302,348.00	\$ 332,582.80	\$ 929,427.30		
3. Value of incremental sales (collected at farm-level for small holders and firm-level for MSMEs) attributed to FTF implementation - (custom) based on FTF 4.5.2-23 - Annually	Volume	N/A	N/A	2	18.05	291	672.36	10%	
	Value	N/A	N/A	\$ 22,937.70	\$ 115,813.75	\$ 338,136.63	\$ 1,766,796.79		
Total Volume and Value during reporting year	Volume			25,674	41,391	3,198.02	3,579.65		
	Value			\$ 252,314.70	\$ 345,190.75	\$ 3,719,502.89	\$ 5,148,163.06		
4. Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources (assets, credit, income or employment) - "F" GNDR-2 (S) - Quarterly	Women proportion	10%	39%	10%	21%	10%	14%	10%	
Number of male and female MSMEs			648	2,550	2759	4,463	4,830	4,463	1063
Number of male and female IFs					730		758		54
Number of females			254	255	726	446	803	446	103
5. Number of jobs impacted by LIVCD	Jobs –	N/A	N/A	500	1,164	875	2,848	875	775

Indicator Title - Disaggregation-Reporting Freq.	Unit of measurement	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Target Y4	Actual Y4
implementation - (custom) based of FTF 4.5.2.(S) - Quarterly	FTEs								
# of FTE jobs impacted						875	2057		362
CDCS IR 2.2: Enhanced competitiveness that expand Micro, Small, and medium-sized enterprises									
LIVCD Sub-IR 1: Increased access to markets in target value chains									
6. Number of export markets, or distribution channels for selected products accessed as a result of USG assistance - LIVCD Custom Indicator - Annually	new export markets new distribution channels	N/A	N/A	11	11	19	92	19	
LIVCD Sub-IR 2: Increased business linkages in target value chains									
7. Number of MSMEs, including farmers, benefiting from <u>new</u> horizontal & vertical linkages - LIVCD Custom Indicator - Quarterly	MSMEs, including farmers/producers	N/A	N/A	390	250	683	1,097	683	52
LIVCD Sub-IR 3: Increased productivity in target value chains									
8. Gross margin per hectare, animal or cage of selected product - FTF 4.5-16,17,18 - Annually		N/A	N/A			10%			
4.5- 16 Farmer's gross margin per unit of land	US Dollar / hectare			10%		10%		10%	
Pome Fruit				\$ 432.87	0	\$ 432.87	\$ 1,268.00		
Stone Fruit-Avocados				\$ 4,227.21	0	\$ 4,227.21	\$ 7,995.97		
Stone Fruit-Cherry				\$ 702.99	0	\$ 702.99	\$ 2,334.00		
Olive Oil				\$ 6,692.40	7,553.00	\$ 9,749.23	\$ 11,946.79		
Grapes				\$ 9,340.10	0	\$ 9,340.29	\$ 12,405.69		
4.5- 17 Farmer's gross margin per crate (hive)	US Dollar / hive			10%		10%			
Honey				10%	0	\$ 136.88	\$ 132.80		
4.5- 17 Farmer's gross margin per unit of animal	US Dollar / animal			10%		10%			

Indicator Title - Disaggregation-Reporting Freq.	Unit of measurement	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Target Y4	Actual Y4
Rural Basket				N/A	0	N/A	\$ -		
Processed Foods				N/A	N/A	N/A	\$ -		
Rural Tourism				N/A	N/A	N/A	\$ -		
9. Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance - FTF 4.5.2-5 - Quarterly	Farmers & others	N/A	N/A	1,650	1,470	2,888	3,296	2,888	848
10. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations and community-based organizations (CBOs) that applied improved technologies or management practices as a result of USG assistance - FTF 4.5.2-42 - Quarterly	Private enterprises Producers organizations women's groups trade & business assoc. and CBOs	25	2	85	31	149	225	149	23
11. Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training - FTF 4.5.2-7 - Quarterly	Individuals	N/A	317	2,370	2,315	4,148	4,481	4,148	919
USAID/LEB - CDCS IR 2.3: Increased access to finance for micro-, small-, and medium-sized enterprises									
LIVCD Sub-IR 4: Constraints to lending and investment reduced in target value chain									
12. Number of public-private partnerships formed as a result of FtF assistance - FTF 4.5.2-12 (S) - Quarterly	Public-private partnerships	10	6	100	49	175	56	175	7
13. Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation - FTF 4.5.2-38	Value of new private sector investment	N/A	N/A	\$ 900,000.00	\$ 559,088.87	\$ 1,575,000.00	\$ 2,931,867.10	\$ 1,575,000	

Indicator Title - Disaggregation-Reporting Freq.	Unit of measurement	Target Y1	Actual Y1	Target Y2	Actual Y2	Target Y3	Actual Y3	Target Y4	Actual Y4
- Annually									
14. Number of MSMEs, including farmers, assisted by USG to apply for value chain finance - LIVCD Custom Indicator - Quarterly	MSMEs, including farmers	N/A	N/A	150	314	263	454	263	102

Annex 4: Descriptive analysis of the BBS results

Table A4.1: Distribution of the sampled population

Value Chain	N	%
Grape	32	6.6
Olive Oil	145	30.0
Pome Fruits	33	6.8
Beekeeping	198	41.0
Avocado	44	9.1
Cherry	31	6.4
Total	483	100.0

Table A4.2: Distribution of the sampled population by sex

Sex	N	%
Female	45	9.3
Male	438	90.7
Total	483	100.0

Table A4.3: Distribution of the sampled population by governorate

Governorate	N	%
Bekaa	115	23.8
Mount Lebanon	111	23.0
Nabatieh	79	16.4
North	106	21.9
South	72	14.9
Total	483	100.0

Table A4.4: Record keeping among the surveyed population

Did you record your expenses and revenues for farming or beekeeping in 2015?	N	%
No	367	76.0
Yes	116	24.0
Total	483	100.0

Table A4.5: Membership of the surveyed population in agricultural cooperatives

Member of an agricultural cooperative	N	%
No	329	68.1
Yes	154	31.9
Total	483	100.0

Table A4.6 : total number of full time workers of the farm (including the respondent)

Total number of full time workers of the farm	Number of respondent	Mean number of full time workers	Std. deviation	Min	Max	CI	
						Lower bound	Higher bound
Avocado	44	2.70	7.020	0	47	0.57	4.84
Cherry	31	1.39	1.874	0	8	0.70	2.07
Grapes	32	5.00	10.767	0	60	1.12	8.88
Beekeeping	198	1.47	2.801	0	23	1.08	1.86
Olive Oil	145	4.21	9.304	0	61	2.68	5.73
Pome Fruit	33	3.42	4.430	0	20	1.85	5.00
ALL VC	483	2.77	6.651	0	61	2.17	3.36

Table A4.7 : Plantation area of the value chain commodity (in dunum)

Plantation area of the value chain commodity (in dunum)	Mean	95% Confidence Interval for Mean		Median	Std. Deviation	Minimum	Maximum
		Lower Bound	Upper Bound				
Avocado	52.38	-7.42	112.19	5.00	148.07	1	600
Cherry	11.04	6.22	15.87	5.00	12.19	0	41
Grapes	25.97	14.66	37.28	16.00	29.73	3	150
Olive Oil	26.46	11.86	41.05	8.00	78.31	1	700
Pome fruits	82.61	5.58	159.63	8.00	206.27	1	900
All VC	35.03	20.87	49.18	8.00	107.72	0	900

Table A4.8 : Number of productive trees of the value chain commodity

Number of productive trees of the value chain commodity	Mean	95% Confidence Interval for Mean		Median	Std. Deviation	Minimum	Maximum
		Lower Bound	Upper Bound				
Avocado	228.69	88.03	369.36	87.50	348.26	2	1652
Cherry	386.85	206.37	567.33	250.00	456.23	3	2,000
Grapes	3,162.07	1,464.66	4,859.47	1,300.00	4,462.40	100	19,000
Olive Oi	431.13	234.93	627.34	200.00	1,052.64	20	10,000
Pome fruits	1,848.80	585.28	3,112.32	550.00	3,383.76	6	15,000
All VC	943.44	634.24	1,252.63	300.00	2,353.57	2	19,000

Annex 5: Data collection instruments

Questionnaire - English version

SECTION A: REFERENCE		
#	QUESTION	RESPONSE CODES
A0	Survey ID	
A1	Date of survey	
A2	Name of enumerator	
A3	Enumerator ID	
A4	Name of Supervisor	
A5	Mahafaza:	
A6	Qaza	
A7	Value Chain	
A8	Name of Beneficiary	
A9	Beneficiary ID in LIVCD database	
A10	Type of Contract <i>(to be answered by using list of interviewees, not to be asked during the interview)</i>	<input type="checkbox"/> Technical assistance <input type="checkbox"/> Grants

INFORMED CONSENT: PLEASE READ THE FOLLOWING CONSENT FORM WORD FOR WORD:

Hi, my name is _____. I am a researcher working with the Performance Management Support Program for Lebanon, that is funded by the U.S. Agency for International Development. We are conducting a performance mid-term evaluation for the LIVCD project. I would like to ask you some questions to better understand the type of services received by LIVCD and their impact on your farming or beekeeping activities. Your participation is entirely voluntary. If you agree to participate, our discussion will last for around 35 minutes. Please rest assured that your answers will remain confidential. We will not provide your name and answers to anyone. Do not feel obligated to answer any question that you are not comfortable with and do not hesitate to ask me for a clarification if you think that a question is a bit difficult or unclear. If you have any questions about this study, you may contact the evaluation team at PMSPL. The contact number is 01391721.

