A farmer sorts through oranges at an orange orchard in Akkar, northern Lebanon (Photo: IRC/Myriam Zmeter, March, 2013)

Emergency Market Mapping and Analysis (EMMA) of the Agricultural Labor Market System in North and Bekaa, Lebanon

Recommendations for growing livelihood opportunities for refugees and host community families

April 2013

I. INTRODUCTION

In the wake of movements for revolutionary change across the Arab Levant and Maghreb, civil protests against the Assad regime began in Syria in spring 2011. The ensuing 24 months have seen civil unrest proliferate across Syria, and in several instances, spill over the boarders into neighboring countries, including Lebanon. The gradual escalation of violence, which has effectively brought the country to civil war, has resulted in escalating numbers of people seeking refuge outside of Syria. Tens of thousands have fled to neighboring Turkey, Lebanon, Jordan, and Iraq, and as of the 3rd of April, 2013, 403,766 Syrian refugees have either registered or are awaiting registration in Lebanon[1]. The growing number of new arrivals, and the increasingly protracted nature of the conflict, is gradually leading to increased vulnerability amongst members of the host community. As the number of refugees in Lebanon is expected to exceed one million by the end of 2013, tensions between host and refugee populations are expected to rise as competition over jobs and resources becomes ever more important to the survival of members from both communities.

Within this context, an Emergency Market Mapping and Analysis (EMMA) assessment was launched to specifically analyze the key market systems upon which refugees and vulnerable host communities rely to earn income in the North and Bekaa Governorates of Lebanon. Although many humanitarian agencies are providing a variety of assistance to meet needs of refugees, and to a lesser extent host communities, a better understanding of the market systems upon which refugees and host communities depend for livelihoods is critical in order to promote self-reliance of the refugee population, assist host and refugee communities to earn greater income to meet their immediate needs, and to reduce tensions between refugees and hosting communities. During this assessment three specific labor market systems were selected for analysis – construction labor, service-sector labor, and agricultural labor. The purpose of this rapid assessment and analysis is to identify opportunities for humanitarian agencies to promote market-based income-earning possibilities for Lebanese host and refugee populations. As such, this report seeks to answer the following two key analytical questions:

1. How has demand for the agricultural labor changed since the refugee crisis in Lebanon began?
2. What are the possible job opportunities for Syrians and host community to work in the agricultural sector? How can we support them access these opportunities?

This report includes the findings from the EMMA assessment of the agricultural labor market system in the North and Bekaa governorates.

However, the EMMA findings illustrate that Lebanese agriculture has been severely impacted by the crisis in Syria and the loss of overland export routes to the gulf countries through Syria. As a result, many farmers in the North and in Bekaa are not looking to expand their workforce or investment in land or production systems, and many farms have begun reducing wages for

[1] UNHCR Daily Statistics, Syrian Refugees in Lebanon. Wednesday 03 April 2013

workers. The report findings demonstrate that agricultural labor opportunities are not sufficient to assist refugees in meeting their household income gap, and that continued humanitarian assistance will be necessary. However, the market analysis uncovered a series of recommendations to support the sale and marketing of Lebanese produce, which will enable farmers to maintain current number of workers and potentially expand the number of jobs available to agricultural workers. Such recommendations will assist both refugees and vulnerable host community households to earn income and to provide for their own immediate needs.

II. CONTEXT

The Bekaa valley and North Lebanon (mainly Akkar) comprise the largest agricultural areas of Lebanon, covering 59% of the total arable land[2]. The agriculture sector employs up to 10% of the Lebanese labor force and is the fourth largest employer in the country[3]. In the Bekaa and Akkar, the agricultural labor market is essentially characterized by full-time family farm operators[4] who rely, to a large extent, on seasonal family laborers and hired workers. The large majority of paid seasonal workers are Syrian migrant workers.

Agriculture is also one of the major livelihoods in Syria. According to recent statistics provided by the UNHCR, more than 10% of refugees were involved in agriculture-related professions in Syria. An assessment conducted in Akkar by IRC and Save the Children in October 2012 revealed that 20% of refugee families are finding employment in agriculture. The agricultural skills of refugees could therefore either enhance the agricultural sector in Akkar or bring additional pressure and competition to the agricultural labor market. Understanding the agricultural labor market system in Akkar and the Bekaa is essential to evaluate the impact of the emergency on existing livelihoods and assess the market capacity for additional labor.

III. METHODOLOGY

EMMA (Emergency Market Mapping and Analysis) is a rapid market analysis approach designed to be used in the short-term aftermath of a sudden-onset crisis. It is premised on the rationale that a fuller understanding of the most critical markets in an emergency environment enables key decision makers (donors, NGOs, government policy makers, etc.) to consider a broader range of responses based on market realities. The EMMA methodology focuses on analysis of specific, existing market systems which have been impacted by an emergency but are nevertheless critical for providing goods, services, or income for a target population in a defined geographical area.

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[2] 2010, *Agricultural Census - Draft Report*, Ministry of Agriculture, Food and Agricultural Organization.
[3] IDAL – Investment Development Authority of Lebanon. www.idal.com.lb
[4] Full-time family farm operators account for 81% of the total number of farm operators in Baalbek-Hermel, 75% of farm operators in the rest of the Bekaa and 40% of farm operators in Akkar, according to MOA/FAO 2010 Census Data.

