

Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries of Egypt, Iraq, Jordan, Lebanon and Turkey



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Acknowledgments

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ACRONYMS AND ABBREVIATIONS

ACTED	Agency for Technical Cooperation and Development
AFAD	Disaster and Emergency Management Presidency of Turkey
CBO	Community-based organization
CPF	Country Programming Framework (FAO)
CPI	Consumer price index
DFID	Department for International Development (United Kingdom)
ECTAD	Emergency Centre for Transboundary Animal Disease Operations (FAO)
ESCWA	Economics and Social Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer field school
FMD	Foot-and-mouth disease
GCC	Cooperation Council for the Arab States of the Gulf
GDP	Gross domestic product
HABITAT	United Nations Human Settlement Programme
HPAI	Highly pathogenic avian influenza
ICARDA	International Centre for Agricultural Research in Dry Areas
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IMF	International Monetary Fund
IOM	International Organization for Migration
IPM	Integrated pest management
ISO	International Organization for Standardization
KRG	Kurdistan Regional Governorate (Iraq)
LSD	Lumpy skin disease
M&E	Monitoring and evaluation
MoFA	Ministry of Foreign Affairs
NGO	Non-governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OIE	World Organisation for Animal Health
OPEC	Organization of the Petroleum Exporting Countries
PPR	<i>Peste des petits ruminants</i>
PRRO	Protracted Relief and Recovery (WFP project)
PRS	Palestinian refugees from Syria
RAHC-NE	Regional Animal Health Centre for the Middle East
RNE	Regional Office for the Near East and North Africa (FAO)
RRP	Regional Response Plan (of the UN for the Syria crisis)
SEC	Subregional Office for Central Asia (FAO)
SO	Strategic Objective (FAO)
TAD	Transboundary animal disease
TCE	Emergency and Rehabilitation Division (FAO)
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
USAID	United States Agency for International Development
USD	United States Dollar
WFP	World Food Programme
WHO	World Health Organization

EXECUTIVE SUMMARY

In February 2013, the Regional Office for the Near East and North Africa and the Emergency and Rehabilitation Division of the Food and Agriculture Organization of the United Nations (FAO) undertook a “comprehensive analysis of the impact of the Syria crisis on the agriculture sector, agricultural-based livelihoods, and the food and nutrition security in the Near East Region and, in particular, its influence on markets and trade routes, restrictions of imports and export flows, cross-border agricultural commodity/input supply flow, prices and livelihoods”. The main output of the analysis is a comprehensive document that: (i) identifies the major impacts of the Syria crisis on the agriculture sector, and on the food and nutrition security of neighbouring countries (i.e. Egypt, Iraq, Jordan, Lebanon and Turkey); and (ii) presents the immediate and medium-term needs related to food and nutrition security and agricultural-based livelihoods of displaced people, returnees, host communities and other vulnerable groups in Egypt, Iraq, Jordan, Lebanon and Turkey through the development of regional and national response plans for the crop and livestock subsectors.

As of 1 March 2013, there were an estimated 1.1 million Syrian refugees registered or waiting to be registered in Egypt, Iraq, Jordan, Lebanon and Turkey. This number does not include people who are not registered, Syrian seasonal workers who remain in Lebanon (estimated at 250 000–300 000 people), Lebanese and Iraqi returnees (estimated at 30 000 and 50 000 people, respectively) and Palestinian Syrians (an estimated 25 000–50 000 people). The actual number of people who have fled Syria to these neighbouring countries is thus significantly higher and well in excess of 1.7 million.

Regional and national macro-economic situation – trade, inputs and labour

The Syria crisis has compounded the already difficult economic situation in the majority of Syria’s neighbouring countries. While overall economic growth is slowing down in all neighbouring countries (i.e. Egypt, Iraq, Jordan, Lebanon and Turkey), exports, tourism and transportation have all been negatively affected owing to the interruption of trade routes and the deterioration of regional and national security.

While the Syria crisis is affecting all sectors in neighbouring countries, its impact on the agriculture and food sectors is particularly important being the main source of income for a significant proportion of the population, particularly for the poorest segments in rural areas and vulnerable communities. While the share of the agriculture sector in gross domestic product ranges from 4 percent in Jordan to over 15 percent in Egypt, the sector employs the majority of the rural population in these countries. Importantly, agriculture is the main source of livelihood for the majority of communities hosting Syrian refugees in Iraq, Jordan, Lebanon and Turkey. With its strong forward and backward linkages within rural settings and with other sectors of the economy, agriculture is a major source of stimulus for growth and income generation in these countries.

Syria is a major trading partner for all of its neighbouring countries in food and agriculture and a major transit route to and from the countries of Eastern Europe and the Near East Region, in particular to the Gulf States. However, the crisis has disrupted agricultural and food trade in the region. Four changes in agricultural trade flows in 2011 and 2012 are worth noting: (i) a decline in total agricultural trade; (ii) a considerable drop in bilateral agricultural trade with Syria and in transit trade through Syria; (iii) a significant change in trading routes in the region; and (iv) increased informal trade across the borders with Syria.

The disruptions in trade have had negative impacts on small-scale producers and workers along the supply chains of most agricultural commodities. The communities living close to the borders with Syria have been affected the most as a result of lost jobs and declines in farm businesses. In Turkey, for example, Syrian refugees are bringing their crops, particularly olives, into Turkey to sell their fruits on local markets well below market prices – resulting in a considerable fall in local commodity prices to the detriment of Turkish farmers. Shortages of subsidized wheat flour and now high prices of that flour have led to industrial action by bakers in Lebanon and shortages of poultry products in Jordan (formally imported from Syria), resulting in a three- to four-fold increase in the price of eggs.

In addition, the risks associated with food quality and safety, and threats of transboundary animal and plant diseases and pests have increased as a result of the informal trade and the changing trade routes.

Because of the Syria crisis, trade routes for food and agriculture are changing, posing significant challenges for neighbouring countries given the associated increases in transport costs and the need for increased infrastructural capacities in terms of port facilities, storage and other logistical requirements. Previously, agricultural commodities travelled through Syria over land, mostly in refrigerated trucks. Now countries are using longer land routes with less insecure journeys through Syria, sea routes such as from/through Mersin in Turkey, Beirut in Lebanon, Haifa in Israel, Port Said in Egypt and Aqaba in Jordan to markets in Iraq and countries in the Arabian Peninsula, or even air transportation (particularly Beirut). The change in trade routes has mostly been accompanied by a change in destination markets, which calls for additional investment to meet quality requirements of the new markets. In addition, the change in trade routes raised the urgent need to strengthen border food quality and safety control in ports to which agricultural trade is being diverted.

The availability of agricultural inputs (e.g. seeds, fertilizers, pesticides, farm machinery, animal feed and medicines), which are predominantly imported into Egypt, Iraq, Jordan and Lebanon, has been disrupted and costs of imports have increased in most of the countries. On the whole, agricultural inputs were heavily subsidized in Syria; border communities of Iraq, Jordan, Lebanon and Turkey had been benefiting from cheaper agricultural inputs and regular income from the informal trading and smuggling of such goods prior to the crisis. The crisis has disrupted the flow of agricultural inputs, leading to a significant increase in agricultural production costs in border areas. In Lebanon, Lebanese returnees are ‘panic’ selling their dairy cattle at one-third of market prices due to high animal feed costs, lack of winter grazing lands as well as a need to finance immediate household living costs.

The Syria crisis has resulted in an inflow of a large number of refugees and migrant workers into neighbouring countries. On one hand, this has helped a few productive sectors such as construction and large-scale agriculture (with their lower salary demands), but on the other hand it has created a displacement of traditional migratory labour sources (e.g. Egyptians in Jordan and northern Turks in Turkey).

Overall, the continued civil unrest in Syria has raised serious concern over the state of food security in the neighbouring countries of Iraq, Jordan and Lebanon and the Middle East Region as a whole, particularly among the vulnerable communities of border areas, including those communities hosting refugees. The increased stress on resources, water and food – coupled with a decline in income and economic activity – is adding a tremendous strain on neighbouring countries at the national, local and household levels.

The Syria crisis is affecting food availability in neighbouring countries through: (i) the negative effect on local food productive capacities, mostly because of the security situation in border areas; (ii) the increased demand for food as a result of the growing influx of refugees and returnees from Syria and increased fiscal burden to maintain food subsidies; and (iii) the considerable fall in imports of food products from Syria. It is also affecting access to food through its overall negative impact on household incomes and increased cost of food. The closure of the borders and the decreased ability of producers to export their products to Syrian markets, as well as to other markets transiting through Syria (e.g. Turkey, Eastern Europe and the Arabian Peninsula), have resulted in loss of income to farming communities and many of the people working along the food and agriculture commodity chains. Increased competition from refugee workers with local workers has also resulted in reduced household incomes in host communities.

Local socio-economic situation (refugees, returnees and host communities)

It is estimated that more than two-thirds of refugees and returnees from Syria are located outside of refugee camps (including 100 percent in Egypt and Lebanon), being hosted by communities who themselves are increasingly under threat of food insecurity and poverty. It is further estimated that 60 percent of these people are located in small towns and villages where agriculture is the primary source of livelihood. The initial Syrian refugees were of urban origin, but since mid-2012 the majority have been rural – most of them abandoning unharvested crops, livestock as well as personal and

productive (farm) assets. With the exception of Egypt and Kurdistan Regional Governorate of Iraq, refugees and returnees are located in some of the poorest areas, or ‘poverty pockets’ of the neighbouring countries to Syria (i.e. parts of northwestern Iraq, northern Jordan, northern and eastern Lebanon and southeastern Turkey).

Priority needs for *refugees* throughout the five hosting countries of Egypt, Iraq, Jordan, Lebanon and Turkey are mostly related to security, affordable and decent accommodation and access to more stable income sources to maintain livelihoods and cover household needs. Insecurity is higher among non-registered refugees – who are the most vulnerable to being exploited by employers and reliant on host communities to assist them with their basic needs of food and shelter.

Host communities in these countries may both benefit and suffer from the availability of Syrians as cheaper labour, as well as the cheaper agricultural products coming with those who cross from Syria. The coping strategies of host communities and refugees in all border areas are being seriously eroded as time passes, food prices are unstable and rental prices in some host communities increase drastically. In general, affected communities in neighbouring countries can be classified into four categories:

- i. **Communities hosting Syrian refugees and returnees:** affected by increasing rents, increased pressure on household resources and access to food, increased competition and availability of labour, etc.
- ii. **Communities neighbouring refugee camps:** affected mostly by the availability of surplus labour and competition with local labour, possible changes in food prices and shortages in energy and other services as a result of the growing demand from camps, possible market opportunities for local farm produce (e.g. in Jordan and Turkey) and possible loss of agricultural land (e.g. Turkey)¹.
- iii. **Communities in close proximity to the border affected by violence and insecurity:** directly affected by the security situation and border conflict, cannot access their farmland or move freely, and may need to relocate internally (e.g. Lebanon and Turkey).
- iv. **Communities where livelihoods are highly engaged and interacting with communities in Syria:** including traders, seasonal labourers, cross-border relatives or farmers (e.g. Iraq, Jordan, Lebanon and Turkey) who used to obtain their subsidized agricultural inputs and services from Syria and now face loss of income and degraded livelihoods as a result of higher input costs and loss of markets for their products, increased competition and availability of labour, etc.

In most cases, affected communities are actually a mix of one or more of these four categories, particularly in Jordan and Lebanon.

To cope with the growing pressure of the crisis on affected communities in neighbouring countries, including the increasing influxes of refugees and returnees, there is an urgent need for increased income opportunities for host communities. This is necessary in order for these communities to be able to cope with the pressure, feed themselves and strengthen their potential to assist the refugees. Equally, creating income-generating opportunities for refugees will help them meet their basic needs of food and other necessities and will minimize pressure on local communities. All of these efforts should be designed and implemented judiciously, creating a ‘win-win’ situation between host communities and refugees without jeopardizing decent employment.

Transboundary animal and crop diseases and pests, and environmental threats

Transboundary animal diseases (TADs) such as foot-and-mouth disease (FMD), *peste des petits ruminants* (PPR), bluetongue, brucellosis, lumpy skin disease (LSD), highly pathogenic avian influenza (HPAI) and bovine tuberculosis are generally reported in the Near East Region but, as a general rule, they are monitored and checked. However, veterinary services inside Syria (e.g. TADs surveillance, animal vaccination and quarantine) collapsed in 2012. Uncontrolled livestock movement

¹ While refugee camps have been built on public land, there are cases where this land was cultivated.

has increased significantly – only Turkey has a strict and efficient border control system with the slaughtering of all non-registered animals. Unvaccinated live animals are being legally imported or illegally crossing into Iraq, Jordan and Lebanon, with minimum or zero quarantine, for sale on the open market and slaughter houses throughout those countries.

FMD, PPR, bluetongue, brucellosis, LSD and cutaneous leishmania have all been unofficially reported in the Syrian border areas of Iraq, Jordan and Lebanon (but not all declared by the respective governments). PPR, bovine tuberculosis and rabies have been reported in captured and slaughtered animals in Turkey. Although not a country bordering on to Syria, Egypt has its own serious livestock and poultry disease problems. Repeated incursions of new strains of FMD viruses and the ongoing HPAI outbreaks are the biggest hurdles facing the livestock subsector. Egypt has also reported cases of PPR in 2012 and LSD has been endemic for a number of years. The peak seasons for outbreaks of most TADs in the region are April and November. Moreover, nomadic Bedouins and agropastoralists from Syrian border areas of Iraq, Jordan and Lebanon can no longer access free or subsidized Syrian vaccines and animal feeds.