SECTION B: BENEFICIARY CONSENT (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)	
Did the respondent consent?	
Yes: 1	
No: 2	

I'd like to make you some question about your general farming activity before starting with questions about the project of the American Development Agency / USAID

SECTION C: BENEFICIARY BACKGROUND INFORMATION (FOR ALL INTERVIEWEES)	
1	Sex of the interviewee (beneficiary) <i>Male: 1</i> <i>Female: 2</i>
2	Type of the beneficiary <i>Individual: 1</i> <i>Enterprise: 2</i> <i>Cooperative: 3</i>
3	Sex of the business head <i>(ask this question only if not cooperative)</i> <i>Male: 1</i> <i>Female: 2</i>
4	Total number of full time workers of the farm (including the respondent)
5	Number of male full time workers of the farm (including the respondent)

5	Number of female full time workers of the farm (including the respondent)	
7	Number of full-time non Lebanese workers of the farm (including the respondent)	
8	Are you a member of any agriculture cooperative? Yes: 1 No: 2	
9	Which is the main source of income of your household?: Read the full list and write the code in parenthesis as answer: - Employment salary (1) - Remittances or pensions (2) - Trade (3) - Beekeeping (4) - Farming (5) - Other (6)	
10	Did you record your expenses and revenues for farming or beekeeping in 2015? Yes: 1 No: 2	

SECTION D: TRAINING AND TECHNICAL ASSISTANCE (READ QUESTIONS IN THIS SECTION TO ALL RELEVANT INTERVIEWEES).

Read questions in this section by row (not by column)

		(A) Applicability Yes: 1 No : 2	(B) Did you practice this technique in your field before the training of the American Development Agency /USAID? Yes: 1 No : 2	(C) Did you practice this technique in your field after the training of the American Development Agency project/USAID? Yes: 1 No : 2 Partially: 3	(D) Have you been trained on this technique prior your participation in the training of the American Development Agency or USAID? Yes: 1 No : 2
Did you take part in one of the following training or technical assistance?					
For Avocado Producers Only					
1	Visiting demonstration plots				
2	Grafting				
3	How to plant seedlings				
For cherry producers only					
4	New varieties of seedlings				
5	How to plant seedlings				
6	Visiting demonstration plots				
7	Pruning				
8	Pest management				
For grape producers only					
9	New grape trellis or varieties				
10	Visiting demonstration plots				
11	Use of cones				
12	Pruning				
13	Irrigation management				
For olive producers only					
14	Pruning				
15	Visiting demonstration plots				

16	Use of mechanical harvesters				
17	Olive oil service centers				
For apple and pear producers only					
18	Proximity service center				
19	New equipment for rental (sprayers or electrical pruners)				
20	Planting seedlings				
21	Visiting demonstration plots				
22	Compost production				
For beekeepers only					
23	Beekeeping management				
24	Rearing and use of bee queens				
25	Beekeeping services center				

SECTION E: OUTREACH OF SUPPORTED EXTENSION ACTIVITIES (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)

Read questions in this section by row (not by column)

	Are you aware of the existence of the following initiatives supported by the American Development Agency or USAID	(A) Yes: 1 No: 2	(B) Did you use (or visit for demo plot) it? Yes: 1 No: 2
For avocado producers only			
1	Demonstration plots		
For cherry producers only			
2	New varieties of seedlings		
3	Demonstration plots		
4	Distribution of electrical pruners to cooperatives or private companies		
5	Distribution of sprayers to cooperatives or private companies		
For grape producers only			
6	New grape trellises or varieties		
7	Demonstration plots		
For olive producers only			
8	Distribution of mechanical harvesters to cooperatives and private companies		
9	Distribution of electrical pruners to cooperatives and private companies		
10	Improved mill or storage facility		
11	SMS on olive production and marketing		
12	Olive oil service centers		
For apple and pear producers only			
13	Proximity service center		
14	Distribution of electrical pruners to cooperatives or private companies		
15	Distribution of sprayers to cooperatives or private companies		
16	Demonstration plots		
17	Compost production		
18	Cooling and sorting lines at reduced price		
For beekeepers only			

19	Delivery of extractors to cooperatives			
20	Delivery of beehives			
21	Sales of bee queens			
22	Laboratory for artificial insemination			
23	Beeswax recycling center			
24	Beekeeping services center			

SECTION F: IN-KIND CONTRIBUTION OR DONATION (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)	
1	Did the project of the American Development Agency (or USAID) give you any in-kind contribution or equipment? <i>Yes: 1</i> <i>No: 2</i>
2	<i>Read this and following questions of this section only if answer to the previous question is YES to the previous question is Yes and write descriptive answer.</i> What did they give you?
3	Did you use the equipment they gave you? <i>Yes: 1</i> <i>No: 2</i>
4	<i>Read this question only if answer to the previous question is NO</i> If not, why? (<i>write descriptive answer</i>)

SECTION G: HORIZONTAL AND VERTICAL LINKAGES (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)			
<i>Read questions in this section by row (not by column)</i>			
#	QUESTION	RESPONSE CODES	<i>Read this question only if answer to the first question is Yes</i>
	Did the project of the American Development Agency or USAID helped you in getting the following?	(A) Applicability <i>Yes: 1</i> <i>No:2</i>	(B) If yes, have you benefited more than once from this deal/relation? <i>Yes: 1</i> <i>No:2</i>
			(C) Will you maintain this business relation in the future? <i>Yes: 1</i> <i>No:2</i> <i>Maybe: 3</i>
1	Business deal with input Suppliers (better deal for seedlings, fertilizers, pesticides or herbicides, pruning services, spraying services, wax, bee queens...)		
2	business deal with private companies other than cooperatives (renting equipment, extension services, pruning services, spraying services harvesting services, extraction services for honey etc.)		

3	Business deal with buyers or traders			
4	business linkage with other farmers, group of farmers, cooperatives? (aggregate production, rent of harvesters, rent of extractors, spraying services , pruning services, purchase of beehives, packaging...)			
5	Did you rent pruning or spraying equipment donated by the American Development Agency or USAID?			
6	<i>Only for olive farmers</i> , did you rent a mechanical harvester donated by the American Development Agency or USAID?			

SECTION H: PLANTATION BACKGROUND (READ QUESTIONS IN THIS SECTION ONLY TO ORCHARD FARMERS)

1	Plantation area of the value chain commodity (in dunum)	
2	Number of productive trees of the value chain commodity	
3	Year when the majority of the productive trees (or vineyards) were planted	
4	Planted Varieties (<i>write name</i>)	
5	What are the most common pests you faced recently?	

SECTION I: BEEHIVES BACKGROUND (READ QUESTIONS IN THIS SECTION ONLY TO BEEKEEPERS)

1	Number of productive hives in 2016	
2	Number of productive hives in 2015	
3	Number of productive hives in 2014	
4	Number of hives received by USAID/the Americans	
5	Year when hives were received by the American Development Agency or USAID?	
6	In which year did you start producing honey in general?	
7	After honey harvest do you feed your bees? Yes: 1 No: 2	
8	What is the sugar/water ratio you use?	