EMMA is a rapid tool designed to be used in a matter of days but to still develop a strong evidence base for decision-making. It is not a complete value chain analysis methodology, and as such focuses on analyzing market systems which currently exist in a given context, and offers only modest insights into the feasibility or availability of alternative or potentially new market opportunities.

The methodology used for this study adapted the standard EMMA approach to the protracted displacement and predominantly urban context of the Syrian refugee crisis in Lebanon. Nevertheless, the data collection and analysis procedures used in this assessment followed closely the EMMA 10-step process including a focus on key critical market systems and a combined gap, market, and response analysis. For each critical market system there is a comparison of the current market system to a baseline model of market functioning, enabling the identification of key constraints on the market systems brought on by the crisis in Syria and inflow of refugees to Lebanon. Additionally, to a limited extent, this EMMA looks forward to the next six months to anticipate the future impact on the market systems of the ongoing crisis. Recommendations to support market-based livelihoods for host communities and refugees are based on the constraints and opportunities identified in the current market system (as compared to a baseline) and taking into account the anticipated future impact of the crisis on the market systems analyzed.

The EMMA was initiated and lead by the IRC, with participation of 30 team members from four organizations – IRC, Save the Children, DRC, and Oxfam. Three of the team members had received EMMA training prior to the assessment taking place. A 3-day workshop was held in Beirut from 11-13 March 2013 to introduce the EMMA methodology to all EMMA team members and to prepare for the assessment fieldwork. The 30 EMMA team members were divided into six sub-teams and each sub-team was responsible for analyzing one critical market system. Three teams assessed the selected critical market systems in Bekaa, and three teams in the North. Each team had a designated Team Leader and was comprised of 3-4 additional team members from the different participating agencies, ensuring a diversity of experience, local knowledge, and agency representation on each assessment team. The six sub-teams were supported by an overall EMMA Team Leader and a Co-Team Leader providing technical support and guidance throughout the assessment and analysis process, as well as a Logistics Assistant providing administrative support to all teams.

This assessment took place from 11-26 March 2013, including a three-day pre-assessment workshop in Beirut, 10 days of field data collection in the Bekaa and North governorates of Lebanon, and two days of analysis and report preparation. The assessment included qualitative and quantitative data collection from secondary sources, focus group discussions with target populations, key informant interviews, and individual interviews with a variety of actors in the market system. The primary data for this assessment was gathered from semi-structured interviews with 12 key informants, 51 market actors and 17 focus group discussions with 100 households representing host community members, refugees households, and migrant workers.

IV. TARGET POPULATION

The EMMA team identified two specific target populations for this analysis. All EMMA recommendations across the three critical markets assessed are intended to provide feasible programming recommendations to improve the income-earning opportunities available for these two target populations. The overall target population of this EMMA assessment was the host community populations in the North and in Bekaa, as well as the refugee population living in these same areas. Geographically, the EMMA focused on Tripoli and Akkar in the North, and Central, Western, Balbeck, and Hermel cazas in Bekaa. Large portions of the host community and refugee populations either currently rely on agricultural, construction or service-sector labor for income, or believe that these markets offer opportunities for them to derive some income. Because this assessment focuses on identifying income-earning opportunities, the majority of the analysis emphasizes working age adults; however child and youth labor is a feature of the labor markets in some areas of Lebanon and these groups are included in the broad population of analysis for this assessment. Palestinians living in Lebanon are by definition considered members of the host or refugee communities due to the rising numbers of people fleeing Syria and taking refuge in the Palestinian camps. However, these groups were effectively not included in this analysis due to security and administrative challenges for visiting the Palestinian camps. The estimated number of host community members and refugees of working age who make up the target population are listed in Table 1 below.

A Syrian agricultural laborer on a large-scale farm in Akkar, northern Lebanon (Photo: IRC/Myriam Zmeter. March 2013)

Table 1: EMMA Target population

Target Population	Number	Location
Host communities in the North and in Bekaa receiving refugees from Syria	1,303,980[5]	**In the North Governorate**: Tripoli and Akkar (640,980 people) **In Bekaa Governorate**: Western, Zahle, Baalbeck, and Hermel Cazas (663,00 people)
Refugees from Syria living in the North and Bekaa governorates	197,867[6]	**In the North Governorate**: Tripoli and Akkar (83,703 refugees registered and estimated awaiting registration) **In Bekaa Governorate**: Zahle, West Bekaa, Baalbek, and El Hermel cazas (114,168 refugees registered and awaiting registration)

Within the agricultural labor market system, there is a particular focus on women as key agricultural workers as well as men. Additionally, the analysis of the agricultural labor market focuses on three groups within these target populations: Lebanese agricultural workers, Syrian migrant workers who have been working in agriculture in Lebanon for many years and Syrian refugees who have been displaced into Lebanon beginning in 2011.

Specific groups of agricultural workers who serve as the basis for agricultural labor market analysis are categorized as follows:

- **Lebanese Agricultural Workers** – Semi-skilled female and male, hired or family laborers from Lebanon involved in agricultural production, post-harvest handling or food processing.
- **Syrian Migrant Workers** – Women and men of Syrian nationality who have been working as agricultural labor in Lebanon for several years, namely in agricultural production, post-harvest handling or food processing.
- **Syrian Refugees** – Both women and men who have been displaced from Syria due to the conflict; they are either working or available to work as agricultural laborer in Lebanon. Based on information collected by UNHCR at the time of registration, an estimated 10% of the refugee population has previous experience in agriculture.