Veterinary services in Iraq and Lebanon are weak – with limited surveillance and reporting of TADs, animal quarantine facilities and registered animal vaccination programmes – and are not capable of managing the threat of emerging TADs from Syria. Veterinary services in Jordan are inconsistent – whereas Jordanian animals are registered and vaccinated, TADs surveillance and animal quarantine systems are weak in Syria border areas. Only Turkey can claim to possess an animal health system that can effectively manage the threat of TADs spreading from neighbouring countries such as Syria. This is due to the fact that the country has invested a lot in this field and also received considerable financial and technical support from the European Union to control TADs and prevent them from spreading to Turkey's western borders with Europe. Egypt is a special case, where FAO's global Emergency Centre for Transboundary Animal Disease Operations is already assisting the Ministry of Agriculture to control TADs through a multi-donor funded project running since 2005 – a project which could quickly be scaled up to address the increasing threat of TADs in the region.

The increasing amount of smuggled agricultural commodities from Syria to Iraq, Jordan, Lebanon and Turkey and the opening up of new trade routes without adequate sanitary and phytosanitary controls, significantly increases the risk for crop diseases and pests to spread, particularly tomato leaf miner, wheat rust and fruit flies – already prevalent in Syria and increasingly so in Jordan and Lebanon.

Two environmental threats related to the Syria crisis of note are: (i) traditional transhumance grazing systems of the Badia rangelands of southern Syria, northeastern Jordan and northwestern Iraq have been seriously disrupted (with no access to winter pastures in Syria), leading to overgrazing and land degradation in Jordanian and Iraqi border areas; and (ii) the Government of Jordan is extremely concerned about the effects of increasing pressure on the local aquifer around the Zaatari Syrian Refugee Camp, with competition for water with large-scale irrigated farmers, and potential pollution from poor waste disposal systems from the camp.

National and international responses to the Syria crisis

The United Nations Syria Regional Response Plan (and its three revisions) identified the following priority areas of intervention: (i) the provision of food assistance, non-food items and/or financial assistance; (ii) access to healthcare and education; and (iii) quick impact projects in host communities struggling to cope with the additional strain on their infrastructure. The Kuwait Donor Conference of 30 January 2013 focused on pledges for funding protection, shelter, food assistance and health through the Office of the United Nations High Commissioner for Refugees, the United Nations Children's Fund, the World Food Programme and the International Committee of the Red Cross. There is an urgent need for the next Regional Response Plan under revision to address the increasing threat of transboundary animal and crop diseases and pests emerging from Syria, the deteriorating condition of food traded across official and unofficial border crossings, increasing malnutrition among farming families of host communities and the medium-term needs of rural host communities to recover their food production and income-generating functions following the shock of the Syria crisis in the border areas of Iraq, Jordan, Lebanon and Turkey and peri-urban areas of Egypt.

However, a sub-meeting of agencies (held in Amman, Jordan) of the United Nations (UN) Seventh Syria Humanitarian Forum of 19 February 2013 concluded there to be strong needs for: (i) follow-up with all countries (especially from the Gulf States) having made pledges during the donor conference in Kuwait on how funds will be channelled and priorities defined; (ii) linking emergency response to medium-term recovery and long-term rehabilitation and development – agriculture was mentioned as a key sector in this domain; (iii) developing strong contingency plans, as the end of the crisis is uncertain; (iv) increasing UN assistance to refugees, and even more so to host communities. This ‘subgroup’ expressed a strong interest in FAO’s regional assessment to analyse the impact of the Syria crisis on the agriculture sector of host countries/communities and requested an early release of its findings and recommendations. It is clear that there is now a strong shift towards providing additional support to host families in the Syria border areas of Iraq, Jordan, Lebanon and Turkey (most of which are from poor farming communities) and in Egypt.

Response Plans for the Agriculture Sector (regional and national)

Regional Response Plans

Regional

- Strengthening regional capacity for the control of transboundary animal diseases (three years; USD 14 200 000).
- Improved food quality control services along the Syrian border in Jordan and Lebanon (one year; USD 4 500 000).

National Response Plans

Egypt

- Strengthening urban and peri-urban nutritious and high-value crop production through the expansion of urban farming in host communities of Syrian refugees in Egypt (one year; USD 440 000).
- Enhancing nutritious food production and income generation of Egyptian communities hosting Syrian refugees (one year; USD 462 000).

Iraq

- Improved animal health services (surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Iraq (two years; USD 4 400 000).
- Improved food production and marketing among host communities to Syrian refugees in the Kurdistan Region of Iraq (two years; USD 3 000 000).

Jordan

- Improved animal health services (surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Jordan (18 months; USD 2 100 000).
- Restoring livelihoods and reducing land degradation through community-based range management initiatives among host communities in the Syrian border areas of Jordan (two years; USD 5 100 000).
- Improved smallholder vegetable crop production and protection in Jordan for the sale of quality, nutritious and affordable produce to Syrian refugee camps and host communities (two years; USD 4 300 000).
- Enhancing income generation and nutritious food production through the introduction of small-scale household food processing facilities in the Zaatari Refugee Camp and among host communities of Syrian refugees in the border areas of Jordan (two years; USD 616 000).
- Increased household egg production among host communities of Syrian refugees in the border areas of Jordan (one year; USD 1 100 000).

Lebanon

- Emergency vaccination and feeding of Bedouin herds grazing in areas along the Syria-Lebanon border (one year; USD 5 200 000).
- Relieving the suffering of returnees and host communities in the impoverished Syria border areas of Lebanon through the recovery and rehabilitation of smallholder agricultural production and marketing (two years; USD 7 500 000).

Turkey

- Support to ‘micro-gardening’ initiatives for improved food nutrition and income generation in selected Syrian refugee camps of Turkey (one year; USD 506 000).
- Recovery and rehabilitation of smallholder agricultural production and marketing in the impoverished Syria border areas of Turkey (two years; USD 12 000 000).

The overall cost for the two regional and 13 national response programmes and projects is estimated at USD 65.5 million.

FAO’s comparative advantage to coordinate and oversee these response plans for the agriculture sector in the Near East Region can be summarized as follows:

- Building on FAO’s unique expertise and mandate on issues related to transboundary animal and crop diseases and pests – through its global Emergency Prevention System for Transboundary Animal and Plant Pest and Diseases, Global Framework for Transboundary Animal Diseases, Emergency Centre for Transboundary Animal Disease Operations, International Plant Protection Convention, Wheat Rust Disease Global Programme and regional Integrated Pest Management Networks.
- Using FAO’s expertise on food processing, sanitary and phytosanitary measures – through its global leadership of the Codex Alimentarius Commission, International Network of Food Data Systems and Food for the Cities Network.
- Unfolding FAO’s mandate on food security and agriculture-based livelihoods programming in conflict- and disaster-affected regions and countries of the world (e.g. Democratic Republic of the Congo, West Bank and Gaza Strip, Iraq, Pakistan, South Sudan, the Sudan and Yemen).
- Building on FAO’s country programmes and partnerships with Ministries of Agriculture, and the use of recently completed and ongoing agricultural food security projects from which lessons can be learned and emergency and early recovery responses can be launched.

1. INTRODUCTION

The escalation of the violence in Syria in 2012 has led to a sevenfold increase in the number of Syrian refugees who have fled to the neighbouring countries of Egypt, Iraq, Jordan, Lebanon and Turkey. In March 2013, there were over 1.1 million Syrian refugees registered or waiting to be registered in the above countries. Estimates including Iraqi and Lebanese returnees, Syrian refugees and Palestinian Syrian refugees who are not registered mean that the total number is much higher. Syrian refugees have generally been welcomed by host governments and many local communities continue to extend hospitality and assistance in spite of their own often limited means. While most borders remain open, the strain on local resources is substantial and relentless as more refugees seek safety with little means to survive, often having already experienced displacement, impoverishment and severe deterioration of overall conditions in their own country. For those who arrived earlier, life in exile is proving increasingly difficult to sustain as their initial resources start to dwindle.

Meanwhile, host countries are facing their own domestic challenges. From political and social unrest to a difficult economic period, the context of the humanitarian response is extremely complex, exacerbated by the fear that the Syrian conflict may spread into neighbouring countries. This makes it all the more urgent and vital for the response to receive increased support from the international community, demonstrating the will to share the heavy burden borne by host governments and their populations. The challenge of responding to the specific refugees, returnees, and host community populations for Egypt, Iraq, Jordan, Lebanon and Turkey requires understanding of their respective circumstances. In this context, the Syria crisis has disrupted the agriculture sector of each country at both national and/or local (Syrian border area) levels. This includes trade (i.e. imports, exports and transiting of food commodities), food prices, labour movements, food and nutrition security, transboundary animal and crop diseases and pests, and environmental threats.

Map 1. Near East Region affected by the Syria crisis



In February 2013, the Regional Office for the Near East and North Africa (RNE) and the Emergency and Rehabilitation Division of the Food and Agriculture Organization of the United Nations (FAO) undertook a rapid analysis of the impact of the Syria crisis on the agriculture sector, agricultural-based livelihoods and food and nutrition security in the region. In particular, it examined the influence of the crisis on disruptions to markets and trade routes, restrictions of imports and export flows, cross-border agricultural commodity/input supply flow, prices and livelihoods. The analysis also explored the effects of the increased presence of refugees and returnees in the neighbouring countries of Egypt, Iraq, Jordan, Lebanon and Turkey on food supply and demand in host communities. In this context, the analysis studied the impact of the crisis on the volume and value of border agricultural produce and food trade, the movement of agricultural labour and its overall implications for the economies of the host countries in general and for the hosting communities in particular, in terms of local price

changes, gains or losses related to income and income-generating activities, loss of local and/or foreign markets and other associated economic, social and environmental risks.

To facilitate this analysis, FAO-RNE mobilized a multidisciplinary mission to Egypt, Jordan, Lebanon and Turkey. Working with the FAO Representations and offices of those countries, the mission undertook desk studies, drew checklists, held stakeholder consultations through group meetings and semi-structured interviews and carried out field visits to refugee camps and host communities to gather all background information, assess needs and prepare response plans.

During its mission, the FAO Team consulted with:

- Ministries of Agriculture (and Food, Livestock and Land Reclamation), of Industry and Trade (and Economics), and of Foreign Affairs (MoFA) of the respective governments;
- regional, subregional and country offices of United Nations (UN) agencies²;
- regional, subregional and country offices or embassies of development partners³;
- international and national Non-governmental Organizations (NGOs), community-based organizations (CBOs), chambers of commerce, and exporters' and producers' associations; and
- focus groups of Syrian refugees, Lebanese returnees, and host communities for those refugees and returnees in Egypt and the border areas of Jordan, Lebanon and Turkey.

For the Iraq assessment, the Team consulted with the FAO Programme for Iraq in Amman, Jordan, as well as the Iraq offices of other agencies, which are also based in Amman.

The main output of the analysis is a document that: (i) identifies the major impacts of the Syria crisis on the agriculture sector and on the food and nutrition security of the neighbouring countries; and (ii) presents the immediate and medium-term needs in relation to food and nutrition security and agricultural-based livelihood support to displaced people, returnees and host communities and other vulnerable groups in Egypt, Iraq, Jordan, Lebanon and Turkey.

This document will be used by FAO and other concerned stakeholders, including Ministries of Agriculture and their national and international development partners, to strategize agricultural and food security responses to the Syria crisis at regional and national levels. Notwithstanding the differences between the situations and the needs of refugees, returnees and host communities in the different countries, the analysis was able to ensure harmonization of standards across the Near East Region and will facilitate the establishment of successful programmes, particularly in areas that require more focus in the coming months and years.

² Including the Economic and Social Commission for Western Asia (ESCWA), International Organization for Migration (IOM), United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organization (UNESCO), Office of the United Nations High Commissioner for Refugees (UNHCR), United Nations Human Settlement Programme (HABITAT), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), United Nations Population Fund (UNFPA), United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), World Food Programme (WFP) and World Health Organization (WHO).

³ Including the International Centre for Agricultural Research in the Dry Areas (ICARDA), Canadian International Development Agency, International Monetary Fund, European Union, United Kingdom/Department for International Development (DFID), United States Agency for International Development (USAID), World Bank, MoFA of the Government of Turkey, and Governments of Australia, Belgium, Bosnia and Herzegovina, Brazil, Finland, France, Hungary, Italy, Switzerland and the United Arab Emirates.

2. BACKGROUND

2.1 Consequences of displacement

2.1.1 Numbers of refugees

As of 18 March 2013, an estimated 1.2 million Syrian refugees were registered or waiting to be registered in Egypt, Iraq, Jordan, Lebanon and Turkey. This number does not include refugees who are not registered, Syrian seasonal workers remaining in Lebanon (an estimated 250 000–300 000 people), Lebanese and Iraqi returnees (an estimated 30 000 and 50 000 people, respectively) and Palestinian Syrians (an estimated 25 000–50 000 people). The actual number of people who have fled conflict in Syria to these neighbouring countries is therefore significantly higher and in excess of 1.7 million, although very difficult to estimate. For example, in Egypt alone, while the number of Syrian refugees who are registered and waiting to be registered totals 30 000, the actual estimated number is between 150 000 and 180 000, and the Lebanese Government estimates that there are 1 million Syrians and returnees in Lebanon alone. Further details are provided in **Table 1**.

Table 1. Populations of Syrian refugees and returnees

Country	Total population	Refugees registered or awaiting registration	Estimated non-registered refugees	Palestinian refugees from Syria	Returnees
Egypt	82 million	43 000	130 000	2 000	Negligible ¹
Jordan	6.5 million	354 235	200 000	4 000 ²	not estimated
Iraq	31 million ³	114 235	30 000	negligible	66 000
Lebanon	4.2 million	357 334	200 000 ⁴	24 000	25 000
Turkey	75.6 million	260 000	150 000	not estimated	not estimated

1/ IOM has reported repatriating a maximum of 300 Egyptians from Syria.

2/ Jordan does not allow entry of Palestinian refugees from Syria populations, unless they have Syrian documentation.

3/ The population of the Kurdish Region, where the majority of Syrian refugees are located, is 3.8 million.