SECTION J: CROP PRODUCTIVITY (READ QUESTIONS IN THIS SECTION ONLY TO ORCHARD FARMERS)

1	Quantity harvested in 2015 (tons)?	
2	Quantity sold in 2015 (tons)?	
3	Sales generated in 2015 (LL)?	
4	Quantity sold in 2014 (tons)?	
5	Sales generated in 2014 (LL)?	
6	During your last harvest (in 2015) did you make more money than in 2014? Yes: 1 No: 2	

7	<p><i>For enumerator: <u>read this questions only if answer to last question is Yes.</u></i> <i>Read questions by row (not by column)</i> If this year you generated more money in 2015, which were the main reasons?</p>	<p>(A) Applicability Yes: 1 No: 2</p>	<p>(B) <i>Read this question only if answer to previous question is Yes</i> Was this the result of the American Development Agency or USAID support? Yes: 1 No: 2</p>
.1	Better selling price		
.2	Higher quantity harvested		
.3	Higher quantity sold		
.4	Lower production costs		

SECTION K: BEEHIVES PRODUCTIVITY (READ QUESTIONS IN THIS SECTION ONLY TO BEEKEEPERS)

#	QUESTION		
1	How much quantity of honey did you harvest in 2015 (Kg)?		
2	How much quantity of honey did you sell in 2015 (Kg)?		
3	How much sales did you generate in 2015 by selling honey (LL)?		
4	How much sales did you generate by selling hives or other beekeeping related products (royal jelly) in 2015 (LL)?		
5	How much quantity of honey did you harvest in 2014 (Kgs)?		
6	How much quantity of honey did you sell in 2014 (Kg)?		
7	How much sales did you generate in 2014 by selling honey (LL)?		
8	How much sales did you generate by selling hives or other beekeeping related products (royal jelly) in 2014 (LL)?		
9	During your last harvest (in 2015) did you make more money than in 2014? Yes: 1 No: 2		

10	<p><i><u>Read this questions only if answer to last question is Yes</u></i> <i>Read questions by row (not by column)</i> If this year you generated more money in 2015, which were the main reasons?</p>	<p>(A) Applicability Yes: 1 No: 2</p>	<p>(B) <i>Read this question only if answer to previous question is Yes</i> Was this the result of the American Development Agency or USAID support? Yes: 1 No: 2</p>
.1	Better selling price of honey		
.2	Higher quantity harvested honey		
.3	Higher quantity sold of honey		
.4	Lower production costs		
.5	Selling hives		

SECTION L: ACCESS TO FINANCE (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)

Read questions in this section by row (not by column)

#	QUESTION	RESPONSE CODES	<i>Read these questions only if answer to previous question is Yes</i>	
	How do you finance your farming or beekeeping production in 2015? <i>(read the full list reported below)</i>	(A) Applicability Yes: 1 No: 2	(B) If yes, did the project of the Americans /USAID assisted you in accessing this funding source? Yes: 1 No: 2	(C) Did you receive support from a previous USAID or American Development Agency projects in accessing funding sources? Yes: 1 No:2
1	Micro credit from MFIs			
2	Personal Bank Loan			
3	Kafalat loan			
4	Inputs on credit from input suppliers			
5	Advance from a trader or buyer			
6	Grant from American Development Agency or USAID			
7	Loans from relatives that has to be returned			

SECTION M: AGRICULTURE OPERATIONS (READ QUESTIONS IN THIS SECTION ONLY TO ORCHARD FARMERS)

Read questions in this section by row (not by column)

#	QUESTION	(A) Applicability Yes: 1 No: 2	(B) Purchase of input (LL) <i>Report value*</i>	(C) Paid labor Yes: 1 No: 2	(D) Labor cost (LL) plus cost for equipment rental (if any) <i>Report value</i>
1	In 2015 did you plant seedlings				
2	In 2015 did you apply herbicides?				
3	In 2015 did you apply pesticides or fungicides?				
4	In 2015 did you apply fertilizers?				
5	In 2015 did you apply manure?				
6	In 2015 did you irrigate?				
7	In 2015 did you prune or thin?				
8	In 2015 did you weed?				
9	In 2015 did you graft your old trees?				
10	In 2015 did you rent any tractor?				
11	In 2015 did you pay for any transportation cost?				
12	During last cropping season did you pay for any fuel or electricity cost?				
13	During last cropping season did you pay for any fridge or storage service				

Indicate with a 0 if inputs were received free of charge from the Ministry or another institution.

SECTION N: HARVEST OPERATIONS (READ QUESTIONS IN THIS SECTION ONLY TO ORCHARD FARMERS)

1	In 2015 did you harvest? Yes: 1	
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	No: 2	
2	*During the last harvest how many harvesters did you employ (number of people)?	
3	*For how many days?	
4	*How many male harvesters did you employ?	
5	*How many female harvesters did you employ?	
6	*How much did you pay one male harvester per day?	
7	*How much did you pay one female harvester per day?	
8	*How many Lebanese harvesters did you use per day?	
9	*How many non-Lebanese harvesters did you employ?	
10	*In case you rented a mechanical harvester, how much did you pay for rental (<i>write zero if no rental</i>)?	
11	*In 2015 how much did you spend in total for the harvest? <i>Write answer only if respondent remember the total value</i>	
<i>*Read this question only if responded has harvested</i>		

SECTION O: BEEKEEPING OPERATIONS (READ QUESTIONS IN THIS SECTION ONLY TO BEEKEEPERS)

		Total input and labor cost (LL) <i>Write "0" if respondent got for free from ministry or other institutions.</i>
1	In 2015 how much did you spend on feeding? (sugar or candy)	
2	In 2015 how much did you spend on treatments?	
3	In 2015 how much did you spend to buy wax?	
4	In 2015 how much did you spend on transportation?	
5	In 2015 how much did you spend on extracting honey (include only service fee for extractor)?	
6	In 2015 how much did you spend in labor for harvesting, extracting, or for any other operation)	
7	In 2015 how much did you spend on packaging?	

SECTION P: OTHER ISSUES (READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES)

Write descriptive answers

#	QUESTION	
1	Why you did not apply for a Kafalat loan? (<i>leave blank if respondent has applied for a Kafalat loan</i>)	
2	In the future if you needed technical assistance related to your crop production where would you go?	
3	In these areas assistance to producers has been available for many years, have you been able to receive technical assistance from others in previous years? Give short description	

(READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES. WRITE DESCRIPTIVE ANSWERS)
SECTION Q What were the problems you encountered / if any during the two year years, and what do you think the project can do more/better to help improving your farming business on the production and marketing level?

(READ QUESTIONS IN THIS SECTION TO ALL INTERVIEWEES. WRITE DESCRIPTIVE ANSWERS)
SECTION R Do you have any comments that you would like to share with us?

(FOR ALL INTERVIEWEES. WRITE DESCRIPTIVE COMMENTS)
SECTION S: Key / interesting issues arisen during the interview

(FOR ALL INTERVIEWEES)
SECTION T: Notes of the enumerators based on visual inspection
Enumerators are asked here to describe the agricultural practices that were seen on the field in terms of orchard maintenance, hive management, irrigation, pruning, size and age of the orchards, techniques used with regards to what the farmer has claimed implementing....

Arabic version

القسم A: المرجع		
#	السؤال	رمز الإجابات
A0	رمز الاستثمارة	
A1	تاريخ الاستثمارة	
A2	إسم العامل(ة) الميداني(ة)	
A3	رمز العامل(ة) الميداني(ة)	
A4	إسم المشرف(ة)	
A5	المحافظة	
A6	القضاء	
A7	القطاع الانتاجي	
A8	إسم المستفيد(ة)	
A9	رمز المستفيد(ة) في قاعدة بيانات ال LIVCD	
A10	نوع العقد (بحسب قائمة أسماء المستفيدين. لا يطرح هذا السؤال خلال المقابلة)	1. هبة 2. مساعدة تقنية

الموافقة المستتيرة: الرجاء قراءة طلب الموافقة التالي كلمة كلمة

مرحباً، اسمي أنا عامل(ة) ميداني(ة) لبرنامج دعم إدارة الأداء في لبنان (PMSPL) الممول من وكالة التنمية الأميركية. نقوم بتقييم برنامج LIVCD الممول أيضاً من وكالة التنمية الأميركية. أريد طرح بعض الأسئلة عليك لفهم أفضل لنوع الخدمات التي حصلت عليها من LIVCD وأثارها على النشاط الزراعي أو تربية النحل الخاص بك. مشاركتك طوعية تماماً. إذا قبلت المشاركة، سيدوم حديثنا 35 دقيقة تقريباً. الرجاء الاطمئنان إلى أنّ إجاباتك ستبقى سرّية. لا تشعري (ي) بضرورة الإجابة على أيّ سؤال لا يريحك ولا تتردد بطلب التوضيحات على أي سؤال تعتبره (أو تعتبرينه) صعباً بعض الشيء أو غير واضح. إن كان لديك أية أسئلة حول هذه الدراسة، يمكنك الاتصال بفريق التقييم في PMSPL. رقم الاتصال: 01391721.