[5] http://www.statoids.com/ylb.html, 2004 estimates.
[6] Registration Trends for Syrians: Weekly Statistics. UNHCR, 14 March 2013.

Seasonal Calendar: Bekaa Valley

	J	F	M	A	M	J	J	A	S	O	N	D
SEASONAL EXPENDITURE												
Winter - High heating cost (high expenditure on heating, clothing)												
Spring – Planting Season (High expenditure on land prep/inputs)												
Summer (High water/irrigation usage)												
Fall (High expenditure on greenhouses installation)												
Religious Activities (2013) (R=Ramadan; C=Christmas)							R					C
School tuition/materials (E=ends; S=starts)						E			S			
CROPPING SEASON												
Wheat, Corn (300,000 hectares) P=planting; H=harvesting			CP			HW		CH	PW			
Potatoes, tomatoes, cucumber (260,000 hectares) P=planting; H=harvesting				P	P	H	H	H	H			
Harvest: Almond, Grapes, apples, apricots (220,000 ha) AC=apricot; AL=almond; AP=apple; GR=grapes				AL		AC	GR		AP	GR		
Tobacco (150,000 hectares)				P					H			
Olive (32,000 hectares)									H	H	H	
Green Houses Crops: Strawberry, cucumber,		H	H							P	P	
LABOR SEASON												
Construction Labour		L	H	H	H	H	H	H	H	L	L	
Agricultural Labour (M=Male; F=Female)		M	F	F	F	F	F	F	F	M	M	
Food-Processing Labour (Mostly Women) (L=low; H=high)	L	H	H	H	H	H	H	H	H	H	L	L
Service Sector Labour (Mostly Men)					L	H	H	H	H			
Tourism season (high demand on restaurants, hotels, car rentals, taxi etc)												

Seasonal Calendar: North Lebanon

Colour Key	
Low labour demand	
Regular labour demand	
Peak labour demand	
High expenditure	

Letter Key	
Planting	PL
Pruning	P
Harvest	H
Spraying	S
Greenhouse preparation	GH
Female	F
Male	M

Activity, Food or Income Source	Who	J	F	M	A	M	J	J	A	S	O	N	D
Pome and Stone Fruits (Jord)	Family	S	H	P	S	H	P		H	H+P	H	H	H
Potato (Jord)	Migrant				PL	PL	PL		H	H	H		
Olive (Central Akkar)	Family & Migrant		P	P						H	H	H	H+P
Citrus fruits (Sahl)	Lebanese and Migrant (20% F 80% M)	P+H	P+H	P+H	P+H	P+H	P+H	P+H	P+H	P	P		
Potato (Sahl)	Migrant more than Lebanese	PL	PL		H	H	S	S					PL
Cereals	Lebanese and Migrant (M for PL & F for H)						H	H			PL	PL	PL
Strawberries (Sahl)	Migrant (70% F 30% M)			H	H	H	H						
Vegetables (Sahl)	Migrant (70% F 30% M)									GH			
Fruit sorting and packaging	Lebanese and Migrant (50% F 50% M)												
Construction season	100% M												
Tourism months								Summer					
Holidays and Festivals 2013													
Periods of high expenditures													
"Traditional" period of political instability in Lebanon													

V. CRITICAL MARKET SELECTION

The EMMA methodology is based on the analysis of specific markets which are critical for supplying goods or income for the targeted crisis-affected population. As agreed between the participating agencies prior to the launch of the assessment, this EMMA would focus primarily on market systems which are critical for supporting the livelihood and income needs of host community members and refugees, with the intention of promoting livelihoods for host communities and refugees which are economically feasible and linked to market conditions. Additionally, the participating agencies agreed that the analysis should include market systems which have the potential to offer income opportunities to women and youth, as well as men, and cover both rural and urban contexts.

A two-step approach was used for identifying and then prioritizing three critical markets for this study. First, prior to the launch of the EMMA assessment, participating agencies developed a long-list of possible market systems which could contribute to the livelihoods of host and refugee populations. Markets in which refugees and host communities are currently engaged, as well as markets potentially offering options for further livelihood opportunities were identified. These included agricultural labor; construction labor; home-based food production; commercial food processing (including dairy); and skilled labor (including teachers, secretaries, nurses, accountants, etc.). During the EMMA fieldwork preparation workshop in Beirut, the complete

EMMA assessment team added further market systems to this list, including: home based embroidery, electronic repair and vehicle mechanics; service sector labor (including restaurants and hospitality); livestock raising; and fishing and sale of fish.

These 10 income market systems were then ranked according to 6 criteria in order to determine which market systems are the most appropriate for supporting livelihoods in the targeted regions. Given the differences in economic activities and refugee flows between the North and Bekaa, separate ranking exercises were carried out for each region, with the understanding that some markets may be more appropriate for analysis given the different contexts in the North and in Bekaa. As such, the critical market selection was conducted independently for each region, using the following criteria to rank relative importance of each market system:

1. The market is the most significant in contributing income opportunities
2. The market system is affected by the refugee influx and/or crisis in Syria
3. Programming options in the market system are likely to be feasible
4. The market system fits the competencies and mandates of participating agencies
5. Seasonal factor and timing are appropriate
6. Potential program options in this market system would complement (and not duplicate) government or other actors' plans for the sector

Based on this ranking exercise, the teams in Bekaa prioritized service sector labor (primarily hotels and restaurant services), agricultural labor, and construction labor, in that order of importance. For the North, agricultural labor and construction labor were the clear priority market systems for analysis, but the ranking exercise did not highlight a clear prioritization of a 3rd critical market system. Home-based food production was ranked low given the poor performance of past programs for Lebanese families in the North, and perceived limited feasibility of these activities for refugees. Livestock raising and service sector labor, were equally ranked, but divided between predominantly rural and urban markets, respectively. The team opted to select service sector labor as the 3rd critical market system for the North in order to foster consistency of data gathering and reporting with the Bekaa analysis and given the importance of service sector employment in Tripoli.