4/ This is a conservative estimate as reports indicate that between 40 and 50 percent of Syrian refugees in Lebanon are neither registered nor awaiting registration.

It is estimated that more than two-thirds of these refugees and returnees are located outside of refugee camps (including 100 percent in Egypt and Lebanon), being hosted by communities who themselves are increasingly under threat of food insecurity and poverty. It is further estimated that 60 percent of these are located in small towns and villages where agriculture is the primary source of livelihood.

2.1.2 Location of refugees, returnees and host communities

With the exception of Egypt (where refugees are hosted in urban areas) and to some extent Jordan, the majority of Syrian refugees are camped or hosted in rural areas with low population densities. However, in the cases of Jordan and Lebanon, these areas are relatively close to large urban populations such as Amman, Irbid, Beirut and Baalbek.

(i) Egypt

Egypt is host to an estimated 150 000–180 000 Syrian refugees, living in mainly urban and peri-urban areas. In greater Cairo, Syrians are concentrated in the following areas: 6th of October, Al Haram, Faysal, Al-Obour, Nasr City and Al-Rehab. Outside of Cairo, Syrian populations are located mainly in the Nile Delta area in Alexandria, Damietta, Mansoura, or in Ismailia, Suez and Hurghada.

(ii) Iraq

The majority of Syrian refugees in Iraq are located in Duhok, Sulaimaniyah or Erbil of the Kurdish Region. They are also located in a number of areas across Anbar, Kirkuk and Ninewa Governorates and some are also reportedly located in southern Iraq. Three refugee camps exist: (i) at Domiz in Dohuk Governorate (with a population of between 35 000 and 45 000); (ii) at Al Qaim in Anbar Governorate (with a population of 8 500); and (iii) at Al Waleed, also in Anbar Governorate

(no information available). There are also a number of transit facilities existing in public buildings, such as schools. However, Syrian refugees may register at Domiz Camp and travel to a number of locations throughout Iraq in search of employment. Syrian refugees in the Kurdish Region were initially located primarily in urban settings, with smaller numbers located in rural areas. However, latest information indicates an increased number located in rural areas⁴. Iraqi returnees are mainly located in Baghdad Governorate, followed by Anbar, Ninawa, Diyala, Nasiriya, Babil, Kurdish Region, Kirkuk and Salah Al Din Governorates. While Iraqi returnees are more likely to be living with host families, Syrians are more likely located in camps, transit facilities, rented apartments and, to a lesser extent, with host families.

(iii) Jordan

In Jordan, it is estimated that between 110 000 and 140 000 Syrian refugees are located in Zaatari Refugee Camp. The remainder is located in the Governorates of Irbid, Mafraq, Balqa, Ajloun and Amman, which (with exception of Amman) are a mix of urban and rural land use with considerable agricultural activity. In order to cope with the influx of refugees and the inability of Zaatari Refugee Camp to take on more refugees, two transit facilities exist: Cyber City and King Abdullah Park. A new refugee camp in Zarqa has been completed but is not yet operational.

(iv) Lebanon

Syrian refugees, Lebanese returnees and Palestinian refugees from Syria (PRS) are spread out among approximately 700 locations in Lebanon, across all districts. It is estimated that Syrian refugees are found mainly in Akkar and North Lebanon (47 percent), Bekaa (38 percent), South Lebanon (7 percent), Mount Lebanon (5 percent) and Beirut (3 percent). The highest concentrations of Syrian refugees and Lebanese returnees are located in rural, agricultural districts, while PRS populations are located mainly in existing Palestinian refugee camps, with Saida hosting the largest PRS populations (29 percent).

(v) Turkey

The Government of Turkey has reported 185 000 Syrian refugees living in 17 refugee camps across eight provinces, with an additional 100 000–120 000 registered Syrian refugees living in non-camp settings, mainly in the provinces of Gaziantep (20 000), Hatay (50 000), Kilis (30 000) and Sanliurfa (20 000). Non-camp populations are likely much higher considering the number should non-registered populations be included. Non-camp populations are located in a mix of urban and rural settings, and these provinces are large agricultural areas. It is anticipated that the Syrian population of Kilis town will double over the next six months, to two-thirds of the town's total population. Certain districts have large populations from particular areas in Syria; for example in Altinozu District of Hatay Province, there are high concentrations of refugees from Idleb, as opposed to Lattakia or Aleppo.

2.1.3 Socio-economic profiles of refugees, returnees and host communities

(i) Egypt

Refugees

Syrian refugees in Egypt are largely of urban origin, with Homs, Damascus and Aleppo being the main cities of origin. Limited profiling information is currently available; however, a joint assessment of UNHCR, the United Nations Children's Fund (UNICEF) and WFP obtained some preliminary information about Syrian households. Syrian refugees in Egypt are comprised of some skilled professional workers of a variety of professions, labourers and small-business owners – almost all of a non-agricultural background. Syrians who arrived in Egypt with some savings had only planned to survive on these for a short period and after lack resources to support themselves. In terms of age and

⁴ There are REACH assessments currently ongoing in Duhok and Erbil Governorates by UNHCR and Agency for Technical Cooperation and Development (ACTED), which will result in more details on the socio-economic profiles of refugee populations in these areas.

gender, 45 percent of Syrians registered with UNHCR are under 18 years of age, 48 percent are men and women between 18 and 59 years (similar numbers of men and women) and 4 percent are over 60 years. As such a low number of people are registered, these demographics may be quite different among the non-registered populations, particularly considering that households with children may be more inclined to register in order to access the services provided to registered populations.

Refugees must often abandon their initial plans of finding employment in their area of expertise and consider jobs at lower wages and outside of their field. Once initial savings have run out, Syrian families are often relying on their neighbours for assistance with housing or food, at least in the short term. The majority of Syrians are willing and able to work, but are unable to find employment. The main obstacles for Syrians to generate income in Egypt were cited as: (i) a lack of capital to start businesses; (ii) insufficiently low wages; and (iii) lack of knowledge of labour demand and opportunities. It was often cited that Syrians who arrived earlier had more resources to start businesses and were reported to be providing employment to the more newly arrived Syrians. Additionally, it was reported that Syrians have been opening small restaurants, mainly concentrated in 6th of October, and selling or processing foods⁵. Additionally, many Syrians in Damietta are working in furniture-making industries and reportedly originate from a specific Damascus suburb.

Host communities

No profiling has been undertaken on the host communities where Syrian refugees are settled; however, as the locations are urban and peri-urban areas, they are generally a mix of socio-economic classes engaged in a wide variety of income-generating activities. Overall, the areas where Syrian refugees are located (greater Cairo, Damietta, Alexandria, etc.), may demonstrate higher development indicators than the rest of Egypt. However, specific neighbourhoods will vary greatly in these same indicators. Syrians are not located in areas of Cairo where high concentrations of the poorest Egyptians reside; for example, 6th of October City has lower unemployment rates and illiteracy rates than Egypt as a whole. However, Syrians are undoubtedly living or working in close proximity to Egyptians, from relatively poorer to wealthier households.

(ii) Iraq

Refugees and returnees

Syrian refugees in Iraq originate from a combination of urban and rural areas and over 40 percent of registered refugees were males between the ages of 18 and 59. Their skill sets vary, from jobs in agriculture, to public service, private businesses and (semi-)skilled labour. Syrians in the Kurdish Governorates originate from areas in Al-Hassakeh Governorate (62 percent), but also from as far away as Aleppo (14 percent) and Damascus (13 percent). Syrian refugees to the Kurdish Region are almost entirely Kurdish in ethnicity. Most non-Kurdish Syrian refugees are located in Anbar Governorate⁶, are of Arab ethnicity, originated from rural areas in Deir-ez-Zor Governorate and came to Anbar Governorate due to family or tribal linkages. While profiling information is not yet available on Syrian refugees in the Kurdistan Regional Governorate (KRG), agriculture was the largest employer in Deir-ez-Zor and Al-Hassakeh Governorates, employing 30 percent of the labour force, followed by the service sector. These governorates are also major producers of wheat and cotton for Syria, while Aleppo is a mix of urban and rural populations, with olives being an important agricultural product for the governorate.

Little to no information is available on the profiles of Iraqi returnees, although reports indicate that they were residing in urban areas such as Damascus and Homs.

The majority of displaced Syrians and Iraqis returning from Syria are relying on savings or assistance from relatives to manage financially. In addition, despite the fact that there appear to be employment

⁵ For example shawarma, hummus, mana'ish, kibbeh (kobebah), pickled vegetables, and processed dairy (cheese, etc.).

⁶ Al-Qaim border crossing is currently closed to Syrian refugees, with the exception of those with emergency medical needs and those joining families, but continues to be open to Iraqi returnees.

opportunities in the Kurdish Region, the majority of refugees have not found stable sources of income and have limited savings to support themselves for longer periods of time. A rapid assessment conducted by IOM in August 2012 reported that 63 percent of the Syrian families indicated that they plan to integrate locally in Iraq, and none indicated plans to return to Syria in the near future. Of the assessed Iraqi returnees, 67 percent reported that they intend to integrate locally and only 6 percent plan to return to Syria.

Host communities

The KRG is significantly wealthier than the rest of Iraq, with poverty ranging from 3–13 percent. Approximately two-thirds of the KRG population live in urban areas. However, half the number of the poor are in rural areas, which reveals that the economy and social conditions in rural areas are considered a poverty-generating environment. The poor's economic activities in rural areas are concentrated in agriculture (56 percent), as well as building and construction (14 percent). They take jobs that require no high skills or education. As a result, agriculture tends to disappear and most people are looking for employment for stable incomes; this sometimes leads to stable incomes but diverts the young labour force from productive sectors, including agriculture. Those who remain engaged in agriculture are pluri-active for their economic survival. In particular, pluri-activity reduces vulnerability to drought and water scarcity. Most of the agricultural activities are only undertaken on a part-time basis (either seasonally or daily).

The KRG is rich in fertile land. However, policies of prior regimes in Iraq saw productivity of the agriculture sector reduce significantly, coupled with a high rate of urbanization. The Government is now working on incentives to encourage populations to move to rural areas and engage in agricultural activities. Agriculture is viewed as a major opportunity for poverty reduction in the area. On average, each farmer cultivates 10 hectares of land.

Anbar Governorate has one of the highest development indicator rankings when compared with other Iraqi governorates and its economy is centred on agricultural production, employing 25 percent of Anbar's workforce. The most important agricultural crops in Anbar are wheat, barley, maize, potatoes, vegetables and fodder crops. Cross-border trade with Jordan is an important part of the province's economy. However, it is viewed as insecure in terms of security issues due to ongoing conflicts. Anbar Governorate also hosts a large number of internally displaced people owing to the conflict in Iraq, so pressure may have already existed on host communities prior to the crisis in Syria.

(iii) Jordan

Refugees

Approximately 68 percent of Syrian refugees in Jordan originate from Dara'a Governorate in Syria and are from mainly rural backgrounds, while another 20 percent originate from Homs Governorate. Dara'a is a governorate where 15 to 20 percent of the population is considered poor and is an important area for agricultural production. Homs is the largest governorate in Syria, highly populated with the city of Homs and concentrates a large number of farmers in the west, while the central and eastern part of the governorate has a low population density dominated by herders. Homs is considered relatively wealthy, with poverty not exceeding 7–10 percent of its population. A recent assessment undertaken by UNHCR and ACTED demonstrated that males comprise approximately 47 percent of refugees and females 53 percent. Approximately 56 percent of the registered refugees are under 18 years of age. Of the non-camp registered population, 34 percent are female-headed households, while 27 percent are single males. Syrians have often been displaced within Syria before arriving in Jordan. Due to the collapse of facilities and the deterioration of the situation in Syria, people arriving recently may have more urgent needs, have already eroded their coping mechanisms (limiting their ability to survive without assistance) and be in more desperate conditions when they reach Jordan.

Many of the male refugees were providing seasonal labour to the large-scale irrigated farms of border areas; however, now they have brought their whole families and, on the whole, stayed in host communities previously known to them.

Host communities

The main governorates where refugees are living are Irbid, Mafraq, Balqa, Ajloun and Amman, which vary greatly in terms of populations and socio-economic characteristics. The majority of the populations in these governorates reside in urban areas (similar to Jordan as a whole), where urbanization⁷ ranges from 94 percent in Amman to 76 percent in Ajloun. The exception is Mafraq, which is 60 percent rural. Irbid, which has the highest numbers of refugees, is also the most densely populated governorate in Jordan. Incidence of poverty is higher in rural areas (19 percent) than in urban areas (10 percent) in Jordan overall. Poverty incidence varies considerably among the governorates, from a high of 23 percent in Mafraq, to a low of 9.4 percent in Amman. On the other hand, the total number of poor Jordanians is highest in Amman (comprising 28 percent of total poor) and Irbid (17 percent), while lower in Mafraq (8 percent) – meaning the largest numbers of poor people are not found in the poorest governorates. At the same time, while the majority of the poor are urban, the highest incidence of poverty (‘pockets’) is found mostly in subdistricts in rural areas, where some are in isolated and remote areas, while others are merely in areas with a poor resource base.

Jordan experiences a non-diversified economic outlook, focused on the development of industry and services, while leaving the agriculture sector underinvested. The implications of single sector dependence and the underutilization of land and agriculture are evident in the high rates of rural and urban unemployment across the country. Rural Jordan’s rich earn less than 10 percent of their total per capita income from agriculture and more than 55 percent of it from non-farm sources. At the country level, only 2.3 percent of households are engaged in the agriculture sector as their primary source of income, while 26 percent are engaged in service and sales. However, the agriculture sector relies on non-Jordanians for labour (62 percent of agricultural labour is non-Jordanian, mainly Egyptian, and to a lesser extent Syrians and Iraqis). Because non-Jordanians often do not have official work permits, official numbers are difficult to determine⁸.