القسم B: موافقة المستفيد أو المستفيدة

(يطرح هذا السؤال على الجميع)

1. هل وافق الشخص على الإجابة؟
 نعم: 1
 لا: 2

أريد طرح بعض الأسئلة عن نشاطك الزراعي عموماً قبل البدء بالأسئلة حول مشروع وكالة التنمية الأميركية USAID.

القسم C: معلومات عن خلفية المستفيد أو المستفيدة

(تطرح الأسئلة على الجميع)

1.	جنس المستفيد	ذكور: 1 أنثى: 2
2.	نوع المستفيد	فرد: 1 مؤسسة: 2 تعاونية: 3
3.	هل ربّ العمل رجل أم امرأة؟ (يطرح هذا السؤال فقط لغير التعاونيات)	ذكور: 1 أنثى: 2
4.	العدد الإجمالي للعاملين في المزرعة بدوام كامل (بما فيهم الشخص الذي يجيب على الاستثمارة)	
5.	عدد الذكور العاملين في المزرعة بدوام كامل (بما فيهم الشخص الذي يجيب على الاستثمارة)	
6.	عدد الإناث العاملات في المزرعة بدوام كامل (بما فيهم الشخص الذي يجيب على الاستثمارة)	
7.	عدد غير اللبنانيين العاملين في المزرعة بدوام كامل (بما فيهم الشخص الذي يجيب على الاستثمارة)	
8.	هل أنت مشترك(ة) في تعاونية زراعية؟	

	نعم: 1	لا: 2
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9.	ما هو مصدر الدخل الاساسي لأسترتكم؟ (خيار واحد) (قراءة القائمة بالكامل وكتابة الرمز الموجود ما بين مزدوجين كاجابة) - راتب موظف أو أكثر (1) - التحويلات من الخارج أو المعاشات التقاعدية (2) - التجارة (3) - تربية النحل (4) - الزراعة (5) - غيرها (6)
10.	هل قمت بتسجيل النفقات والإيرادات المتعلقة بالزراعة أو بتربية النحل في سنة 2015؟ نعم: 1 لا: 2

القسم D: تدريب ودعم تقني (تطرح أسئلة هذا القسم على الجميع. تقرأ الأسئلة أفقياً، لا عمودياً)				
د. هل تلقيت تدريباً سابقاً على هذه التقنية قبل مشاركتك في تدريب وكالة التنمية الأميركية USAID؟ نعم: 1 لا: 2	ج. هل تستعمل هذه التقنية في حقلك بعد تدريب وكالة التنمية الأميركية USAID؟ نعم: 1 كلا: 2 جزئياً: 3	ب. هل كنت تستعمل هذه التقنية في حقلك قبل تدريب وكالة التنمية الأميركية USAID؟ نعم: 1 لا: 2	أ. التطبيق نعم: 1 لا: 2	هل شاركت في نشاطات التدريب أو المساعدة التقنية التالية؟
تطرح هذه الأسئلة فقط على منتجي الأفوكادو				
				1. زيارة الحقول النموذجية
				2. التطعيم
				3. كيفية زراعة الأشجار
تطرح هذه الأسئلة فقط على منتجي الكرز				
				4. أصناف جديدة من الشتول
				5. كيفية زراعة الأشجار
				6. حقول نموذجية
				7. التقييم
				8. مكافحة الآفات
تطرح هذه الأسئلة فقط على منتجي الكرمة				
				9. أصناف جديدة من العرائش أو الكرمة
				10. زيارة الحقول النموذجية
				11. استعمال الأقماع
				12. التقييم
				13. إدارة الري
تطرح هذه الأسئلة فقط على منتجي الزيتون				
				14. التقييم
				15. حقول نموذجية
				16. استعمال القطافة الكهربائية (الفرّاطة)
				17. مراكز الخدمات لزيت الزيتون
تطرح هذه الأسئلة فقط على منتجي التفاح والاجاص				

18.	مركز الخدمات المحلي			
19.	معدات جديدة للإيجار (مقص تقليم كهربائي أو بخاخ)			
20.	غرس الأشجار			
21.	حقول نموذجية			
22.	إنتاج السماد			
	هل شاركت في نشاطات التدريب أو المساعدة التقنية التالية؟ (تابع)	أ. التطبيق نعم: 1 لا: 2	ب. هل كنت تستعمل هذه التقنية في حقلك قبل تدريب وكالة التنمية الأميركية؟ USAID نعم: 1 لا: 2	ج. هل تستعمل هذه التقنية في حقلك بعد تدريب وكالة التنمية الأميركية؟ USAID نعم: 1 كلا: 2 جزئياً: 3
	د. هل تلقيت تدريباً سابقاً على هذه التقنية قبل مشاركتك في تدريب وكالة التنمية الأميركية؟ USAID نعم: 1 لا: 2			
تطرح هذه الأسئلة فقط على مربّي النحل				
23.	إدارة المناحل			
24.	تربية واستخدام ملكات النحل			
25.	مركز الخدمات لتربية النحل			

القسم E: إمتداد أنشطة الارشاد المدعومة (تطرح أسئلة هذا القسم على الجميع. تقرأ الأسئلة أفقياً، لا عمودياً)				
	هل أنت على علم بوجود المبادرات التالية المدعومة من وكالة التنمية الأميركية؟ USAID	أ. التطبيق نعم: 1 لا: 2	ب. هل استعملتها؟ نعم: 1 لا: 2	
تطرح هذه الأسئلة فقط على منتجي الأفوكادو				
1	حقول نموذجية			
تطرح هذه الأسئلة فقط على منتجي الكرز				
2	أصناف جديدة من الشتول			
3	حقول نموذجية			
4	توزيع مقصات التقليم الكهربائية على التعاونيات أو الشركات الخاصة			
5	توزيع البخاخات على التعاونيات أو الشركات الخاصة			
تطرح هذه الأسئلة فقط على منتجي الكرمة				
6	أصناف جديدة من العرائش أو الكرمة			
7	حقول نموذجية			
تطرح هذه الأسئلة فقط على منتجي الزيتون				
8	توزيع القطافات الكهربائية (فراطات) على التعاونيات أو الشركات الخاصة			
9	توزيع مقصات التقليم الكهربائية على التعاونيات أو الشركات الخاصة			
10	تحسين المعصرة أو المخزن			
11	رسالات قصيرة (SMS) حول إنتاج وتسويق الزيتون			
12	مراكز الخدمات لزيت الزيتون			
تطرح هذه الأسئلة فقط على منتجي التفاح والجاوص				
13	مركز الخدمات المحلي			
14	توزيع مقصات التقليم الكهربائية على التعاونيات أو الشركات الخاصة			
15	توزيع البخاخات على التعاونيات أو الشركات الخاصة			
16	حقول نموذجية			
17	إنتاج السماد			
18	خطوط تبريد وفرز بأسعار مخفضة			

تطرح هذه الأسئلة فقط على مربّي النحل			
19	تسليم الفراشات (آلات استخراج النحل) إلى التعاونيات		
20	تسليم المناحل		
21	بيع ملكات النحل		
22	مختبر للتلقيح الاصطناعي		
23	مركز إعادة تدوير شمع العسل		
24	مركز الخدمات لتربية النحل		

القسم F: مساهمة عينية أو هبة (تقرأ أسئلة هذا القسم على الجميع)	
1	هل استلمت مساهمة عينية أو معدات من مشروع وكالة التنمية الأميركية USAID؟ نعم: 1 لا: 2
2	يقرأ هذا السؤال فقط في حال كان الجواب على السؤال السابق نعم يكتب الجواب بالتفصيل. علام حصلت من المشروع؟
3	هل استعملت أياً من المعدات التي حصلت عليها من المشروع؟ نعم: 1 لا: 2
4	يقرأ هذا السؤال فقط في حال كان الجواب على السؤال السابق لا. إذا لا، لماذا؟ (يكتب الجواب مفصلاً)