Three critical income market systems were analyzed in this EMMA:

1. Agricultural Labor
2. Construction Labor
3. Service Sector Labor

These market systems take into account income earning opportunities available in rural and urban areas, and also represent market systems which are broadly accessible to women, men, and youth refugees and host community members.

VI. THE AGRICULTURAL LABOR MARKET SYSTEMS IN NORTH AND BEKAA

The market maps, below, are visual depictions of the agricultural labor market systems in the North and in Bekaa. These maps demonstrate the connections between those people working or seeking work in agricultural labor market and the landowners or operators who cultivate a variety of produce as a core source of income and livelihood. The market chain, the middle portion of each market maps illustrates the connections and pathways through which Lebanese and Syrian migrants and refugees can seek work. In addition, there are a series of institutions and policies which regulate the functioning of this market system as well as infrastructure, inputs, and services which facilitate the connections between workers, farmers and markets. Policies, regulations and institutions are represented on the upper portion of the market map, whereas the infrastructure and inputs upon which the agricultural labor market depends is represented at the bottom third of each map.

A dried fruit and nut vendor in Akkar, northern Lebanon
(Photo: IRC/Rebecca Blum, March 2013)

Separate maps are presented for the Bekaa and for the North, in order to highlight the differences in the agricultural labor market systems of the two regions. For each region, two different maps are included in the below analysis – a baseline map outlining the functioning of the agricultural labor market at the beginning of 2011, prior to the outbreak of conflict in Syria, and a post-crisis market map which reflects the agricultural labor market today. Comparing the current situation to the baseline assists in rapidly identifying how the specific market system has been impacted by the crisis, and the specific constraints to using this market as a driver for income opportunities for both Lebanese host communities and refugees.

Baseline market map

Below is a brief description of the key elements of the agricultural labor market system prior to the Syria crisis.

The Market Chain

The market chain is the relationship between Lebanese and Syrian workers, the market actors who help them find jobs, and employers, including land owners/operators, food processors, and farm produce packing and sorting facilities.

The baseline agricultural labor system in Lebanon is characterized by strong divisions of labor according to sex. Women are the primary labor force in agriculture, and primarily responsible for seasonal agricultural activities which require patience and precision, such as sowing, weeding, and harvesting fruits and vegetables. Men are primarily responsible for handling heavy machinery, greenhouse construction and transporting crops. Wages, work conditions and the mode of payment differ according to the nationality and gender of agricultural workers, with some differences also noted per geographical region or crop.

Syrian Migrant workers

The regions of Akkar and the Bekaa employ the largest number of paid seasonal agricultural workers in Lebanon[7], even prior to the Syrian conflict. Syrian migrant agricultural labor is readily available mainly due to the proximity of both regions to Syria and the easy commute between both countries. Syrian migrant workers make up the bulk of farm laborers, and due to the different agricultural seasons in the North and in Bekaa, often move from one season to the next between North Lebanon, the Bekaa Valley and their homes in Syria based on the demand for labor. Seasonal workers are either contracted on a daily basis or engaged on a fixed contract, usually month-to-month. The number of seasonal migrant workers working on a daily basis in early 2011 can be estimated to around 12,000 workers in the Bekaa and 9,000 in Akkar[8]. Seasonal workers working on daily basis generally work 5 to 9 hours a day (depending on season and crop type), and up to seven days a week to support their families. Syrians working as fixed laborers were generally contracted on a monthly basis. The wages for fixed and daily migrant workers varies by region, sex, and in some cases by crop. Average wages for migrant workers in 2011 are listed in Table 2 below. Generally migrant workers are paid each 10 to 15 days, however financial constraints encountered by some farmers result in a delay in payment to migrant workers, until the produce is sold. In the case of daily migrant workers the risk of non-payment is secured by the Shawish who pays the worker regardless of the delay in payment from the farmer.

[7] *2010 Agricultural Census, Draft Report*. Ministry of Agriculture and Food and Agricultural Organization, 2010.
[8] According to the MOA/FAO 2010 Agricultural Census data, a total of 1,375,277 of paid seasonal working days are required in Akkar, 1,168,782 in Baalback-Hermel and 652,045 in the rest of the Bekaa. The vast majority of seasonal workers are migrant workers, and as such, these working days were used to estimate number of actual seasonal workers in each region.