(iv) Lebanon

Refugees and returnees

Syrian refugees in Lebanon come from all governorates across Syria, as far east as Al-Hassakeh Governorate. However, they mostly originate from the western governorates, primarily Homs (45 percent), followed by Damascus, Idleb, Aleppo and Hama Governorates, all of which previously had high levels of agricultural production. A number of refugees in Akkar and Bekaa have farming and herding backgrounds and experience; demographics suggest that refugees are comprised of whole families. Syrian refugees and, to a much greater extent, Lebanese returnees may have some family or community ties in locations where they are arriving, particularly in the north and border areas where they are more likely to be staying with host families than renting apartments.

It is estimated that the Syria crisis has affected some 30 000 poor smallholder Lebanese returnees who have been farming inside Syria for generations; however, as Lebanese citizens, they are not entitled to register as refugees and benefit from available entitlements of returnee status. Like Syrian refugees, they have lost all of their household and farming assets, access to subsidized Syrian agricultural inputs and the ability to generate income through cross-border trading in such goods. In addition, the Lebanese relatives with whom they are staying are now also hosting their former Syrian neighbours (many of whom are living in unsanitary tented accommodation). These highly vulnerable returnees are now hosted in some 136 villages of all districts bordering Syria, most of which represent the poorest areas of the country (e.g. Akkar, Baalbek, Hasbaya, Hermel and Marjaayoun) that were already the target of the Government of Lebanon’s social safety-net programmes prior to the Syria crisis.

⁷ In Jordan, any town with a population greater than 5 000 is considered urban.

⁸ It is estimated that there are 200 000 non-Jordanian workers in low to unskilled professions, including agriculture, 150 000 with work permits and the remainder working illegally.

Host communities

Refugees and returnees are overwhelmingly located in the northern and eastern areas of Lebanon, with Akkar, Zahle, Baalbek and Tripoli having the highest numbers of registered refugees. Poverty is prevalent in the mainly rural areas of Akkar, North and South Lebanon and Baalbek-Hermel Districts. The distribution of poverty coincides as well with the destination of Syrian refugees, where their economy is dependent on trade with Syria, particularly smuggling/trafficking of goods and livestock rearing. Prior to the crisis in Syria, economies in the north and border communities were dependent on trade with Syria, particularly smuggling/trafficking of goods, livestock rearing and trade, agriculture, construction and cross-border transportation. Prior to the Syria crisis, an assessment by IOM in Akkar and Menyeh/Danniyeh Districts revealed that support to agriculture was a priority need of hosting communities. Host communities, particularly poor rural households, have experienced shocks to their livelihoods due to instability in Lebanon prior to the crisis in Syria; as a result, their capacity to take on this additional shock may be limited, particularly as the crisis persists.

(v) Turkey

Refugees

Syrians refugees – generally full families – have arrived mainly from Aleppo, Idleb, and Lattakia Governorates and to a lesser extent Damascus, Hama and Homs Governorates. These refugees are from both urban and rural backgrounds and, in the case of non-camp populations, many have ties with those communities where they choose to stay. Only one profiling activity was undertaken and is available in English⁹. A large number of unregistered and a few registered Syrian refugees are working as seasonal workers in the agriculture sector throughout the southern provinces of Turkey.

Host communities

Communities in the southern provinces of Turkey host the largest numbers of refugees, both in and out of camps. Isolated incidences of conflict have been reported, but in general the response is of viewing Syrians as guests. Economies of these areas vary greatly – with Gaziantep being based on medium- to large-scale food processing and manufacturing industries and larger scale farming, whereas other border provinces have large areas of small-scale family farming with cross-border trade forming important livelihoods for host communities.

2.2 Importance of agriculture to the region's economy

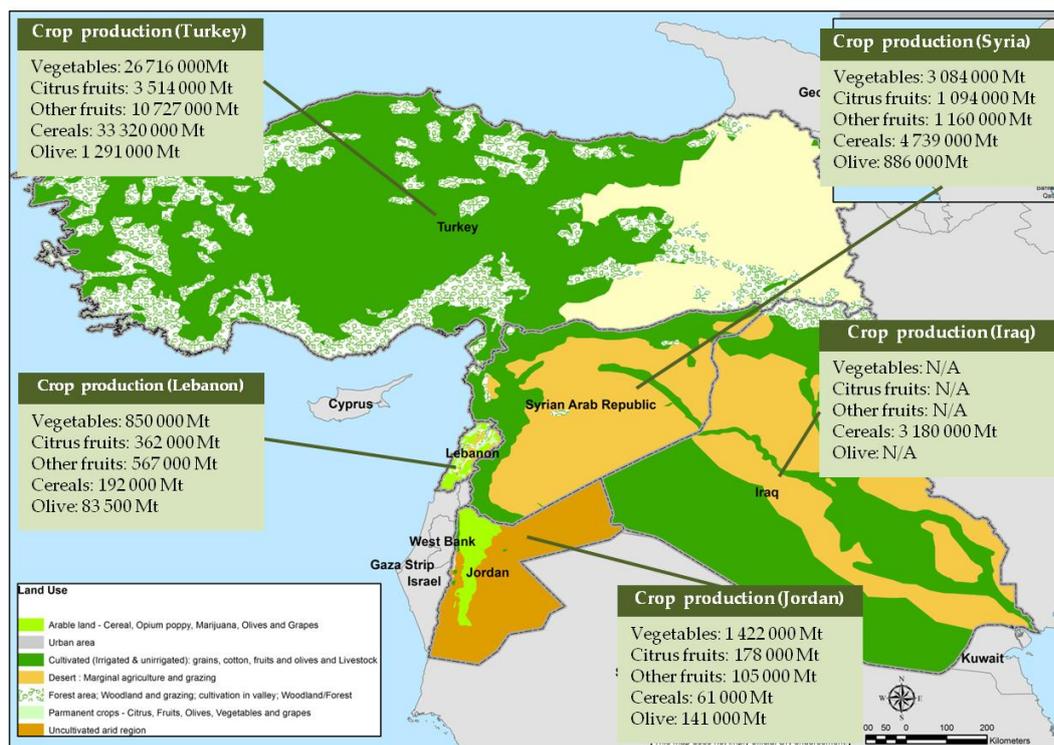
While the Syria crisis is affecting all sectors in neighbouring countries, its impact on the agriculture and food sector is particularly important. The sector is the main source of income for a large proportion of the population, particularly for the poorest segments in rural areas and vulnerable communities. The share of the sector in GDP ranges from 4 percent in Jordan to over 15 percent in Egypt, but it employs the majority of the rural population in these countries (see Table 2). Importantly, agriculture is the main source of livelihood for the majority of communities hosting Syrian refugees in Iraq, Jordan, Lebanon and Turkey. With its strong forward and backward linkages within the rural sector and with other sectors of the economy, agriculture is a major source of stimulus for growth and income generation in these countries.

Table 2. Agricultural GDP and rural populations of neighbouring countries to Syria

Country	Agriculture sector percentage of GDP	Economically active population in agriculture (% of total population)	Rural population (% of total population)
Egypt	13.9	32	56
Iraq	NA	23	33
Jordan	3.3	6	17
Lebanon	5.9	NA	13
Turkey	9.1	24	29

⁹ Carried out by the NGO Support to Life; although other Turkish NGOs have done some assessments, these are not available in English.

Map 2. Agricultural production of Syria and its neighbouring countries



2.2.1 Land use and crops

(i) Egypt

Less than 4 percent of Egypt’s land cover is agricultural land (i.e. the irrigated flood plain and delta of the River Nile). Egypt’s main crops are rice, maize (half of which is grown for fodder), cotton and sugar cane. Food legumes, forage crops, citrus and vegetables, particularly beans, Egyptian clover, oranges, tomatoes and potatoes are also important crops. In Egypt, total populations of buffaloes, cattle, goats and sheep are similar (i.e. 4–5 million of each) – reared under smallholder traditional extensive systems (including nomadic and semi-nomadic), semi-intensive mixed farms and intensive industrial systems in peri-urban areas (including 10 percent of cattle). Goat populations are more concentrated in the Upper Egypt and Middle Egypt regions, and sheep in the Upper Egypt and Western Delta regions, while buffaloes and cattle are concentrated in the Middle Egypt and Middle Delta regions. Egypt has a total population of some 100 million chickens, 60 percent of which are reared in intensive units of peri-urban areas.

(ii) Iraq

About one-quarter of the total land area of Iraq is suitable for intensive cultivation and animal rearing – much of the remainder is the “western desert”. A considerable part of Iraq’s agricultural land lies in the hilly and mountainous northwestern parts of Iraqi Kurdistan and along the Tigris and the Euphrates flood plains of the southeast.

Two different agro-ecological zones are found in border areas with Syria. In northeastern Iraq, Kurdistan’s agricultural wealth of high-grade pasturelands has long made it suitable for a pastoralist economy, but it is equally suitable in many areas for intensive agriculture, in particular rainfed barley and wheat production. The pasturelands have remained in reasonably good condition and continue to be a productive source of animal feed. The rich pastures have always ensured that in all historical periods, regardless of how dominant the agriculture sector, there have been nomadic herders exploiting this economic niche to its fullest. Despite its potential, agriculture is at present declining significantly in KRG. Northwestern Iraq is characterized by very low and erratic rainfall and is only used for late-winter and early-spring grazing of nomadic sheep, goats and camels (as part of the Badia rangelands of Jordan and Syria).

(iii) Jordan

Farming systems in Jordan are mainly dependent upon the availability of water. Owing to the scarcity of water and low rainfall, only 380 000 hectares are suitable for cultivation and only 17 percent of this area is irrigated, which accounts for less than 0.1 hectare per capita. Under rainfed conditions, 140 000 million hectares are planted with winter crops (e.g. wheat, barley, lentil, broad bean and forage crops). The area planted with summer crops is around 8 100 hectares (i.e. chickpeas, sesame, maize and tobacco), and 8 000 hectares are planted with vegetables (e.g. tomato, eggplant, squash, cucumber, cabbage, onion, potato, watermelon, lettuce, spinach and okra). A further 70 000 hectares are planted with fruit trees and around 10 000 hectares with forage crops.

The northeastern border areas with Syria are characterized by the Badia (semi-desert) rangelands, where the significant land use is nomadic pastoralism. Western-central areas (where the Haatari Syrian Refugee camp is located) are arid and barley cultivation, irrigated fruit trees and pastoralism are predominant. Western areas (around Irbid city) are semi-arid and predominantly under wheat cultivation and irrigated vegetables, with some fruit trees.

(iv) Lebanon

Lebanon's annual agricultural production is estimated at 2.7 million tonnes, with a total value of USD 1.2 billion. Agriculture is mainly concentrated in the Bekaa Valley (40 percent), North (25 percent), South (20 percent) and Mount Lebanon (15 percent) Regions. Agricultural production essentially comprises vegetables (47 percent), fruit (35 percent), cereals (15 percent) and olives. Fruit production mainly consists of citrus (i.e. orange, lemon, mandarin and grapefruit), followed by grapes, apples and bananas. Vegetable production mainly concerns potatoes, followed by tomatoes and cucumbers. The main cereals produced are forage crops, wheat and barley.

Governorates of Akkar and Baalbek: Akkar is characterized by two farming systems: (i) terraced hillsides with fruit trees, in particular olives; and (ii) the Akkar plain with smallholder mixed farms of irrigated tobacco, citrus, vegetables, cereals and legumes, sometimes with a few dairy cattle. Akkar is also renowned for its poultry farms, producing more than 60 percent of Lebanon's eggs. The northern Bekaa valley of Baalbek is characterized by arid rangelands where large populations of small ruminants are concentrated, with nomadic, semi-nomadic and sedentary herding systems. Where irrigation is available (from small mountain springs), typical land use includes almond and apricot orchards and small dairy farms with forage crops.

(v) Turkey

Turkey enjoys a comparative advantage in many agricultural products. The country exports cereals, pulses, industrial crops, sugar, nuts, fresh and dried fruits, vegetables, olive oil and livestock products. The main export markets are the European Union and the United States of America (to which Turkey primarily exports dried fruit and nuts, cotton and tobacco) and the Middle East (which primarily imports fresh fruit, vegetables and meat from Turkey). With a production of some 33 million tonnes of cereals, Turkey is largely self-sufficient (close to 90 percent) and import requirements do not exceed 4 million tonnes per year. The influx of some 300 000 Syrian refugees does not change significantly the national food balance.

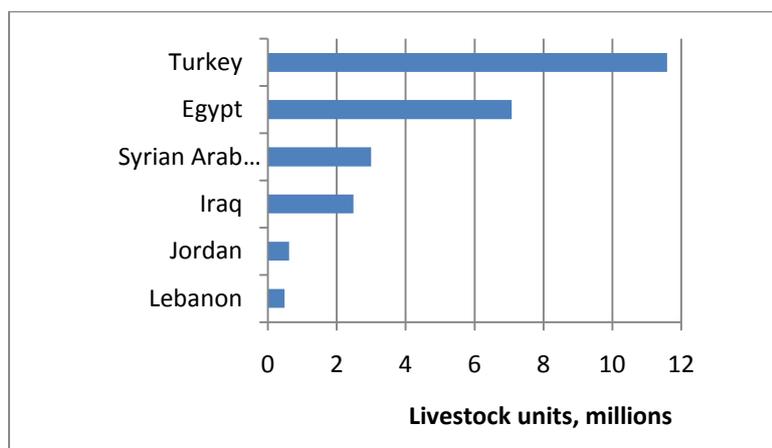
In Antioch, Gaziantep and Kilis Provinces – where a large number of refugees settled – agriculture is dominated by rainfed and irrigated cereals, olives, cotton, citrus and maize. The region is highly important for sheep and goat meat production. The Provinces of Urfa and Mardin (southeastern Anatolia Region) are characterized by large fertile plains in southern parts neighbouring Syria. These provinces also benefit from Turkey's largest irrigation scheme, the ongoing South-Eastern Anatolia Project. Agriculture is dominated by rainfed cereals and food legumes, as well as irrigated cotton. Despite its agricultural potential, the poorest people live in the country's least developed areas in eastern and southeastern Anatolia and parts of the coastal regions on the Black Sea. The poorest rural people are self-employed and unpaid family workers. They include small-scale farmers and their households, as well as people who live in remote and isolated areas. Women and unemployed young people are particularly disadvantaged. Incomes in those areas are 40 percent lower than the national average.