القسم G: روابط أفقية وعمودية (تطرح أسئلة هذا القسم على الجميع. تقرأ الأسئلة أفقياً، لا عمودياً)			
#	السؤال	رمز الإجابات	يقرأ هذا السؤال في حال الإجابة بنعم على السؤال السابق
	هل ساعدك مشروع وكالة التنمية الأميركية USAID على الحصول على الآتي؟	أ. التطبيق نعم: 1 لا: 2	ج. هل ستحافظ على هذه العلاقة التجارية في المستقبل؟ نعم: 1 لا: 2 ربما: 3
1.	إتفاقية تجارية مع تجار المواد الزراعية (سعر أفضل لشراء الشتول، الأسمدة، المبيدات، خدمات التقليم، خدمات الرّش، الشمع، ملكات النحل، الخ.)		ب. إذا كان الجواب نعم، هل استفدت من هذه الفرصة أو العلاقة أكثر من مرّة؟ نعم: 1 لا: 2
2.	إتفاقية تجارية مع شركات خاصة، غير التعاونيات (تأجير المعدات، خدمات الإرشاد، خدمات التقليم، خدمات الرّش، خدمات القطاف، خدمات استخراج العسل، الخ.)		
3.	إتفاقية تجارية مع الشّارين أو التجار		
4.	روابط تجارية مع مزارعين آخرين، مجموعة مزارعين، أو تعاونيات (تجميع الانتاج، تأجير قطّافات، تأجير فراشات، خدمات رش، خدمات تقليم، شراء قفران النحل، التوضيب، الخ.)		
5.	هل قمت باستئجار معدات تقليم أو رشّ مقدّمة من وكالة التنمية الأميركية USAID؟		
6.	إلى مزارعي الزيتون فقط هل استأجرت قطّافة ميكانيكية		

			فراطة) قدمتها وكالة التنمية الاميركية USAID؟
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القسم H: خلفية البستان (تقرأ أسئلة هذا القسم على مزارعي الأشجار المثمرة فقط)	
1.	مساحة البستان (في الدونم) (أي ألف متر مربع)
2.	عدد الأشجار المنتجة
3.	في أي سنة تمّت زراعة مجمل الأشجار المنتجة؟
4.	الأنواع المزروعة (تدوين أسمائها)
5.	ما هي الآفات الزراعية الأساسية التي واجهتها مؤخراً؟

القسم I: خلفية قفران النحل (تقرأ أسئلة هذا القسم على مربّي النحل فقط)	
1.	عدد القفران المنتجة في سنة 2016
2.	عدد القفران المنتجة في سنة 2015
3.	عدد القفران المنتجة في سنة 2014
4.	عدد القفران التي استلمتها من وكالة التنمية الاميركية USAID
5.	سنة استلام القفران من وكالة التنمية الاميركية USAID
6.	في أي سنة بدأت بإنتاج العسل عامة؟
7.	هل تطعم النحل بعد قطاف العسل؟ نعم: 1 لا: 2
8.	ما هي نسبة السكر ونسبة المياه التي تستعملها في إطعام النحل؟

القسم J: إنتاجية المحصول (تقرأ أسئلة هذا القسم على مزارعي الأشجار المثمرة فقط)	
1	ما هي كمية الانتاج في سنة 2015 (في الطن)؟
2	ما هي الكمية المباعة في سنة 2015 (في الطن)؟
3	ما هي قيمة المبيعات في سنة 2015 (في الليرة اللبنانية)؟
4	ما هي كمية الانتاج في سنة 2014 (في الطن)؟
5	ما هي قيمة المبيعات في سنة 2014 (في الليرة اللبنانية)؟
6	خلال القطاف الأخير (في سنة 2015) هل كسبت مالاً أكثر من سنة 2014؟ نعم: 1 لا: 2

7	إلى الباحث: يقرأ هذا السؤال فقط في حال كان الجواب على السؤال الأخير في القسم السابق نعم. تقرأ الأسئلة أفقياً، لا عمودياً. إذا نعم، ما هي الأسباب الرئيسة لكسب مال أكثر في سنة 2015؟	أ. التطبيق نعم: 1 لا: 2	ب. يقرأ هذا السؤال في حال الإجابة بنعم على السؤال السابق هل كان ذلك نتيجة دعم وكالة التنمية الاميركية؟ نعم: 1 لا: 2
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1.	البيع بسعر أفضل		
2.	إنتاج كمية أكبر		
3.	بيع كمية أكبر		
4.	تدني كلفة الإنتاج		

القسم K: إنتاجية قفران النحل (تطرح أسئلة هذا القسم على مرتبي النحل فقط)			
#	السؤال		
1	ما هي كمية العسل التي أنتجتها في سنة 2015 (كغ)؟		
2	ما هي كمية العسل التي بعته في سنة 2015 (كغ)؟		
3	ما هي قيمة المبيعات التي حققتها من بيع العسل في سنة 2015 (ل.ل.)؟		
4	ما هي قيمة المبيعات التي حققتها من بيع القفران أو منتجات أخرى مرتبطة بتربية النحل (غذاء ملكي، ... في سنة 2015 (ل.ل.)؟		
5	ما هي كمية العسل التي قطفتها في سنة 2014 (كغ)؟		
6	ما هي كمية العسل التي بعته في سنة 2014 (كغ)؟		
7	ما هي قيمة المبيعات التي حققتها من بيع العسل في سنة 2014 (ل.ل.)؟		
8	ما هي قيمة المبيعات التي حققتها من بيع القفران أو منتجات أخرى مرتبطة بتربية النحل (غذاء ملكي، ... في سنة 2014 (ل.ل.)؟		
9	في الموسم الأخير (2015)، هل زادت أرباحك عن سنة 2014؟	نعم: 1 لا: 2	

10	إلى الباحث: يقرأ هذا السؤال فقط في حال كان الجواب على السؤال الأخير في القسم السابق نعم. تقرأ الأسئلة أفقياً، لا عمودياً.	أ. التطبيق نعم: 1 لا: 2	ب. يقرأ هذا السؤال في حال الإجابة بنعم على السؤال السابق هل كان ذلك نتيجة دعم وكالة التنمية الأميركية؟ نعم: 1 لا: 2
	إذا نعم، ما هي الأسباب الرئيسة لكسب مال أكثر في سنة 2015؟		
	1. سعر بيع أفضل للعسل		
	2. إنتاج كمية عسل أكبر		
	3. بيع كمية عسل أكبر		
	4. تدني كلفة الإنتاج		
	5. بيع القفران		

القسم L: الحصول على التمويل (تطرح أسئلة هذا القسم على الجميع). تقرأ أسئلة هذا القسم أفقياً، لا عمودياً			
#	السؤال	رمز الإجابات	يقرأ هذا السؤال في حال الإجابة بنعم على السؤال السابق
	كيف مؤلت إنتاجك الزراعي أو تربية النحل في سنة 2015؟ (تقرأ كافة الخيارات أدناه)	أ. التطبيق نعم: 1 كلا: 2	ب. هل دعمك مشروع التنمية الأميركية USAID بالوصول إلى مصدر التمويل هذا؟ نعم: 1 لا: 2
	ج. هل حصلت على دعم من مشروع سابق لوكالة التنمية الأميركية USAID للوصول إلى مصادر التمويل؟	نعم: 1 لا: 2	
1.	قرض صغير من مؤسسات التمويل الأصغر		
2.	قرض مصرفي شخصي		

3.	قرض من كفالات		
4.	الإستدانة من محلات بيع المواد الزراعية		
5.	سلفة من تاجر أو زبون		
6.	هبة من وكالة التنمية الاميركية USAID		
7.	قرض مؤقت من الأقارب (عليك إعادته)		

القسم M: العمليات الزراعية (تقرأ أسئلة هذه الفقرة على الجميع) تطرح الأسئلة أفقياً (لا عمودياً)			
#	السؤال	ج. اليد العاملة المدفوعة	ب. شراء المواد (ل.ل.) تدوين القيمة*
		د. كلفة اليد العاملة (ل.ل.) بالإضافة إلى كلفة استئجار المعدات (إن وجدت) تدوين القيمة	ا. التطبيق 1: نعم 2: لا
1.	هل قمت بزراع الأشجار أو الشتول في سنة 2015؟	نعم: 1 لا: 2	
2.	هل قمت برش مبيدات الأعشاب في سنة 2015؟		
3.	هل قمت برش المبيدات الحشرية أو مبيدات الفطريات في سنة 2015؟		
4.	هل استعملت السماد الكيماوي في سنة 2015؟		
5.	هل استعملت السماد العضوي في سنة 2015؟		
6.	هل قمت بري مزرعتك في سنة 2015؟		
7.	هل قمت بالتقليم أو التخفيف في سنة 2015؟		
8.	هل قمت بالتعشيب في سنة 2015؟		
9.	هل قمت بتطعيم أشجارك القديمة في سنة 2015؟		
10.	هل استأجرت تراكتور في سنة 2015؟		
11.	هل دفعت تكلفة نقل في سنة 2015؟		
12.	هل دفعت أي تكلفة وقود أو كهرباء في الموسم الفائت؟		
13.	هل دفعت أي تكلفة مقابل خدمة تبريد أو تخزين في الموسم الفائت؟		

يرجى الإشارة ب(0) عند الحصول على المدخلات مجاناً من الوزارة أو من مؤسسات أخرى.