Table 2: Syrian Migrant worker wages at baseline

Region	Fixed migrant wages (LBP/month)	Daily worker wages (LBP/hour)
North	Men: 350,000-400,000 LBP Women: 200,000 LBP	Men: 2,000 LBP Women: 1,500 LBP
Bekaa	Men: 450,000 LBP Women: 400,000 LBP	Men: 3,000 LBP Women: 2,000 LBP

Lebanese workers

Agricultural work conditions are unattractive to unemployed Lebanese workers. Working hours are long and the wage, although higher than that for migrant workers, is still insufficient to cover a higher cost of living. Agricultural jobs are secured through relatives or personal contacts in the hometown. Lebanese workers are usually more trusted in higher-skilled work, such as tree pruning or apple picking, and sometimes economically supported through the provision of basic needs such as bread or transport. In some cases, Lebanese workers request insurance or social security whereas Syrian migrant workers are not covered by any insurance. Lebanese are usually paid more than migrant workers, while the women are paid less than men. The family laborers are usually paid on a monthly basis or at the end of the cropping season. In the North, Lebanese workers are paid between 20-30,000 LBP per day, whereas in Bekaa Lebanese workers are paid 35,000 LBP/day.

Shawish

Many male and female seasonal migrant workers live adjacent to agricultural lands in tented communities that are managed by a community leader known as “Shawish”. The Shawish rents the tents and serves as middlemen between the seasonal migrant workers and his clients, farm operators with whom he has established personal contact throughout the years. The market assessment revealed that the commission rate of the Shawish differs between the North and the Bekaa. In the Bekaa, the Shawish receives from the worker the equivalent of one hour of work (1,500 LBP per female worker per day), regardless of the total number of working hours per day. In the North, the Shawish charges a fixed rate per working hour (varying from 200 to 500 LBP).

Family or Relatives

Some Syrian migrants work, on a full-time basis, in agricultural lands through direct contact with land owners. Family or relatives constitute the essential entry point for farm-based full-time employment for a relatively smaller number of Syrian migrant workers working as agricultural labor. It is often the case that a worker brings his brother, son or daughter from Syria to work on the land whenever the employer requires additional labor. Farmers prefer to hire the relatives of trusted workers, thus saving the farmer from paying the Shawish. These full-time migrant workers are paid on a monthly basis and often live on the agricultural land. Migrant workers receive no health coverage but serious occupation injuries are paid by the employer.

Landowners/operators

The patterns of landownership are different in the North and Bekaa, and as a result, there are variations in the hiring patterns between each.

- **Bekaa:** There are an estimated 27,014 small and medium agricultural operators who manage less than 40 dunums[9] of land and 5,390 large operators who manage between 40 and 500 dunums in the Bekaa Valley[10]. Most farms rely on family members as laborers, and among all sizes of landholders in Bekaa, the majority (roughly 75-80%) employs permanent workers from family members and relatives and 60% rely on seasonal family labor. Only about 18% of small and medium operators employ migrant workers as fixed laborers (averaging 2 to 5 workers per farm) and occasionally hire more laborers during peak planting and harvesting. Large landowners and commercial farmers rely to a greater extent on hired migrant laborers in addition to family members. 37% of the big land owners hire fixed migrant laborers (up to 10 workers per land owner) and occasionally hire more seasonal migrants during peak times.

- **North:** In Akkar there are a total of 28,092 registered agricultural operators. Lands are smaller than in the Bekaa, with over 90% of agricultural operations between 1 and 40 dunums, and the overwhelming majority of lands in the North are rented. Dependence on migrant agricultural labor takes place essentially in the plain (Sahl) and to some extent in Central Akkar, for the cultivation of field crops and the harvest of citrus fruits and olives. In the mountainous Jord area of Akkar, operators rely predominantly on family labor for seasonal agricultural work in fruit orchards. Agricultural activities, such as pruning or harvesting, are divided among family members for as many days as necessary, with males usually more involved than females. According to data provided by the Ministry of Agriculture (with no distinction per sub-region or crop type), more than 88% of operators in Akkar rely on seasonal family labor (2 persons per land on average) while 79% of operators also pay for seasonal labor work. Only 7% of operators hire fixed paid labor with 2 to 3 workers per land.

Small-scale food processors

Commercial food processing activities that offer employment primarily take place in Bekaa. In the North, food processing activities are not developed in Akkar, even at household level (aside from olive), mainly due to the availability of fresh fruits and vegetables throughout the year. The situation is different in the Bekaa with the existence of small, medium and large food processing facilities many of which are owned by big commercial farmers. There are on average 18 workers

[9] A dunum is a standard measurement of land area in Lebanon. One dunum is equivalent to 0.1 Ha.
[10] 2010, *2010 Agricultural Census, Draft Report*, Ministry of Agriculture, Food and Agricultural Organization.

per facility, mostly Lebanese women working on a seasonal basis for a wage of 30,000 LBP per day. Processed foods are exported to Gulf countries or consumed in the Lebanese market.

Sorting and packing facilities

Sorting and packing facilities essentially handle fruits (80% of business) and vegetables (20% of business) for export markets or high-end shops in Beirut. The system is semi-automated. In North Lebanon, sorting and packing facilities are concentrated in Zgharta, 7 kilometers away from Tripoli. These are principally family businesses of export traders who compete against each other. Traders control the market by fixing purchase price and buying from farmers. They also hire daily workers for sorting and packing labor work, pay for the transport of the packed agricultural produce to the export market and seal trade deals in the export market. Sorting and packing facilities employ both Lebanese and migrant workers, males and females generally at equal levels. Lebanese workers are paid 5% more than Syrian workers. The activity of these facilities is directly related to the demand level in export markets.