2.2.2 Livestock production systems and their contributions to agricultural livelihoods

According to various sources, the contribution of the livestock subsector to agricultural GDP is 30 percent for Egypt, between 40 and 60 percent for Iraq, 55 percent for Jordan, 27 percent for Lebanon and 30 percent for Turkey. In particular, dry and arid areas of the neighbouring countries to Syria mainly rely on livestock for food security, nutrition, subsistence, employment and overall agricultural livelihoods. At present, it is estimated that there are total of 51.9 million sheep, 11.3 million goats, 14.3 million cattle, 390 000 buffaloes, 238 000 camels and 363 million chickens in Iraq, Jordan, Lebanon, Syria, and Turkey.

Figure 1 shows the total of equivalent livestock units¹⁰ in Syria and its neighbouring countries. Although possession of livestock in countries like Jordan and Lebanon seems low compared with larger countries such as Turkey, livestock are largely raised by the poor in the marginal areas, mostly in areas bordering Syria, which are the most affected by the Syria crisis.

Figure 1. Livestock units of countries affected by the Syria crisis



Source: FAOSTAT – FAO Statistics Division; March 2013.

Sheep and goat production systems

Sheep and goats are the main species of livestock adapted to a range of climate variability and dryness of the region. Awassi is the only adapted sheep breed that connects Iraq, Jordan, Lebanon, Syria and Turkey. It is perhaps one of the few breeds able to survive the fluctuating feed availability resulting from desertification and recurrent droughts. Its fat tail provides a reserve of nutrients for periods of feed shortage. In Syria, local mountain goats are kept and graze in the mountain ranges close to forest areas and supplemented with some concentrates at night. The Shami or Damascus goat is called the ‘cow of the poor family’. The Shami goat produces up to 600 kg of milk per lactation and is raised in mostly intensive or semi-intensive systems similar to dairy cattle.

Depending on the availability of grazing, finance and technical background, different production systems can be seen in countries neighbouring Syria:

- (i) **nomadic system:** animals depend on natural pasture as flocks move from one place to another, on foot or by truck, in search of grazing or water (e.g. Upper Egypt, northwestern Iraq and Syria; largely practiced in arid to semi-arid regions);
- (ii) **semi-nomadic or transhumant system:** animals move between semi-arid grazing areas and cropping areas, depend partially on natural grazing and partially on crop by-products, and spend winter mostly around the homesteads (e.g. Middle Egypt, northeastern Iraq, Jordan and Syria); and
- (iii) **settled (semi-extensive) system:** sheep and goats graze natural pasture during the day, return to their (fattening) units each day and feed on crop by-products while supplementary feeds are provided as required (e.g. Western Delta region of Egypt, northeastern Iraq and Lebanon).

¹⁰ Livestock unit conversion factors: camels (1.0), cattle (0.55), buffalo (0.60), sheep and goats (0.10), and chickens (0.01).

Cattle production systems

Cattle are largely kept for dairy and some for beef. There are two production systems:

- (i) **intensive system:** largely practiced by medium- and large-sized farms (particularly in peri-urban areas of Egypt and Turkey), run for commercial purposes; animal feeds are procured in large quantities or accessed by the producers with no subsidies available to them, and cattle are kept in barns with small occasional grazing or relaxing pasture land available to them; and
- (ii) **small-scale dairy production system:** very common in most of these countries, with farm size varying from one to ten dairy cows; local breeds are largely being replaced by Holstein Friesian cows which resulted in, for example, a sharp decline in adapted Shami cattle of Syria and Baladi cattle of Jordan.

Poultry production systems

There are four types of poultry production systems in the Near East Region:

- (i) **industrial integrated system:** has farms that are part of an integrated broiler production enterprise with clearly defined and implemented standard operating procedures for biosecurity (e.g. peri-urban areas of Egypt, Jordan, Turkey and Syria);
- (ii) **commercial poultry production system with moderate to high biosecurity:** farms with birds kept indoors continuously, strictly preventing contact with other poultry or wildlife (e.g. more rural parts of Egypt, Jordan, Lebanon, Turkey and Syria);
- (iii) **commercial poultry production system with low to minimal biosecurity and a caged layer farm with birds in open sheds:** farms producing chickens and eggs with poultry spending some time outside the sheds (e.g. Egypt, northeastern Iraq and Lebanon); and
- (iv) **village or backyard production with minimal biosecurity and birds/products consumed locally:** all neighbouring countries, including Jordan where poultry production is low.

2.3 FAO and its partners in agricultural recovery and development

2.3.1 FAO's Strategic Framework, 2010–2019

FAO's Strategic Framework for the period 2010 to 2019 has a vision that by 2020, we will be living in a “*world free of hunger and malnutrition where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner*”.

This will be achieved through the active pursuit of three global goals:

- (i) Reduction in the number of people suffering from hunger, progressively ensuring a world in which all people at all times have sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.
- (ii) Elimination of poverty and the driving forward of economic and social progress for all, with increased food production, enhanced rural development and sustainable livelihoods.
- (iii) Sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources, for the benefit of present and future generations.

Added to these global goals, strategic objectives and priority areas, FAO has also identified six guiding principles to underpin the Organization's development work in countries such as Pakistan, viz: (i) work through participatory and process-oriented approaches; (ii) build on existing knowledge, methods and capacities; (iii) ensure complementarity of actions and links with other stakeholders and actors; (iv) focus on capacity development of rural communities and all other stakeholders of the food chain; (v) focus on gender equity; and (vi) promote “do no harm” and “rights-based” approaches.

In order to achieve the Vision of FAO and the Global Goals of its Members, the Organization has defined five Strategic Objectives (SOs). They focus on where FAO can best assist Member States to achieve sustainable impacts in addressing the challenges and opportunities facing food, agriculture and rural development. The SOs represent a combination of interlinked and cross-sectoral impacts, addressing the areas of crops, livestock, fisheries, food safety, forestry, natural resources, enabling environments, food security, gender, emergencies and investment.

The five SOs include:

- SO1:** Eradicate hunger, food insecurity and malnutrition
- SO2:** Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner
- SO3:** Livelihoods of rural populations and, in particular for women and youth, are improved through enhanced employment opportunities and conditions, increased access to productive resources and rural services
- SO4:** Enable more inclusive and efficient food and agricultural systems at local, national and international levels
- SO5:** Increase the resilience of livelihoods to threats and crises

The focus of the Agriculture Response Plan to the Syria Crisis is therefore in areas of direct relevance to FAO's SO5, while supporting the other four SOs.

2.3.2 FAO's regional priority areas

In 2012, FAO-RNE defined five Priority Areas for the region (including Egypt, Iraq, Jordan and Lebanon). The focus of the Agriculture Response Plan to the Syria Crisis is in areas of direct relevance to FAO-RNE's Priority Area E, "preparedness for, and response to, food and agriculture emergencies". It also supports Priority Area A, "enhancing food security and nutrition"; Priority Area B, "fostering agricultural production and rural development for improved livelihoods", and Priority Area D, "sustainable management of natural resources".

FAO's Regional Office for Europe and Central Asia is preparing a Regional Priority Framework. In this context, the FAO Subregional Office for Central Asia (SEC), which includes Turkey, has submitted six draft Priority Areas for inclusion in the Regional Framework. The focus of the Agriculture Response Plan to the Syria Crisis is in areas of direct relevance to FAO/SEC's Priority Area 1, "strengthening food security and nutrition, both within the subregion and outside"; and Priority Area 4, "control of animal, plant and food-borne pests and diseases".

2.3.3 FAO's Country Programming Frameworks

The priority areas for FAO's collaboration with Egypt, Iraq, Jordan, Lebanon and Turkey have been closely aligned with those agreed by the UN System with the Governments and their Ministries of Agriculture in the context of their respective United Nations Development Assistance Frameworks (UNDAFs). The FAO Country Programming Frameworks (CPFs) for Egypt, Jordan, Lebanon and Turkey and the Road Map for Agriculture in Iraq¹¹, which have been prepared through their own extensive stakeholder consultations, cover a similar period to their respective UNDAFs (i.e. 2012 to 2015, 2016 or 2017). The priority areas of the CPFs and the Road Map are also consistent with FAO's global and regional priorities (see Sections 2.3.1 and 2.3.2).

The CPFs and the Road Map for Agriculture in Iraq are co-owned by the Governments of Egypt, Iraq, Jordan, Lebanon and Turkey and FAO. They present the broad commitment of FAO (subject to the availability of the required funding) to assist the respective Ministries of Agriculture (and Food, Livestock and Land Reclamation) in their efforts to achieve development objectives as articulated in

¹¹ The CPF for Iraq is under preparation; however, its priority areas will be similar to those of the Government of Iraq/FAO Partnership for Agricultural Development's "Road Map for Agriculture (2012 to 2016)".

national policies and strategy frameworks for agricultural development. The priority areas of the four CPFs and the Road Map relevant to the Agriculture Response Plan to the Syria Crisis are outlined in Annex 1.

2.3.4 FAO's ongoing initiatives in the Near East Region

FAO and its development partners have recently completed or are presently implementing a series of agricultural programmes and projects in the Near East Region from which lessons can be learned and emergency and early recovery responses can be launched (Annex 1.1 to 1.6, inclusive).

These include:

- promotion of urban and peri-urban farming and household food and nutrition security in Egypt;
- enhancing community livelihoods and micro-industries and strengthening veterinary services for the control of transboundary animal diseases (TADs) in Iraq;
- improvement of rangeland management and promotion of conservation agriculture in Jordan;
- recovery of the dairy sector, strengthening the production and marketing of agricultural products and supporting emergency livelihoods of vulnerable returnees in Lebanon; and
- capacity development for analysis and strengthening of agricultural innovation systems, initiative for pesticides and pest management and enhancing organic farming in Turkey.

Five regional programmes of note include: (i) the control of TADs in the Middle East Region (see below); (ii) strengthening veterinary quarantine capacity in the Middle East Region; (iii) regional integrated pest management (IPM) in the Near East; (iv) management of tomato borer in the Near East Region; and (v) policy and technical support for countries at direct risk of new virulent races of wheat rust (see Annex 1.6).

Following the highly pathogenic avian influenza (HPAI) outbreaks in the region, the FAO global Emergency Centre for Transboundary Animal Disease Operations (ECTAD) established a Regional Animal Health Centre for the Middle East (RAHC-NE) in Beirut in 2007 through an agreement between FAO, the World Organisation for Animal Health (OIE) and the Ministry of Agriculture of Lebanon. The RAHC-NE played an important role in regional coordination protection efforts related to human and animal health, timely implementation of effective TAD control strategies that have led to progressive disease control, increases in animal production efficiencies, the opening of new markets for healthy livestock and trade of animal products.

A lack of sustained financial support led to the closure of RAHC-NE in 2011. However, FAO-ECTAD has retained a national TAD programme in Egypt (see Annex 1.1) – where there is an ISO-accredited animal disease diagnostic laboratory (i.e. the National Laboratory for the Quality Control of Poultry Production), which has been supported by FAO over the past decade. Furthermore, Turkey has ISO-accredited and Biosafety Level 3 Category laboratories (i.e. double-door access zone and sealed penetrations), a strong technical capacity for laboratory analysis, and extensive and effective public veterinary services – again, supported by FAO in recent times.

2.3.5 International Centre for Agricultural Research in the Dry Areas

Prior to the Syria crisis, the headquarters, laboratory and gene bank of the International Centre for Agricultural Research in the Dry Areas (ICARDA) were located in Aleppo, northern Syria. In December 2010, ICARDA relocated its international staff, experts, facilities and much of its equipment from the organization's headquarters and principle research station to other offices, mainly in Jordan, Lebanon, Egypt and Ethiopia. No damage had been done to the gene bank, and the genetic material of the different crops are all safe as both the government and opposition forces have protected and maintained them. ICARDA is also in the process of decentralizing its organizational structure with the aim of creating five hubs: (i) Headquarters and West Asia (based temporarily in Beirut and Amman, with the aim of returning to Aleppo, Syria); (ii) Nile Valley (Cairo, Egypt);

(iii) North Africa (Rabat, Morocco); (iv) Central Asia (Tashkent, Uzbekistan); and (v) sub-Saharan Africa (Addis Ababa, Ethiopia).

ICARDA's Regional Programme for West Asia includes some 25 projects which focus on: providing agricultural research institutions in the region with plant material for their breeding programmes on barley, wheat, lentil, chickpea, faba bean, vetch, grasspea and medic; reversing land degradation through water harvesting and planting of fodder shrubs on the Badia rangelands of Jordan and Syria; improving water use efficiency through collaborative work on land and water management; IPM in Iraq through the implementation of farmer field schools (in collaboration with the International Fund for Agricultural Development (IFAD) and USAID-funded "Middle East Water and Livelihood Initiative"); pilot village-level wastewater treatment units in Jordan; conservation of genetic resources in Jordan; and developing technological, institutional and policy options on agricultural research.

FAO and ICARDA have recently prepared memoranda of understanding on the characterization, conservation and management of plant genetic resources. Since 2005, FAO and ICARDA have been collaborating in:

- germplasm and crop development;
- seed production;
- natural resource management;
- livestock management;
- information management and exchange; and
- human capacity development.

Another important model for working with FAO is the regional platform of partnership in the Asia and Pacific Region where FAO, the Asian Development Bank, IFAD, the World Bank, WFP and ICARDA are working in partnership with the national agriculture systems in countries of the region. Such partnerships outline ICARDA's responsibilities with regard to agricultural research and FAO's responsibility to agricultural policy development, extension and capacity building in any given region, subregion, country and/or agro-ecological zone.