القسم N: عمليات الحصاد (تطرح أسئلة هذا القسم على مزارعي الأشجار المثمرة)	
1.	هل أنتجت في سنة 2015؟ نعم: 1 لا: 2
2.	كم عاملاً استخدمت خلال آخر قطاف (عدد الأشخاص)*؟

3.	خلال كم يوم؟*
4.	ما هو عدد العمال الذكور الذين استخدمتهم للقطاف؟*
5.	ما هو عدد العاملات الإناث اللواتي استخدمتهن للقطاف؟*
6.	كم دفعت للعامل الذكر يومياً خلال القطاف؟*
7.	كم دفعت للعاملة الأنثى يومياً خلال القطاف؟*
8.	ما هو عدد العمال اللبنانيين الذين استخدمتهم يومياً للقطاف؟*
9.	ما هو عدد العمال غير اللبنانيين الذين استخدمتهم للقطاف؟*
10.	إن كنت قد استأجرت قطافة ميكانيكية، ما المبلغ الذي دفعته لإيجار هذه القطافة؟ (كتابة 0 في حال عدم الإيجار)*
11.	كم أنفقت على القطاف في سنة 2015؟* كتابة الجواب فقط إذا تذكر المزارع الكلفة الإجمالية
يطرح هذا السؤال فقط إذا تم القطاف*	

القسم O: عمليات تربية النحل
(تطرح أسئلة هذا القسم على مرتبي النحل فقط)

#	السؤال	التطبيق	مجموع تكاليف الإنتاج واليد العاملة (ل.ل.) يكتب "0" في حال التقدمة المجانية من قبل الوزارة أو مؤسسة أخرى
1.	كم أنفقت على الغذاء في سنة 2015 (سكر أو سكريات)؟	نعم: 1 لا: 2	
2.	كم أنفقت على العلاج في سنة 2015؟		
3.	كم أنفقت على الشمع في سنة 2015؟		
4.	كم أنفقت على النقل في سنة 2015؟		
5.	كم أنفقت على استخراج العسل في سنة 2015 (كلفة خدمة الفرز)؟		
6.	كم أنفقت على اليد العاملة للحصاد، لفرز العسل أو لأي عملية أخرى؟		
7.	كم أنفقت على التوضيب في سنة 2015؟		

القسم P: أمور أخرى
(تطرح أسئلة هذا القسم على الجميع وتكتب أجوبة وصفية)

#	السؤال
1.	لماذا لم تتقدم بطلب قرض من كفالات؟ (ترك فراغ في حال التقدّم بالطلب)
2.	ما هي الجهة التي ستلجأ (أو تلجئ) إليها في المستقبل إذا كنت بحاجة إلى دعم تقني في إنتاج المحصول؟
3.	بالنسبة إلى قطاعات الإنتاج التي يتوافر الدعم حولها منذ سنين. هل تمكنت من الحصول على دعم تقني من جهات أخرى في الأعوام السابقة؟ إعطاء وصف مختصر.

(يطرح هذا السؤال على الجميع. كتابة أجوبة وصفية)

القسم Q: ما هي المشاكل التي واجهتك (إن وجدت) خلال السنتين الأخيرتين وبرأيك، كيف يستطيع المشروع أن يدعمك بطريقة أفضل لتحسين نشاطك الزراعي على نطاق الإنتاج والتسويق؟

القسم R: هل لديك أي ملاحظات تريد (ين) مشاركتنا بها؟
(يُطرح هذا السؤال على الجميع. كتابة أجوبة وصفية)

القسم S: تدوين القضايا الرئيسية أو المثيرة للاهتمام التي لمستها خلال المقابلة. كتابة تعليقات وصفية.
(سؤال للعامل (ة) الميداني (ة))

القسم T: ملاحظات الباحث أو الباحثة على أساس الفحص البصري
يطلب من الباحثين هنا وصف الممارسات الزراعية الملحوظة على الأرض بما فيها صيانة البستان، إدارة قفران النحل، الرّي، التقليم، مساحة وعمر البساتين، التقنيات المستخدمة، مقارنة مع حديث المزارع...
عدم ملأ هذه الفقرة في حال مقابلة المزارع خارج الحقل (أطلب زيارة الأرض إذا أمكن)

Interview guides

LIVCD value chain leaders and technical experts

Expected duration: 1 hour

The interview should be led by the interviewee and not by the interviewer. This is because the interview should be a relaxed conversation. The table reported below presents a list of topics to be covered during the interview. It also includes concrete questions to guide the conversation and to cover each topic.

TOPICS	QUESTIONS
Involvement of the respondent with the project	<p>What did the project do? What was your role?</p>
Quality of results	<p>Which were the mains successes and achievement? Which were main problems?</p>
Value chain approach	<p>In general terms, which are main constraints in this value chain? Are there any actors not presently being engaged that should be?</p>
Technical aspects	<p><i>For avocado value chain leader:</i> What did the project do to reduce the cost of seedlings? What did the project do organize fragmented production?</p> <p><i>For pome fruit value chain leader:</i> Which initiatives are you taking to:</p> <ul style="list-style-type: none"> - promote planting of highly demanded varieties such as Scarlett, Red Chief, Top Red, Double red?? - Use of refractometers to measure sugar level? - Increasing grade I apple? How does it change farmer gate prices? - Increase the capacity of Lebanese exporters to meet international standards - Entering the United Arab Emirate and Saudi Arabia markets and setting linkages with Choitrams and Spinney or other super market chains. - Negotiation of post-harvest handling protocol - Drafting business plans for farmers and loan application - Provide virus free certified rootstocks and seedlings? <p><i>For access to finance expert:</i> Did you take any initiative to facilitate access to Kafalat loans? Have you considered the development of services to draft business plans for farmers to apply for Kafalat loans?</p> <p><i>For Food processing value chain leader</i> Initiatives to avoid overlapping with other UNDP and USAID initiatives? Outsourcing agreements with farmers? Forward contracts and agreements between farmers and processors for jams? GMP or HACCP certification? Training on EU and US requirements? Linkages between coops and industrial food processors? Product development?</p>

	<p><i>For cherry value chain leader</i> Seedling production? Accessing market? Linkages with exports Contact farming? Sorting packaging and cooling?</p> <p><i>For marketing expert</i> Activity with the Chamber of Commerce? Identification of new markets and distribution channel Branding? Market survey?</p> <p><i>For grape value chain leader</i> Out-growing schemes with exporters or packers? Linking smallholders with exporters and wholesalers? Aggregate production from small farmers? Knowledge of international buyers requirement? Increase knowledge on the use of pesticides? New varieties ? Certified vines? Increasing production in beyond the current core zone in central Bakke, that is in Aqqar, Qaa and South Lebanon Strengthening coops Pre-cooling facilities to facilitate exports to Europe and GCC markets? Packaging</p> <p><i>For olive oil value chain leader</i> Quality certification for mills and exporters (ISO, GMP, HACCP) Seal of quality /origin labelling? Awareness campaign on health benefits an quality seals? Investment in storage Supply agreements between farmers an new storage units? Geographical differences?</p> <p><i>For honey value chain leader</i> Market linkages with beekeepers and branded honey producers/processors? Linkages between cooperatives and commercial brands? Development of quality seal or certification? Testing capacities for antibiotics Marketing for exports?</p> <p><i>Rural tourism value chain leader</i> Coordination, regulation, advocacy at national level Marketing Charter for responsible tourism Certification schemes for eco-guides. Municipal tourism strategy</p>
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	<p>Culinary based products</p> <p>Quality labels for alternative lodgings</p>
Potential modifications	<p>Do you feel that the project is appropriate?</p> <p>Is any are of the project that need improvement?</p> <p>If this project were to be developed again, what would you like to be different?</p>
Other areas that we should explored	<p>You are one of our primary intended users for this evaluation. As such, our aim is to provide you with relevant and useful information to help you better manage/oversee this project. Is there anything in particular that you feel is important for us to explore during our fieldwork?</p>

LIVCD DCOP

Expected duration: 1 hour

The interview should be led by the interviewee and not by the interviewer. This is because the interview should be a relaxed conversation. The table reported below presents a list of topics to be covered during the interview. It also includes concrete questions to guide the conversation and to cover each topic.