Market Infrastructure and Inputs

Agricultural inputs

Inputs such as land, fertilizers, and pesticides are key elements of the agricultural production systems in the North and in Bekaa. Many fertilizers and pesticides were brought from Syria in the baseline period; however prices have been trending upwards. The Lebanese Ministry of Agriculture in 2010 began controlling the use of pesticides, prohibiting those with high leaching properties, contributing to increased prices for pesticides. Land rental prices have been trending upwards in the North, due to increased demand for land, mostly from Syrian farmers (even in pre-crisis period). Land rental prices in Akkar have increased from 700,000 LBP to 5 million LBP per hectare over the last 4 years.

Capital and micro-credit facilities

Agricultural credit programs such as *Kafalat* and *Imkan* can provide small agricultural loans to farmers. However, *Kafalat* requires land ownership documents, excluding access to credit to half the farmers of Akkar (where majority of farmers rent land). Moreover, the credit has a 7-year return policy, which puts financial pressure on the farmer. For instance, olive trees grow slowly and require 15 to 17 years to attain maximal yield. Farmers are afraid of investing in agriculture as they may end up having more investment than gaining ability to simultaneously re-pay loans and support themselves.

Transport

In some areas, such as the mountainous Jord in Akkar but also in the Bekaa, access to agricultural land and transport of agricultural products is seen as a problem because of the absence of feeder roads that connect the farms to the market.

Cold Storage facilities
In Bekaa there is significantly greater availability of cold storage than in Akkar. There are 30 packing facilities in the North and 64 in the Bekaa[11]. The local availability of cold storage facilities offers potato and other types of high-value crop farmers in the Bekaa the advantage of controlling market prices by manipulating market supply.

Market Environment

Domestic Markets
Vegetables produced in Akkar are mainly sold in the wholesale market of Tripoli while the vegetable products of Bekka Valley are mainly sold in Beirut. Food processing companies located in the Bekaa constitute a large market for Lebanese farmers, particularly potato producers in the Bekaa and the North. Processing companies contract farmers to produce potato at fixed prices, locking farmers into a low-margin contract and burden of risk if the crop fails. Additionally, the marketing of olive oil, a key commodity produced in the North, usually takes place in bulk through family and friends and remains a burden for olive growers. The market of olives, olive oil and olive derivatives face great competition with Syria. In an initiative to support the market, the Lebanese Army bought last year's olive oil production from growers but the Ministry of Finance only recently announced the payment to farmers.

International Trade Agreements and Regulations
The export of agricultural products from Lebanon is regulated through bi-lateral and multiple trade agreements. Lebanon is the signatory of multiple trade agreements including the Euro-Mediterranean Partnership Initiative since 2003, the Free Trade Agreement with the European Free Trade Association (EFTA) since 2004 and the Greater Arab Free Trade Agreement (GAFTA) under the Arab League, which abolished agricultural tariffs in 2005. Bilateral trade agreements signed between Lebanon and Egypt, Iraq, Kuwait, Syria and the UAE also regulate the bilateral exchange of commodities. Additionally, agricultural export markets are also regulated according to strict food quality and safety control requirements.

Import/Export Markets
The volume of agricultural exports was of 454,941 tons in 2010, witnessing a 4% growth compared to 2009[12]. Syria, Saudi Arabia, Kuwait, Egypt, the United Emirates and Egypt are the major export markets for Lebanese produce. While some produce is exported by sea, shipping is costly and the majority of produce from Lebanon is normally shipped overland through Syria to the target markets. Potato, citrus, banana and apple constituted 80% of the total volume of agricultural exports in 2010, although the export of citrus fruits had decreased by 24% in volume[13]. Potato production takes place in Akkar and the Bekaa while 14% of national citrus production takes place in Akkar. While potato cultivation in Akkar and Bekaa Valley hires the largest number of seasonal workers, although for a short period of time only, Lebanon still

[11] Agri Plus Program Annual Report 2012. Investment Development Authority of Lebanon (IDAL), 2012. Link to report
[12] Agri Plus Program Annual Report 2012. Investment Development Authority of Lebanon, 2012. Link to report
[13] Export Plus 2010 Progress Report. Investment Development Authority of Lebanon (IDAL), 2010 Link to report

women. In the North however, farmers report paying *higher* wages to migrant workers than in 2011. Farmers state that the Shawish have increased the price charged to farmers from 2,000 to 3,000 LBP/hour for men and 1,500 to 2,000 LBP/hour for women. Because farmers tend to directly hire only those workers they know or with whom they share family connections, the increase in wages charged by Shawish in the North may indicate the increased importance of the Shawish in connecting farmers with workers in a context with increasingly unknown supply of labor, mostly refugees. And, although the Shawish is charging more to farmers, the pay to the workers has either not changed or actually decreased. One female worker reported the Shawish used to take 250 LBP per hour from her wage 1,500 LBP in the baseline, whereas in 2013, the farmer is paying 2,000 LBP per hour but the Shawish is capturing 750 LBP, meaning she takes home only 1,250 LBP per hour of work, the same as she made in 2011. Additionally, with the increasing numbers of refugees also competing for work as agricultural laborers, it is anticipated that the number of days of work for migrant laborers will decrease. This has not yet begun to happen at a large scale, but several informants expressed concern that the hours or days worked by migrants may decrease with the increasing competition from refugees for existing work opportunities.