2.3.6 International Fund for Agricultural Development

IFAD is a specialized agency of the UN that provides finance for agricultural development and food security projects in remote and rural areas of developing countries. Like FAO, IFAD's headquarters are located in Rome, Italy. IFAD is currently funding ten projects in the neighbouring countries to Syria, with a total investment of USD 253 million. Prior to the crisis, IFAD was financing three projects in Syria, with a total investment of USD 65.7 million – one of which was a national "Integrated Livestock Development Project" (2011–2019; USD 28 million).

Four projects upon which lessons can be learned and/or an agricultural response to the Syria crisis could be built include:

- (i) "**Promotion of Rural Incomes through Market Enhancement Project**" in Egypt (2012–2020; USD 71.1 million);
- (ii) "**Jordan Agricultural Resource Management Project**", which aims to improve food and water security and income levels through community-based participatory approaches (2005–2015; USD 11.8 million – co-financed by Organization of the Petroleum Exporting Countries [OPEC] for USD 10.3 million);
- (iii) "**Hilly Areas Sustainable Agricultural Development Project**" in Lebanon, which aims to raise the productivity of smallholder farmers affected by recent wars and enhance processing and marketing services of local enterprises (2012–2018; USD 4.6 million – co-financed by OPEC [USD 8.4 million] and the Government of Spain [USD 9.4 million]); and
- (iv) "**Diyarbakir, Batman and Siirt Development Project**" in Turkey, which implements village improvement programmes for the poorest areas through the establishment/expansion of new or existing rural businesses (2007–2013; USD 24.1 million).

3. SITUATION ANALYSIS

The Syria crisis – which emerged in early 2011 and worsened dramatically in 2012 – has compounded the already difficult economic situation in the majority of Syria’s neighbouring countries. The growing influxes of refugees and returnees, the dramatic disruption in trade in the region and the heightened uncertainty have all affected the neighbouring countries of Egypt, Iraq, Jordan, Lebanon and Turkey. These developments have induced considerable loss of farm incomes, increases in transportation and food costs, falling tourism and remittances, and dwindling investments.

3.1 Regional and national macro-economic situation

This section identifies the impact of the crisis on Syria’s neighbouring countries of Egypt, Iraq, Jordan, Lebanon and Turkey, drawing on a rapid assessment of the overall economic trends, food and agricultural trade performance, changes in trading routes, availability of agricultural inputs, movement of agricultural labour, and the consequent overall effects on availability and access to food.

3.1.2 Overall economic trends

Beyond agriculture and food security, the Syria crisis is impacting on all sectors of the economy and the overall macro-economic stability of neighbouring countries. All basic sectors have been affected by the crisis to varying degrees across the countries. Exports, tourism and transportation have all been negatively affected due to the interruption of trade routes and the deterioration of regional and national security. The Syria crisis has aggravated existing economic problems of neighbouring countries. Even before the crisis, most of the neighbouring countries showed slowdown in their overall economic growth.

In **Egypt**, tourism revenues, one of the main foreign exchange contributors, and foreign investment are still recovering from the political and economic events of 2011. Inflation in the country has soared up to 9 percent. Economic growth in Egypt has been stifling at 2 percent, with foreign reserves dwindling by half over the past year. The economy has been struck by illiquidity, hard currency and investment flight.

While **Iraq** is witnessing economic growth due to rising oil exports, this has failed to transfer into the local economy. The return of Iraqi refugees back to Iraq because of the conflict in Syria is putting increased pressure on local economies. In September 2012, the consumer price index (CPI) in Iraq increased by 6.4 percent compared with September 2011. Food inflation increased by 7.8 percent during the same period.

According to the Jordanian Department of Statistics, the monthly rate of food price inflation (year-on-year) in **Jordan** in August 2012 reached almost 6 percent. The Government faces a particularly high budget deficit of USD 2.8 billion due to increasing energy import costs and the high burden of subsidies. The Jordanian economy is nearing stagnation – growth has been suffering due to the decline in foreign investments, with an optimistic 3 percent GDP growth. The International Monetary Fund (IMF) has approved a loan of USD 2 billion for Jordan to give the country time to correct the imbalances in the budget and the balance of payments, while maintaining social stability. Pressed by budgetary issues and fiscal deficit, the Government is considering streamlining the current subsidy system. Direct cash payments to deliver subsidies to targeted segments are being considered. However, with the increasing number of refugees, the removal of subsidies will worsen the disparities between refugees and host communities – adding to the challenges facing refugees to access food.

Lebanon’s growth in GDP this past calendar year has gone down significantly to 1 percent or less from 3.5 percent in 2011 – and the prospects for 2013 are just as grim. Lebanon, primarily dependent on the tourism and services sector, has lost most of its clientele in the Gulf States, which compromised more than 75 percent of international non-Lebanese visitors. Although, in the past, food inflation in the country was consistently higher than general inflation, the pattern reversed in July 2012. While general inflation increased by about 4 percent in December 2012 (year-on-year), food inflation stabilized at around 6 percent. The Government is struggling to develop a national

policy towards the Syrian refugee influx, due not only to its political intricacies, but primarily to deal with the fiscal challenges. With a high GDP to debt ratio, an annually increasing debt service, declining government revenue and a stagnant economy, the Government must seek international aid and support.

Even **Turkey**, with its increasing global economic presence, has suffered a reduction in economic growth, with IMF estimating GDP growth at 3 percent for 2012. While this might be related to other global trends, the Turkish economy is certainly being negatively affected by the complications arising from the Syria crisis (i.e. increased number of Syrian refugees and border insecurity) and the trade restrictions imposed by Turkey on Syria. Latest figures in Turkey (November 2012) indicate a lower annual food inflation rate of 4.3 percent, while the overall CPI in November 2012 stood at 6.4 percent – the lowest for the last 13 months (Turkish Statistical Institute). Increases in the cost of housing, water, electricity, gas and other fuels are mostly localized in areas close to the Syrian border.

3.1.3 Agricultural trade and marketing

Syria has a unique position as a trade crossing point in the Middle East, a port of access to Eastern Europe, Central Asia, Russia and Turkey for Middle Eastern countries and vice versa. Thus, Syria is a major trading partner for all its neighbouring countries. Before the crisis, Iraq, for example, received one-third of Syria's exports, while Lebanon shipped around 20 percent of its agricultural exports to Syria. However, the crisis has disrupted agriculture and food trade in the region, with negative consequences on producers and other stakeholders along the agriculture and food commodity chains. Four developments in agricultural trade flows in neighbouring countries in 2011 and 2012 are worth noting: (i) a decline in total agricultural trade; (ii) a considerable drop in bilateral agricultural trade with Syria and in transit trade through Syria; (iii) a significant change in trading routes in the region; and (iv) increased informal trade across the borders with Syria.

The assessment of the agricultural trade situation draws on data and information gathered from Syria's neighbouring countries, including Ministries of Trade and Industry, customs authorities, chambers of commerce, exporters and producers' associations, cross-border traders and retailers in border areas, and other sources.

Deterioration in total and bilateral agricultural trade

Total agricultural exports have slowed in 2012 in Jordan and Lebanon and declined sharply in Egypt and Turkey. Annex 2 (Tables 1 to 5) summarizes recent trends in total agricultural trade of Syria's neighbouring countries, as well as their bilateral agricultural trade with Syria. In the neighbouring countries for which data were available, agricultural exports to Syria have shown considerable decline in the period 2011–2012, exceeding 50 percent in Egypt and Turkey, and more than 25 percent in Jordan. Similarly, agricultural imports from Syria fell by more than 30 percent in 2012 compared with the average of 2009–2010 for Jordan, Lebanon and Egypt. Reportedly, formal trade between Syria and Turkey has declined significantly and had almost completely stopped in late-2012.

While there are some other factors that may contribute to the decline in agriculture and food trade, the Syria crisis and its consequences are seen as the key factor behind the decline of intraregional trade in food and agricultural commodities during 2011 and 2012, particularly in the case of Lebanon and Jordan. Disruptions to trade across the region occurred because of the security situation, the consequent increase in transport costs and the occasional closure of borders at some crossing points. Land freight costs have increased significantly in all countries.

The impact of the Syria crisis has been more pronounced on neighbouring countries' agricultural trade that transit through Syria. Much of the agricultural trade (exports and imports) of Lebanon with Iraq, Turkey, Ukraine and Saudi Arabia used to take place by land through Syria. Similarly, much of the bilateral agricultural trade of Jordan with Russia, Ukraine and Turkey was through Syria. Iraq, Turkey and Egypt also have a significant part of their agricultural trade with Eastern Europe, Turkey and GCC states that go through Syria. Bilateral agricultural trade of Jordan and Lebanon with Iraq, Ukraine and Turkey have fallen sharply in 2012 compared with 2010, as shown in Annex 2, Tables 6 and 7.

While available data could not allow full assessment, it is reported that some of Syria's neighbouring countries may have benefited from trade diversion as a result of the crisis by replacing Syria in some of its fruit, vegetable and livestock markets in countries such as the GCC states. Although there are signs that some countries have benefited from such trade diversion, the overall effect of the crisis on agricultural trade flow remained negative. This has negatively affected producers of exportable commodities and those working along the respective chains. The Jordan Exporters and Producers Association for Fruit and Vegetables reported that many farmers in the Jordan Valley had to throw away large amounts of their vegetable produce because of the export constraints and the sharp increase in transport costs. Similarly, large quantities of citrus fruit, apples and olive oil could not be exported in Lebanon, resulting in great losses for farmers and traders. Informally imported products from Syria have also led to a sharp drop in local farm prices in Turkey and Lebanon, particularly for products such as olive oil, grapes and apples.

The impact of the Syria crisis on animal feed trade has also been severe, seriously impacting smallholder livestock keepers of neighbouring countries. Jordan used to import the bulk of its animal feeds from Ukraine through Syria at a cheaper price than other sources. As a coping mechanism, Jordanian entrepreneurs have now resorted to importing animal feed through Haifa port at great expense (and considerable bureaucracy and security checks), which has significantly increased the feed price on the local market. Annex 3 provides more country-specific information on animal feed.

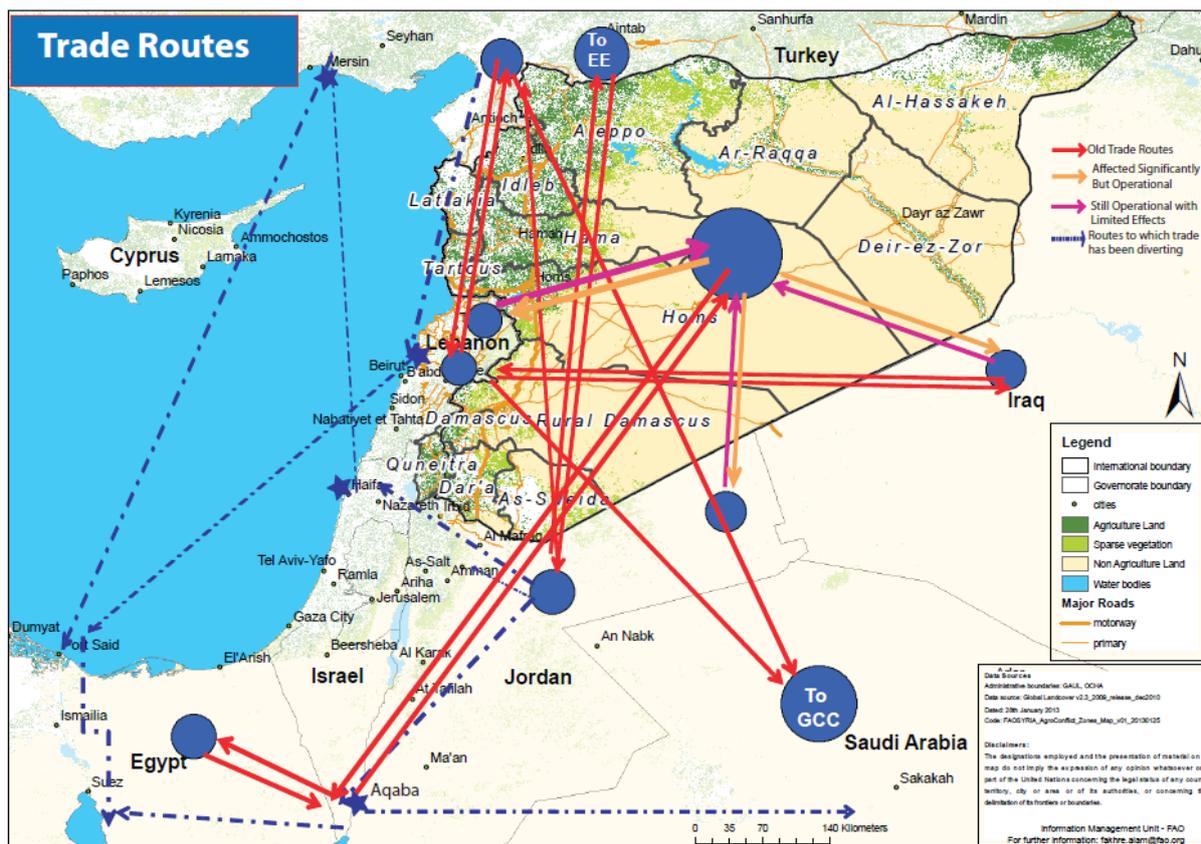
Changes in trade routes

A major feature of agricultural trade in the region is the dominance of land transport, mostly using refrigerated trucks. Most of the trading in agricultural commodities with and through Syria and its neighbouring countries is made through land routes. For Lebanon, Syria is the only land trade route to Iraq, Turkey and the Gulf, which is by far the largest market in the region. Similarly, land routes through Syria are the main outlet for agricultural trade of Jordan with Turkey and Eastern Europe. Governments of neighbouring countries have so far been able to minimize the impact on consumers and producers by finding new trade routes and absorbing some of the increased costs. Exporters of horticultural products in Jordan, Lebanon, Turkey and Egypt are experiencing difficulties coping with the new trading routes given the high perishability of their products, which are primarily shipped through refrigerated trucks. The alternative marine transportation is costly and also unsuitable for a variety of highly perishable horticultural products. According to the Jordanian Association of Fruit and Vegetable Exporters, farmers in the Jordan Valley have lost more than 23 000 hectares of vegetables as a result of export bottlenecks in 2012.