TOPICS	QUESTIONS
Involvement of the respondent with the project	What did the project do? What was your role?
Quality of results	Which were the main successes and achievement? Which were main problems?
Value chain approach	How were initial value chain selected? In general terms, which are main constraints in this value chain? Are there any actors not presently being engaged that should be?
Project management	Can you please describe the project implementation structure? Why some value chains have long-term consultants as value chain leaders instead of full time DAI employee? Reason for key staff high turnover? Role of KDS and Making Cents? Which beneficiary outreach approach was more effective (TA vs grants)? How was the approach in reaching beneficiaries and following up with beneficiaries?
Potential modifications	Do you feel that the project is appropriate? Is any are of the project that need improvement? If this project were to be developed again, what would you like to be different?
Other areas that we should explored	You are one of our primary intended users for this evaluation. As such, our aim is to provide you with relevant and useful information to help you better manage/oversee this project. Is there anything in particular that you feel is important for us to explore during our fieldwork?

Grantee

Expected duration: 1 hour

The interview should be led by the interviewee and not by the interviewer. This is because the interview should be a relaxed conversation. The table reported below presents a list of topics to be covered during the interview. It also includes concrete questions to guide the conversation and to cover each topic.

TOPICS	QUESTIONS
Background of the grantee	Can you please tell us something about your organization? When was it created? Which are the main activities and objectives?
Involvement of the respondent with the project	What did the LIVCD project do? What was your role?
Grant design	How was the grant idea developed? Who else was involved in the project identification? How many grants were you involved in with LIVCD? Why are you involved in more than one grant? How are you receiving the grant? Directly from LIVCD or through other grantees? Have you previously benefited from a USAID project, or other projects?
Grant implementation	What were the equipment provided in details? How was the equipment installed? How were the services of the cooperative upgraded? Before and after? How are you monitoring the project activities? How often do you meet or report to LIVCD and how? Capacity building through trainings and educational material. What were the topics of the trainings? What was the feedback from farmers? Did these cover all the production and marketing stages? Were the topics covered in the training new for the farmers? Did you participate in any training related to finance? Did you or someone else consider applying for a loan? Yes, no and why?
Beneficiary selection	How did you reach and select beneficiaries? What is the total number of beneficiaries? How many women benefit from the grant? Are all of the beneficiaries members of the cooperative?
Quality of results	Which were the mains successes and achievement? Which were main problems? What did you like more? I have asked you what you liked more? May I ask you what you liked less? What were the main challenges encountered? How did you cope with them? Did you have to modify the original plan of activities?
Potential modifications	Do you feel that the project is appropriate? Is any are of the project that need improvement? If this project were to be developed again, what would you like to be different? Do you have any suggestions or recommendations for the future of the program or for future similar programs?
Other areas that we	You are one of our primary intended users for this evaluation. As such, our

should explored	aim is to provide you with relevant and useful information to help you better manage/oversee this project. Is there anything in particular that you feel is important for us to explore during our fieldwork?
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Annex 6: List of interviewed persons and organizations

Table A5.1: list of interviewed persons

REPRESENTATIVE OF ORGANIZATION	VALUE CHAIN
DAI/LIVCD	All
DAI/LIVCD	All
DAI/LIVCD	All
DAI/LIVCD	Stone fruits
DAI/LIVCD	Food processing
DAI/LIVCD	All
DAI/LIVCD	Pome
DAI/LIVCD	All
DAI/LIVCD	Olive oil
DAI/LIVCD	Grape
DAI/LIVCD	Honey
DAI/LIVCD	Rural tourism
DAI/LIVCD	All
USAID	
Libanese avocado	Avocado
Hariri Foundation	Avocado
General Agricultural Cooperative Association in Bater	Avocado
Agricultural Cooperative Association in Minjiz	Honey, Avocado, Olive oil, Rural Tourism
EMKAN	Apple, Avocado
Beyond Beirut	Rural tourism
Mymoune	Processed food
Agripharm S.A.R.L.	Cherry Pome
Hadath el Jebbe Municipality	Rural tourism
Mar Semaan Agricultural Cooperative Association in Hadath El Jobbeh	Pome
Ain Kabou Cooperative	Honey, Avocado, Olive oil, Rural Tourism
Hariss Cooperative for Food Processing	Food processing
The Agricultural Cooperative Association for Production and Food Processing in Ein Ebel	Food processing
HOSCO	Honey
Cosa Nostra (seedling nursery)	Avocado, Cherry, Pome fruits
Liban Village	Pome fruit
Caritas	Pome fruit
Italian Development Cooperation	Olive oil
Libnor	All
APIS / Afif Abou Chedid Agriculture and Trade Company	Honey
USEK	All
Association for the protection of Jabal Moussa	Honey Cherry
Association for the protection of Jabal Moussa	Rural tourism
Debbaneh	Pome fruits
Lebanese Mezze	Processed food
ICU	Olive oil
Anera	Rural tourism
Ataybe Al Rif	Food processing
Monistry of Agriculture	Olive oil
Schouf Bioshere Reserve	Rural tourism
Hospitality services	Rural tourism
Karma	All
Kafalat	All
Sannine Cooperative for Sustainable Agriculture -SCSA	Pome fruits
Caritas	Honey
Ministry of Tourism	Rural tourism

REPRESENTATIVE OF ORGANIZATION	VALUE CHAIN
Chamber of Commerce, Industry & Agriculture of Zahle and the Bekaa	Grape Pome Honey
Lebanese Agricultural Research Institute	All
Lebanese Agricultural Research Institute	Olive oil
Middle East Business Company SARL	Grape
Machaalany	Food processing
Kfarmechke cooperative	Grape Olive oil
Medigardens	Grape
Ali Ammouri	Processed food
Jibal Loubnan for Baladi Production	Honey
Kadamani	Food processing
All Fresh/Akiki Frères	Pome
Agricultural Cooperative Association for the Production, Processing and Marketing of Grapes and Olives (Rachaya Al Foukhar - Khraybe)	Olive oil Grape
LIVCD	Processed food
BLC Bank	All
Jaber Trading Company	Grape
DAI	All
Ex DAI	All
Coop in Hermel	Olive oil
DAI/LIVCD	All

Table A2: List of focus groups

PLACE	TOPIC /VALUE CHAIN
Hrajel; 5 apple and trade producers	Apple
Menjez; 5 coop members	Olive oil, avocado, honey, access to finance

Annex 7: Analysis of indicators of LIVCD M&E system

The LIVCD Tracking Table has 14 indicators. Five of them present important weaknesses:

- The definition of Indicator 2 (Value of exports of targeted agricultural commodities as a result of USG assistance), 3 (Value of incremental sales ...attributed to FtF implementation), 6 (Number of export markets or distribution channels for selected products accessed as a result of USG assistance) implies the attribution of causality. In order to measure these indicators, the LIVCD M&E team compares values of the baseline with current values. It is widely acknowledged that the attribution of an observed change to the project is not valid when a before-and-after comparison is used absent of having a control group (Gertler et al., 2011), especially when indicators are measured over a large number of observations. However, a before-and-after comparison is probably the only option for a project monitoring team. In order to show how attributions of causality through before-and-after comparisons are questionable, it is here reported the case of an apple cooperative, which sold apples to Russia for the first time after having signed a grant agreement with LIVCD. Coherently with USG rules LIVCD has not taken any action specifically aimed at promoting sales to Russia. However, LIVCD included Russia as a new market under Indicator 6, thus assuming that the training on agricultural production provided through the grant contributed in some way to the sale to Russia. This attribution is clearly questionable (as many others based on a simple before-and-after comparison)
- The definition of Indicator 5 (Number of jobs impacted by LIVCD) is based on an ambiguous terminology. It is not clear what an “impacted job” is. Under this indicator LIVCD M&E counts the FTE of the number of people using the mechanical harvesters on olive trees. LIVCD also counts the FTE of farmers performing regular agricultural operations in their own fields. This is not very informative. Rather than the number of people (or its conversion into FTEs) carrying out an agricultural operation that would have been done even without the project (e.g. harvesting) it would be more interesting to estimate the FTE of newly created jobs (net of lost jobs). For instance, some service centers created skilled teams who provide pruning services by using the electrical pruners delivered by LIVCD. These are new jobs created by the project that should be counted positively (once converted in FTE). In addition, unintended consequences should be monitored. More specifically, jobs have been lost after the introduction of mechanical harvesters (i.e. a labor saving technology) and thus should be counted negatively (and currently they are not) in the indicator on the number of jobs created.
- Under Indicator 14 (Number of MSMEs including farmers, assisted by USG to apply for value chain finance) LIVCD counts the number of persons that took part in trainings that also included a presentation from a bank credit officer on loan products (such presentations are generally included before or after trainings on agricultural technical aspects). However, it is the ET’s opinion that Indicator 14 should reflect the outcome of the assistance provided to beneficiaries to access finance, that is, the number of loan applications. LIVCD not only organizes workshops inviting credit bank officers but also provides assistance to develop feasibility studies for loan applications. The effect of the later is not reflected by the current measurement mechanism used by LIVCD. In any case, if number of loan applications were used (instead of the number of participants in presentations held by bank officers) the value of the indicator would be reduced from more than 800 to about 35-50.

Annex 8: Detailed explanations on the indicators and estimates developed through the BBS

This annex explains how indicators used in the main report were developed by using the data collected through the BBS.

Importance of farming and beekeeping as a source of income

For avocado, grape, pome fruits, cherry and olive oil producers the indicator reports the frequency of respondents that indicated farming as their main source of income (question c9 in the questionnaire). For beekeepers the indicator reports the frequency of respondents that reported beekeeping as their main source of income.

Percentage of new beekeepers among beehive distribution beneficiaries

Number of beekeepers that started producing honey for the first time after 2012 divided by the total number of beekeepers that received at least one hive by LIVCD. Related questionnaire question is i6

Percentage of honey value chain beneficiaries that received previous training

Number of beekeepers that had been trained in beekeeping management or queen bees rearing before the project (respondents answering Yes to questions d23d or d24d of the questionnaire) divided by the total number of respondents to questions d23d and d24d (which apply only to beekeepers).

Percentage of beneficiaries applying improved technologies or practices

Farmers were presented a list of improved technologies or practices that were discussed during trainings. This list is different depending to the value chain. The indicator was calculated only for those technologies/practices for which farmers answered “Yes” when asked whether he/she attended a training on that technology or practice. The technologies or practices used for this indicator were intentionally selected and defined in a way that was easy to respond for farmers. Also, selected improved technologies and practices represented a clear potential improvement for increased production.

For avocado farmers the list of improved technologies/practices were grafting and how to plant seedlings (questions d2 and d3 of the questionnaire). For cherry farmers practices/technologies were new varieties and pest management (questions d4 and d8). For grape farmers practices/technologies were new grape varieties or trellises, use of cones and irrigation management (questions d9, d11 and d13). For olive farmers pruning and mechanical harvesters were the considered technologies/practices (questions d14 and d16). For pome fruits pruning, use of sprayer or electrical pruners, and planting seedlings were the considered topics (questions d19 and d20). For beekeepers the topic considered were beekeeping management, rearing of queen bees and use of centers of services (d23, d24 and d25).

The indicator is built in the following way: number of respondents that applied at least one of the improved technologies/practices divided by the total number of respondents that attended at least one training on the selected improved technologies/practices.

Percentage of beneficiaries applying improved technologies or practices and that were not applying before LIVCD

This indicator was developed by using the same list of improved technologies or practices used for the previous indicator and it is calculated as follows:

number of respondents that applied at least one of the improved technology/practice and that were not applying the same technology/practices before the project, divided by the total number of respondents that attended at least one training on the selected improved technologies/practices.

Percentage of beneficiaries reporting higher profit in 2015 than in 2014

Frequency “Yes” answer for higher profit for the question: “During the last harvest (in 2015) did you make more money than in 2015 (question j9 for orchard farmers and k9 for beekeepers).

Percentage of beneficiaries relating higher profit to LIVCD

This indicator was calculated only for beneficiaries that reported higher profit in 2015. Respondents were presented with a pre-determined list of possible reasons for higher profits (i.e. better selling prices, higher quantity harvested, higher quantity sold, lower production costs, sales of hives) and were asked to indicate the reasons for the higher profits among the pre-determined list. When the interviewee indicated a reason for higher profit he/she was also asked whether the specific reason was the result of the project of the American Development Agency or USAID or LIVCD (enumerators were instructed to use these terminologies to signal the project so that the respondents could answer properly). The indicator is obtained dividing the number of respondents reporting at least one “Yes” answer to this last question by the number of respondents reporting higher profits. Related questions are j71a, j2a, j3a, j4a, j1b, j2b, j3b, and j4b for orchard farmers and k71a, k2a, k3a, k4a, k5a, k1b, k2b, k3b, k4b, and k5b for beekeepers.

Percentage of farmers benefitting from deals facilitated by the project

Number of respondents that answered “Yes” at least once for questions g1a, g2a, g3a, g5a, g4a or g6a divided by the total number of respondents.

Annex 9: Further context analysis: gender, social aspects and finance

This section presents some statistics on gender, social aspects and sources of finance, which are not directly related to evaluation questions but which are still of interest to understand the background on these aspects in agriculture.

Men and women are paid differently to perform the same agricultural operations. More specifically, Table A8.1 shows that, on average, for harvesting operations women are paid 65% less than men.

A higher participation of women compared to men in harvest operations is in the cherry and pome fruits value chains (however the differences in the mean of the number of harvesters in these two value chains is not statistically significant).

Table A8.1: Gender disaggregated data for harvest operations

	Average daily salary (LBP)		Average Number of harvesters	
	Men	Women	Men	Women
Avocado	25,438	6,579	2.05	0.73
Cherry	20,250	7,533	2.13	2.81
Grapes	23,947	2,143	11.52	5.48
Olive Oil	32,111	13,857	4.63	2.79
Pome Fruits	29,667	5,400	3.83	4.13
All orchard farmers	29,228	10,110	4.78	3.02

The role of immigrants in harvest operations is very important for all value chains.

Table A8.2: Average number of Lebanese vs non-Lebanese persons involved harvest operations

	Lebanese	Non-Lebanese
Avocado	1.36	1.41
Cherry	1.19	3.75
Grapes	5.57	11.43
Olive Oil	2.40	5.02
Pome Fruits	1.58	6.38
All orchard farmers	2.43	5.37

Just a few farmer beneficiaries have submitted loan applications. Table A8.3 shows the percentage of farmer beneficiaries that reported to have used a specific credit sources in 2015. The table shows that inputs on credit (i.e. that are not paid the moment of the delivery) are an important source of finance for grape and for pome fruits producers. Also loans from friends and relatives are important for grape farmers. Cash advance from traders is more important in the grape value chain. These values also suggest that grape farmers are the category of beneficiaries that need more credit to finance their agricultural operations.

The percentage olive farmers using credit to finance production activity is very low. This confirms the hypothesis that olive oil farmers produce olive oil as a marginal income activity.

Table A8.3: Importance of finance source (percentage values)*

	Microfinance	Personal bank loan	Kafalat loan	Inputs on credit from suppliers	Advance from a trader	Loans from relatives or friends	(N of BBS respondents)
Avocado	0.0	2.3	2.3	4.5	0.0	2.3	(44)
Cherry	0.0	3.2	3.2	3.2	0.0	0.0	(31)
Grapes	6.3	6.3	6.3	31.3	12.5	18.8	(32)
Olive oil	1.4	0.7	2.1	0.7	0.0	0.0	(145)
Pome fruits	0.0	3.0	3.0	18.2	0.0	6.1	(23)
All orchard farmers	1.4	2.1	2.8	7.0	1.4	3.2	(285)
Honey	0.5	1.5	1.5	2.0	1.0	2.5	(198)

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