Refugees: While the quantity of agricultural production or land under cultivation is not expanding, the available work-force looking for a job in agriculture sector has doubled due to the influx of the refugees from Syria. In the Bekaa, and to some degree in the North, the number of hours of work for refugees and daily migrant laborers has also decreased, from about 8 hours per day to 4 hours to accommodate shifting of laborers. Even with the decrease in pay and working hours, refugees find it very difficult to find a job as an agricultural laborer unless they have a relative who is working (or has previously worked) as a migrant laborer and has a well-established social network in Lebanon. As a result, the number of days of work is limited. In Bekaa, refugees are working a maximum of one or two days per week. The hourly wage paid to refugee daily workers is 2,000 LBP/hour for men and women in the North, and 2,000 LBP/hour for men and 1,500 LBP/hour for women in Bekaa.

Table 3: Average change in pay of agricultural workers

Region	Type of worker	Wage in baseline (2011)	Wage now (2013)
North	Lebanese	Men: 20,000 – 30,000 LBP per day	Men: 25,000 – 35,000 LBP per day
	Syrian Migrant	Men: 2,000 LBP / hour Women: 1,500 LBP/hour	Men: 3,000 LBP / hour* Women: 2,000 LBP / hour*
	Syrian Refugee	Men: N/A Women: N/A	Men: 2,000 LBP/hour Women: 2,000 - LBP/hour

Bekaa	Lebanese	Men: 35,000 LBP/day	Men: 25,000 LBP/day
	Syrian Migrant	Men: 3,000 LBP/hour Women: 2,000 LBP/hour	Men: 2,000 LBP/hour Women: 1,500 LBP/hour
	Syrian Refugee	Men: N/A Women: N/A	Men: 2,000 LBP/hour Women: 1,500 LBP/hour

*Indicates wages paid by the farmer to the Shawish. The wages actually taken home by the worker have not changed or decreased in 2013 compared to 2011.

Shawish: Field interviews conducted with migrant workers, farmers and middlemen revealed that the Shawish has increased his margin of profit since the refugee crisis began. The Shawish now requests a higher labor price from the employer, justified by the rising inflation, but has actually lowered the wage he pays to each worker, citing the increase in competition for jobs. Because of the position of the Shawish, wages paid by employers have increased from 1,500 to 2,000 LBP per hour for female workers, but the actual wage taken home by the worker has shrank. Additionally, Shawish have begun to find jobs for both migrants as well as refugees who come to the Shawish in search of a place to live and housing.

Producers: In the last two years, farmers have been struggling to sell their production and cover their production costs. Profits have dropped by 50 to 80% due a decrease in sales. In domestic markets, farmers are competing with cheaper imports from Syrian producers which are being dumped at very low prices in Lebanon due to the lack of sufficient markets inside Syria. Additionally, exports are heavily impacted by the loss of overland transport to gulf countries and increased costs of transportation by sea to export markets. As a result, the crisis in Syria has squeezed the profit of large, medium and small landowners/operators by increasing production costs and greater costs for bringing produce to market.

Export Markets: Despite an increase in overland transportation costs due to insecurities in Syria, traders continued to export fresh fruits and vegetables through Syria throughout most of 2012. In 2012, exports from Lebanon to Syria and the Gulf countries had increased by 14% compared to 2011, due to a shortfall of goods

Finding work through a Shawish

In one focus group in the North, Syrian refugees explained that they had started working as agricultural labor one week ago after being in Lebanon for three months. The job was secured in a period of two weeks through a Shawish who approached them and offered to find them work in a potato field. They are paid on daily basis and are keen to keep their job despite receiving aid vouchers. In Syria, males used to work in construction while females were housewives. Unlike the usual wage rates, male and female refugees were paid 2,000 LBP per hour but worked 9 hours a day, 7 days a week.

exported from Syria.[14]However, in late 2012 and early 2013, as fighting in Syria escalated, transporters faced increasing difficulties in exporting goods through Syria, including increased risk of attack and difficulties crossing the border from Syria to Jordan. By early 2013, the closure of the Masna'a border to trade seriously restricted overland agricultural exports. Potato and Citrus producers have been particularly impacted by these changes. Potato and citrus are two dominant export-oriented crops heavily dependent on migrant labor, and have seen decreasing volumes of produce exported, even despite the overall increase in Lebanese agricultural produce in 2012, due to increased competition from other countries in Gulf markets. With increased difficulty and cost to export produce to the Gulf, citrus and potato producers face a shrinking market share.

Sorting/packing facilities: Facilities designed to sort and pack agricultural produce for export have mixed impacts from the crises. Export from Lebanon to the Gulf market by road has been almost completely disrupted by the conflict inside Syria. As a result, sorting and packing facilities have less business for overland exports. However, increasingly farmers and exporters are shipping produce by sea to gulf markets, although the volume of produce shipped by sea is greater than in the baseline, it is still much less than would normally be shipped by road. Additionally, the cost of packaging material, mostly imported, has increased thus also affecting the capacity for expansion. As a result, some sorting and packing facilities in the North have recently closed down due to tough competition in a smaller market; others are working half-days only to maintain their daily workers. Facilities hire both Lebanese and Syrian nationals in roughly equal numbers, meaning that both Lebanese and Syrian workers are impacted by the reduced hours of work. Work conditions are usually hard and workers are treated with no respect.