Al-Qa'im border crossing between Syria and Iraq (one of the major supply routes across the Middle East) has been closed to commercial traffic for more than a year. The other two crossing points between Syria and Iraq – Al-Waleed and Rabi'a – witnessed repeated closures, making the trade with Syria highly unpredictable. Trade between Lebanon and Syria through border crossings of Al-Masnaa and Al-Arida have also been disrupted, and more of the agricultural trade has been moved to Beirut and other sea ports in Lebanon. In Jordan, a significant volume of agricultural trade has been shifted away from Ramtha border crossing to Haifa in Israel through Al-Jasr and to Al-Aqaba port in the Red Sea. Trade routes in Turkey have also been gradually moving to Mersin port applying a 'rolled on and rolled off' shipping arrangement to other countries in the Middle East. Map 3 shows an outline of the major old and new trade routes for agriculture and food commodities in the region.

The changes in trading routes have posed significant challenges for neighbouring countries given the associated increases in transport costs and the need for increased infrastructural capacities in terms of port facilities, storage and other logistical requirements. To export through Haifa, for instance, the Jordanian traders have to address numerous logistical difficulties, including dealing with trucks of different volume carrying capacities compared with the regular size used in Jordan. The change in trade routes has mostly been accompanied by changes in destination markets, which meant the need for additional investment to meet quality requirements of the new markets. In addition, the change in trade routes raised the urgent need to strengthen border food quality and safety control in ports to which agricultural trade is diverting.

Map 3. Effects of the Syria crisis on agricultural trade routes in the region



Increased informal trade in food and agricultural commodities

Informal trade (and smuggling) between Syria and its neighbouring countries increased in 2011 and 2012, particularly for basic food and petroleum products. Traded food items included, among others, fruit, vegetables, bread and groceries. Livestock (including sheep and cattle) have been informally traded through the borders in Iraq, Jordan and Lebanon (see Section 3.1.5). Although Turkey has officially closed its land border with Syria to all trade (with the exception of humanitarian food supplies), traders have found ingenious ways of bypassing border controls, including the off-loading of goods onto Syrian registered trucks for their onward journeys.

Overall, the disruptions in trade have had negative impacts on small-scale producers and workers along the supply chains of most agricultural commodities. The communities living close to the borders with Syria have been affected the most as a result of lost jobs and decline in farm businesses. In Turkey, for example, farmers from border areas have reported a more than 40 percent fall in farm-gate prices for grapes, olives and pistachio nuts because Syrian refugees are returning to their farms, harvesting their trees, and returning to Turkey to sell their produce to processors/wholesalers at much lower prices. Lebanese returnees are also selling their animals at between one-half and two-thirds of market prices in order to pay for house rents, food and essential non-food items. In addition, the risks associated with food quality and safety and threats of transboundary animal and plant diseases and pests have increased as a result of the informal trade and the changing trade routes (see Section 3.3).

3.1.4 Availability of agricultural inputs, services and labour

Agricultural inputs and services

The bulk of agricultural inputs (e.g. fertilizers, animal feed, pesticides and chemicals, agricultural machinery) are imported in Egypt, Iraq, Jordan and Lebanon. Imports of agricultural inputs have been disrupted and costs of imports have increased in most of the countries. Imports of inputs such as animal feed in Jordan (which used to be imported through Syria) have been affected significantly, resulting in a negative impact on the livestock subsector. Animal feed prices in 2012 have increased by 22 percent for barley and 38 percent for bran compared with the averages of 2009/2010, mostly

due to increased transportation cost as a result of the change in trading route from Tartous in Syria to the new ports of Al-Aqaba and Haifa.

In the Bekaa Valley and Northern Lebanon, most agricultural inputs used to be imported at low prices from Syria, including veterinary services, pesticides, seeds, fertilizers, forage, medications for beekeeping, diesel for transportation and other consumer goods. Due to the conflict within Syria and the border insecurity situation, the flow of these agricultural inputs has been disrupted. This has resulted in significant shortages in areas like Akkar and Hermel Districts, forcing farmers to look for alternative sources of inputs at much higher costs.

Veterinary services inside Syria (e.g. animal disease surveillance, vaccination programmes, quarantine facilities) collapsed early in 2012. While veterinary services in Turkey are able to manage the increased threat of TADs coming from Syria, those of Iraq and Lebanon and the border areas of Jordan are not able to cope. The risk of diseases such as foot-and-mouth disease (FMD), *peste des petits ruminants* (PPR) and lumpy skin disease (LSD) breaking out in Syria and spreading across the region is heightened (see Section 3.3.2). There is a similar risk with crop diseases and pests, such as wheat rust and tomato leaf miner, with the collapse of plant protection services in Syria and weak sanitary and phytosanitary controls at border crossings (see Section 3.3.3). The lack of financial and technical resources provided by governments over the past decade for national agricultural research and extension services in support of smallholder farmers – especially those in remote border locations – already places this group of vulnerable people at a high risk of falling into the escalating ‘poverty trap’.

Movement and availability of agricultural labour

The Syria crisis has resulted in an inflow of a large number of refugees and migrant workers into neighbouring countries. On one hand, this has helped a few productive sectors such as construction and large-scale agriculture (with their lower salary demands), but on the other hand has created a displacement of traditional labour sources. While in urban areas, incoming labourers are concentrated in the services sector and have evidently not caused a large disruption (e.g. bakeries, restaurants, shop-keeping), refugees residing in rural areas are mostly competing for farming jobs at the expense of local labour.

Olive picking is an example of agricultural activity now dominated by Syrian migrant labourers and refugees in the Syrian border areas of Jordan, Lebanon and Turkey, given their relatively high skill (replacing those traditionally from Egypt, northern Turkey, etc.). The impact on Egyptian migrant workers in Jordan has not been examined; however, the potential for negative impacts is there – particularly given the increased desperation Egyptians may be experiencing due to the economic instability in their own country. Regarding Turkey, the impact of the influx of Syrian refugees is generally seen to be filling a labour gap that existed, whereby agricultural labour in these provinces prior to the crisis in Syria was sourced from other areas in Turkey. The impact on these labourers, and communities from where labour was sourced prior to the crisis, was not assessed.

In Jordan and Lebanon, a large number of the people in the border host communities (e.g. in Al-Ramtha and Hermel Districts) have either lost their jobs, or their incomes have been significantly reduced as they were mostly related to trading with Syria. Most are unable to find alternative jobs to compensate for their loss of income.

3.1.5 Food access and availability

The continued civil unrest in Syria has raised serious concern over the state of food security in the neighbouring countries of Iraq, Jordan and Lebanon and the Middle East Region as a whole, particularly among the vulnerable communities of border areas including those hosting refugees. The increased stress on resources, water and food, with a decline in income and economic activity is adding tremendous strain on neighbouring countries at the national, local and household levels.

Food availability

The crisis in Syria is posing a significant challenge to food availability in neighbouring countries at the national, local and household levels. The crisis is affecting food availability in neighbouring countries through: (i) the negative effect on local food productive capacities, mostly owing to the security situation in border areas; (ii) the increased demand for food as a result of the growing influx of refugees and returnees from Syria and increased fiscal burden to maintain food subsidies; and (iii) the considerable fall in imports of food products from Syria.

Apart from Turkey, Syria's neighbouring countries import together over 50 percent of their food needs. The crisis in Syria has led to a significant drop in food production in the country and is negatively affecting food production in the rest of the region – raising the need for food imports and thus increasing the exposure of these countries to shocks in world food supplies and prices. Estimates of cereal production for the 2012/2013 season showed significant declines in Iraq, Syria and Turkey (of 15.9 percent, 25.2 percent and 5.0 percent, respectively). This is severely affecting the availability of cereals in the markets, pushing governments in these countries to increase imports and stock options. This puts a strain on stocks and local prices in these countries as they are trying to cope with fiscal strains of refugees and returnees. In Lebanon, estimates point to a 20 percent increase in total cereal production in 2012 above the previous year, which was affected by dry weather conditions. This increase in production will cater marginally to the increased demand due to the Syria crisis, as domestic cereal production covers on average about 17 percent of consumption needs and the country depends heavily on imports.

The 2012 winter crop harvest in Egypt has concluded, and the latest estimates indicate an above-average production of 8.7 million tonnes of wheat – exceeding last year's already high harvest by an additional 4 percent. The increase in wheat production was attributed to availability of improved varieties, favourable weather conditions and increased government procurement prices. The current stock of wheat – estimated at about 5 million tonnes, according to the Ministry of Supply and Internal Trade – covers requirements for a maximum of five to six months. Overall, cereal imports are expected to rise for Syria and its neighbouring countries by over 5 million tonnes in 2013, constituting an increase of about 25 percent of the import levels of 2009/2010.

Food production in certain areas in neighbouring countries has been affected as a result of the border insecurity and conflicts. This was particularly evident in several border areas of Akkar and Bekaa-Hermel Districts in Lebanon, and in Gaziantep, Kilis and Sanliurfa Provinces in Turkey, where the insecurity prevailing in most border areas with Syria prevented many farmers from accessing their farmland during important stages of crop development and harvest.

The inflow of refugees and returnees has placed pressure on available food supplies in neighbouring countries. The effect was particularly evident in the cases of Iraq, Jordan and Lebanon, where estimates suggest that Syrian refugees represent about 4, 5 and 10 percent of the total population, respectively. This places considerable pressure on food supply capacities in these countries in terms of imports, storage, processing and distribution systems, as well as on government ability to maintain subsidies for flour, bread and animal feed. The food import bills of these countries – which are already heavily dependent on imports of basic food commodities particularly cereals and sugar – will have to increase by a significant margin to cope with the growing demand. There is also pressure on food storage capacities and strategic reserves. It was estimated that the current six-month strategic food reserves in Jordan (i.e. mostly wheat) will run out over the next four months if the inflow of refugees continues at its current rate.

The new situation also places significant burden on some governments' ability to maintain their current consumer subsidy schemes, including for food and energy. In Jordan, the Government is already spending around 1 percent of GDP on food subsidies, and about 2.4 percent on fuel subsidies (2011 figures). Food availability in Jordan, Lebanon and Iraq has also been affected by the significant drop (i.e. of more than 50 percent) of food imports from Syria as a result of the crisis.

Loss of incomes along food chains

The closure of the borders and the decreased ability of producers to export their products to Syrian markets as well as to other markets transiting through Syria (e.g. Turkey, GCC and Eastern Europe) have resulted in a loss of income among farming communities and many of the people working along the food and agriculture commodity chains. Increased competition between refugee workers and local workers also resulted in reduced household incomes in host communities. Host communities in border areas of Jordan and Lebanon have been hit hardest in terms of income losses due to the deterioration in their farming and trading businesses and job losses. Host communities in Ramtha (Jordan) and Akkar and Hermel (Lebanon) are already among the poorest segments of these countries; their main occupation is farming, as well as other activities linked to border trading.

Trade diversion to other markets and the change in trading routes (from border crossing points with Syria to other ports within neighbouring countries) have cost many jobs in the border towns and villages of Iraq, Jordan and Lebanon, and in the road transport industry and its service providers.

Border insecurity has also led to the displacement of a large number of people within some of the neighbouring countries. For example, in Lebanon and Turkey, many farmers at the border areas could not continue their farming activities and lost some of their livestock and farm assets.

The illegal trade of animals in the border areas has also reduced the price of live animals. For example, a dairy cow is now being sold for one-third of its normal price in Lebanon. The same trend is reported in Jordan, where Syrian Awassi sheep and Shami goats are being sold at about half of the usual market price. Farmers on the Turkish-Syrian border have also complained about the progressive reduction in price for their animals on the market, although they could not associate this directly with the Syria crisis. In conclusion, farmers and pastoralists of Iraq, Jordan and Lebanon are abandoning their livestock farming business as they are unable to cope with the increasing feed price and decreasing price of their animals and some animal products. Annex 3 provides more country-specific information on changes in the prices of animal feed, livestock and animal products.

Increased cost of food

Price inflation, resulting from increased demand for basic food and services, has led to increased food costs. While the prices of some food products have decreased, particularly those items that could not be exported, overall food prices have been higher than before the crisis. Between 2011 and 2012, food prices increased by about 8 percent in Iraq, 5 percent in Jordan and 10 percent in Lebanon. In Jordan, the increase in food prices is particularly high for meat (14 percent), dairy products (19 percent), sugar (12 percent) and eggs (30 percent). The hosting of refugees has also been a big burden for many families in neighbouring countries, particularly in districts bordering Syria such as Al-Ramtha and Irbid in Jordan, and Akkar and Bekaa in Lebanon. The refugee recipient areas are already categorized among the poorest in these countries. In some areas, hosting communities are now receiving refugees of more than seven people per household.

The good road network between Lebanon, Jordan and Syria and the strong family links that exist across borders have made inhabitants of the border towns in Jordan and Lebanon dependent on Syria as a major source of imported food products and other groceries. These food items used to be obtained at much lower prices compared with domestic food supply sources within these countries. The disruption of cross-border transportation of food products and commodities has put a higher pressure on the incomes of these families and has forced a change in their dietary consumption.