Local markets: In the North, most vegetables produced in Akkar are sold in the wholesale market of Tripoli. Farmers complained about Syrian produce being dumped in the Lebanese market at much cheaper prices than Lebanese produce, due to the inability of Syrian farmers to sell their goods inside Syria. According to an accountant in the wholesale market of Tripoli, 76% of products in the market come from Syria. Additionally, food processing companies who contract farmers for producing potato and other produce for processing have not increased the price offered to farmers, despite increases in cost of production. Potato farmers in the Bekaa are said to be less affected by competition from imported potatoes due to the availability of cold-storage facilities in Bekaa which allow a better control of market prices.

Transportation: Road transit for trucks bringing produce through Syria to gulf markets decreased significantly since the conflict in Syria started, and has nearly stopped since fighting escalated in late 2012. Since then, trucks crossing from Lebanon into Syria have been blocked at the Jdeidet Yamous border crossing inside Syria, and also at the Nassib border crossing in Syria while attempting to cross into Jordan. As a result, the cost of road transportation has increased significantly due to the increased risk, and many drivers have refused to carry shipments through Syria. Because of the overland difficulties in exporting, many traders have

[14] IDAL 2010 Progress Report Link to report

increased shipping by sea and air. For example, shipment of apples through the sea to Egypt and Saudi Arabia in 2012 has increased by 61%.

Agricultural inputs: The cost of some agricultural inputs has increased since the crisis began, particularly in border areas where fertilizers and pesticides were either purchased in Syria or imported from there and purchased in Lebanon. This compounds the already-rising input costs due to government restrictions on some pesticides.

Cold storage facilities: The absence of sufficient post-harvest facilities and processing plants forced farmers to sell their products at very cheap prices as most of their crops are perishable, particularly in the North.

Overall, with an increase in production costs, tough competition from cheap Syrian produce in domestic markets, and blocked transit roads for export, Lebanese farmers are in a critical situation. Citrus farmers in Akkar have decided not to harvest their season to decrease their costs, and all farmers are holding back on investments and hiring of additional laborers until there are improved marketing prospects.

VIII. KEY FINDINGS

The market analysis has highlight significant impacts on the agricultural labor market resulting from the conflict in Syria and the influx of refugees into Lebanon. This section analyzes these impacts on the market system in order to understand the implications, opportunities, and challenges of promoting income-earning programming related to agricultural labor for host community members and refugees.

Overall situation

Agricultural labor in the North and Bekaa has been severely impacted by the Syrian crisis. Wages received by workers have decreased, and the overall number of workers has increased, impacting the income of both Lebanese workers and Syrian migrants the greatest. Additionally, working conditions for laborers deteriorated, with more farmers shifting laborers, resulting in fewer hours worked per person. This decline in the labor market system is partly the result of the large influx of refugees seeking work, often at lower wages, but also as a result of deteriorating market conditions facing landowners/operators. With increased competition from Syrian imports on domestic markets, increased costs of shipping to export markets and uncertainty about the future, farm revenues have decreased significantly since the crisis started. Those farmers who have loans from *Kafalat* or *Imkan* are concerned about their ability to repay, and the majority of farmers are not considering expanding production, even despite the large supply of low-cost labor, because of marketing and export uncertainties.

As a result, the crisis in Syria has squeezed the profit of large, medium and small landowners/operators by increasing production costs and greater costs for bringing produce to market.

Income Gap Analysis of Lebanese and Refugee Agricultural Workers

The EMMA assessment teams used secondary sources and interviews with members of the target population to analyze the income and expenditure patterns of host communities and refugees. The 'gap' between expenditures required to meet household needs and the income available to households is an estimate of the amount of household revenue required to be earned or provided through work opportunities or charitable assistance. This analysis of the agricultural labor market system informs the extent to which this labor markets can contribute to closing the 'income gap' at household level.

Rows of lettuce on a large scale farm in Akkar, northern Lebanon (Photo: IRC/Myriam Zmeter, March 2013)

Host communities

Recent data on Lebanese host community families' income and expenditure does not exist, and this EMMA was not able to collect this information. However, the Lebanon Central Administration of Statistics did conduct a nationally representative household income and expenditure survey in 2004-2005, which has served as the basis for the national poverty line, national poverty targeting program, and construction of the consumer price index. Although not a precise household profile, when adjusted for inflation and compared to the current income available from each market system, as identified in the EMMA assessment, this data provides a window on the precarious household income situation of Lebanese host community members.

The 2004-2005 household expenditure data is adjusted for inflation[15] and listed in Table 4 below. This inflation-adjusted data is an estimate of 2012 average household expenditure for the North and Bekaa and the average wage for Lebanese agricultural workers. Despite the apparent gap between agricultural worker income and total household expenditure (as shown in table 4), a true income gap cannot be calculated from this information alone, as it does not take into account other possible sources of income for each household. However, when comparing the average wages for agricultural workers in 2004 to the actual wages observed during the

[15] Dollar amounts are adjusted for inflation based on 2007 dollars, despite the income/expenditure data being collected in 2004-2005. Consumer Price Index data prior to 2007 was not readily available at the time of writing in order to adjust 2004 dollar amounts for inflation and enable comparison with current wages. As such, 2004-2005 income/expenditure data was adjusted based on the earliest available CPI data available, from January 2008. These figures are adjusted based on differences in CPI from January 2008 to December 2012.