The increased demand for poultry products in Jordan and a reduced supply have tripled the price of eggs. This may also be linked to the presence of the high number of Syrian refugees in the country. The smuggling of cheaper eggs to neighbouring countries from Syria has been a long-known fact (particularly to Iraq and Lebanon); this, however, has now dried up due to the destruction of major poultry farms in Homs and rural Damascus. Lebanon used to import white cheese from Syria, but now the country has resorted to buying more expensive white cheese from Egypt and European Union suppliers.

3.2 Needs of refugees, returnees and host communities (agriculture sector)

3.2.1 Overall socio-economic situation of affected areas

With the exception of Egypt and KRG of Iraq, refugees and returnees are located in some of the poorest areas ('poverty pockets') of countries neighbouring Syria – i.e. parts of northwestern Iraq, northern Jordan, northern and eastern Lebanon, and southeastern Turkey.

Priority needs for refugees throughout the five hosting countries of Egypt, Iraq, Jordan, Lebanon and Turkey are mostly related to security, affordable and decent accommodation, and access to more stable income sources to cover livelihood and household needs. Insecurity is higher among non-registered refugees, who are the most vulnerable to being exploited by employers and rely on host communities to assist them with their basic needs of food and shelter.

Host communities in these countries may both benefit and suffer from the availability of Syrians as cheaper labour, as well as the cheaper agricultural products coming with those who cross from Syria. Households that are poor and likely to be strongly impacted by the changes to their costs and incomes need to be targeted for assistance to ensure they are able to increase their resilience to the continuing changes resulting from the crisis. Overall, high levels of unemployment, increasing costs in Jordan, as well as instability in Lebanon and Egypt underlay the impacts of the crisis on affected communities.

Broadly, communities affected (i.e. both positively and negatively) by the Syria crisis can be grouped into the below categories, while a number of communities fall into more than one group:

- i. ***Communities hosting Syrian refugees and returnees:*** affected by increasing rents, increased pressure on household resources and access to food, increased competition for, and availability of, labour, etc.
- ii. ***Communities neighbouring refugee camps:*** affected mostly by the availability of surplus labour and competition with local labour, possible changes in food prices and shortages in energy and other services as a result of the growing demand from the camp, possible market opportunities for local farm produce (e.g. Jordan and Turkey), and possible loss of agricultural land (e.g. Turkey)¹².
- iii. ***Communities in close proximity to the border and affected by violence and insecurity:*** directly affected by the security situation and border conflict, cannot access their farmlands or move freely and may need to relocate internally (e.g. Lebanon and Turkey).
- iv. ***Communities where livelihoods are highly engaged and interacting with communities in Syria:*** including traders, seasonal labourers, cross-border relatives or farmers (e.g. Iraq, Jordan, Lebanon and Turkey) who used to obtain their subsidized agricultural inputs and services from Syria and now face loss of income and degraded livelihoods as a result of higher input costs and loss of markets for their products, increased competition and availability of labour, etc.

What is common in all countries is that coping strategies of host communities, refugees and returnees in all border areas are being seriously eroded as time passes, food prices are unstable and rental prices increase drastically.

3.2.2 Egypt

Accommodation is an important priority need of Syrian refugees living in Egypt, as well as income and livelihood support in order to cope with the high costs of living in Egypt.

- ***Housing.*** Syrians are not located in areas of cities where other refugee nationalities and poorer Egyptian populations are located; rather, they view staying away from areas high in crime and noise as important for the safety of their families.

¹² While refugee camps have been built on public land, there are cases where this land was cultivated.

- **Income.** In the initial months following arrival (three to five months), Syrian refugees are seeking employment in their particular fields of expertise. As time passes and their financial resources diminish, they lower their expectations. However, refugees have recognized that they live on a day-by-day basis and are not planning for longer periods of time – but instead are focusing on a return to Syria. Some refugees, who arrived over a year ago and kept some resources, have established small businesses (e.g. milk processing, food outlets and restaurants) and tend to employ Syrian refugees. This was reported not to create particular tension with Egyptian communities as most of the jobs offered are of low interest to them. A number of refugees indicated interest in starting some food processing activities (e.g. cottage industries, fruit processing and home-based cooking), but lack the initial capital required for such investments.

While the majority of Syrians have to rent apartments in cities, some Egyptians have provided free or cheap accommodation and sometimes cover food expenditures, at least for short periods of time. There have not been any incidents reported in Egypt between Egyptians and Syrian refugee populations and the atmosphere has been one of solidarity. Sensitivity to the ongoing instability in Egypt and the problems facing Egypt's urban poor should be considered in any future response plan for Syrian refugees. Increasing opportunities to generate income, enhance livelihoods and increase access to nutritious and sufficient food for Egypt's urban poor is also an urgent need.

Finally, refugee populations from other nationalities are not receiving the same benefits as Syrian refugees from the Government of Egypt or UN agencies, and are generally aware of this fact. As services increase and time passes, tensions could possibly arise between these communities (or increasing pressure on already overstretched organizations providing services to refugees).

3.2.3 Iraq

Income-generation activity to pay for food and rent is the most important priority for Syrian refugees in Iraq, particularly for the large numbers living outside of camps. High costs of living in the Kurdish Region mean that Syrian refugees and Iraqi returnees may look for employment throughout Iraq, and their mobility rates are high. Many are not accessing services available for registered refugees due to the high cost of accessing registration locations and, as this also allows access for permits to reside in Iraq, these refugees are at risk of being exploited by employers.

In the Kurdish Region in particular, the Government, local authorities and communities are in the rebuilding phase of many sectors and industries. The economy is growing quickly, but it is not yet well-developed. Those involved in the agriculture sector are generally reported to be an aging population, calling for enhanced agricultural capacity among younger generations. Food production and processing need to be developed in order to both increase the economic importance of agriculture and to enhance the food security situation of the region. Income generation from increased agricultural productivity (through investment in mechanization, irrigation, etc.) and agro-industries (e.g. input supply, food processing and animal feed) needs to be enhanced by targeting those who are poorer and more vulnerable, thus making farming and farm business more attractive to youth and improving the overall quality and stability of this type of livelihood.

3.2.4 Jordan

Despite the fact that refugees inside the Zaatari Refugee Camp may have agricultural skills, they cannot access land nor develop home gardening within the camp due to the limited space. Their livelihood options inside the camp are therefore limited to the trade of items needed in the camp, as well as possible small-scale food processing. Those with identity cards or proper documents can apply to leave the camp, but those without must either remain in the camp or find alternative, unofficial methods for leaving. Nutrition and availability of a number of higher protein food items are of concern to those residing in the camp, and opportunities to address nutrition, access to protein, and income-generating activities in the camp are needed.

As mentioned previously, Syrian refugees outside the camp reside in both urban and rural areas. Refugees may actually be former migrant agricultural workers, living in rural farming areas including the Jordan Valley, where they used to come and work seasonally for large- and medium-scale

Jordanian farmers. The recent large influx of refugees has created increasing competition for unskilled work, resulting in wages dropping as low as JD 150 for 30 days of work. Those outside of the camps are the most severely exposed to depleted resources and lack of access to livelihoods, impacting their possibilities to rent shelter and to access food and services. As Jordan's labour laws specifically exclude workers in domestic service, small family-owned businesses and agriculture, refugees and migrant workers are often at the mercy of their employers and cannot legally exercise or defend their fundamental rights. They are not covered by minimum wage regulations or by social protections, such as health, vacation, sick leave and pension benefits. The lack of a non-discriminatory, adequate legal process for documentation keeps many such workers out of the formal and regulated economy, both depriving them of their basic rights and setting them against groups of other workers who do not suffer such discrimination. Access to safe and decent work is needed by Syrian non-camp refugee populations, as well as controlled rents and affordable and nutritious food. Information on how to access services provided to registered refugees would also be useful.

Jordanians living in the same communities as non-camp refugee populations are facing, along with those refugees, a sharp increase in rent prices and significantly lower labour wages (agricultural and other). This is in combination with an already existing trend of increasing food prices. Jordanians who were already living on or below the poverty line (i.e. less than JD 68 per person per month) will feel the impact of these combined factors the most. Access to income-generating activities as well as improving access to affordable food is a priority need for Jordanians impacted by the Syria crisis.

There have been emerging reports of tensions between Jordanian and Syrian refugee populations, particularly in Mafraq Governorate where poverty rates were higher than in other areas. The main reasons for this are the perceived aforementioned impacts.

3.2.5 Lebanon

In Akkar District, a higher proportion of Syrian families are being hosted by Lebanese households, depleting much-needed resources. In the Bekaa Valley, the majority of Syrian households are renting accommodation. The influx of Syrians has impacted the casual labour market, causing up to a 60 percent reduction in daily wages. Additionally, the insecurity of border areas has interrupted the import of Syrian commodities, which are cheaper than their Lebanese equivalents. The insecurity has also interrupted trade-related livelihoods, which is particularly significant for the economies of border communities.

Host and border communities are impacted by the crisis itself in terms of either the reduction of income generation owing to increased costs, and/or the inability to conduct business as usual due to the need for high interactions with Syria. Host families in the north of Lebanon have been supporting refugees for over a year and are facing increasing difficulties in coping with the situation. In order to appreciate the current burden of Syrian refugees on Lebanese populations, particularly in Akkar and Bekaa, it is important to understand the economic reality of farmers in these provinces. The Syrian smuggling of crops that officially remained subject to Lebanese import taxes has been rampant and penalizing Lebanese farmers for years. Furthermore, the vast majority of farmers have little or no access to capital. The high operation costs of small loans and the inability of most small-scale farmers to provide collateral have long dissuaded the country's commercial banks from lending to the agriculture sector. On the other side of the border, the Syrian Government heavily subsidized the costs of agricultural inputs and created a favourable and enabling environment for Syrian farmers. A limited number of Lebanese farmers close to the border and particularly in northern areas have benefited from subsidized Syrian inputs through smuggling activities between the two countries, which are no longer available.

Prior to the crisis in Syria, respondents of an IOM assessment in the north of Lebanon identified support to agriculture as well as small-scale food processing at household level as a priority need for the improvement of livelihoods and well-being.

3.2.6 Turkey

Syrian refugees living inside Turkish refugee camps appear, from all assessments, to have access to good services and facilities. Opportunities exist for Syrians to leave the camps for short periods of time, and they have reportedly taken on some agricultural labour. Inside the camps, trade and some very basic forms of urban gardening exist, which people take part in more to occupy their time than to generate income or produce food; however, these activities are valued by those engaged. Refugees outside of the camp also engage in casual work, including agricultural labour. Syrian workers are often paid half of the daily wage required by Turkish workers for the same task. Some Syrians are staying with host families, but the majority are renting. The influx in some communities results in increases of up to 30 percent of the population; the impacts on host communities and on Syrians themselves are significant in terms of food prices, rent prices and competition for labour.

In some of the border areas, Syrians are filling a need for labour that was previously filled by labourers sourced from other provinces. The impact on local communities is felt negatively in terms of the wage rate for existing local Turkish labourers, and positively for farmers who have access to this less costly source of labour. Farmers are also impacted by the availability of Syrian products, which are brought to the Turkish market by those fleeing Syria and sold at cheaper prices. This is forcing Turkish farmers and livestock keepers to sell their products at prices that ultimately reduce their profit margins and household income. Additionally, the closure of borders has interrupted the trade of commodities, although the informal trade of these is flourishing; the impact of those engaging in such trade (in terms of change in profits and costs) must still be clearly ascertained. Most rural communities in the border areas with Syria comprise small-scale farms, with less than 1.5 hectares of land, operating agricultural activities on a family basis, occasionally employing casual labour for the harvesting of olives and grapes, for example.

3.3 Transboundary animal and crop diseases and pests, and environmental threats

3.3.1 Impact of the Syria crisis on animal health in neighbouring countries

This section provides a regional overview of the impact of the Syria crisis on animal health in neighbouring countries. More details of a country-specific nature are provided in Annex 3.

The first, and most important, impact is the increased uncontrolled movement of livestock across borders. This is particularly important because Syrian livestock have not been vaccinated against TADs and zoonoses for at least 6 to 12 months owing to the collapse of Syria's field veterinary services. Syrian refugees (and Lebanese returnees) have brought unvaccinated sheep, goats and cattle to almost all countries sharing borders with Syria. This threatens the health of livestock, animal disease control programmes, grasslands and rangelands, and the health of people of those countries. It should be noted that only Turkey has efficient border controls for livestock movements through the slaughtering of all non-registered animals. There is clear evidence that unvaccinated live animals are being imported or have crossed illegally into Jordan and Lebanon, with minimum or zero quarantine, for sale on the open market (e.g. 300 000 goats were illegally imported from Syria to Jordan in 2012).

The most serious impact of greater uncontrolled movements of livestock is the significant increase in the threat of TADs and zoonoses. Animal diseases that are reported and generally monitored and controlled in the region include FMD, PPR, bluetongue, brucellosis, HPAI, LSD, glanders, bovine tuberculosis, rabies and cutaneous leishmaniasis. It is important to note that FMD, PPR, bluetongue, brucellosis and LSD have all been unofficially reported in the Syrian border areas of **Iraq, Jordan and Lebanon**. Moreover, PPR, bovine tuberculosis and rabies have been officially reported in captured and slaughtered Syrian animals in **Turkey**. WHO has also reported tuberculosis and leishmaniasis in Jordan (including the Zaatari Refugee Camp) and Lebanon as an important health concern in the region.

Although not a country bordering Syria, **Egypt** has its own serious livestock and poultry disease problems. Repeated incursions of new strains of FMD viruses and ongoing HPAI outbreaks are the biggest hurdles facing the livestock and poultry subsectors. Egypt also reported cases of PPR in 2012, and LSD has been

endemic for a number of years. Egyptian veterinary authorities are also concerned about the spread of LSD, which is linked to dairy cows smuggled through tunnels linking the Gaza Strip to Sinai.

Only **Turkey** can claim to possess an animal health system that can effectively manage the threat of TADs spreading from neighbouring countries such as Syria. This is due to the fact that the country has received considerable financial and technical support from the European Union to control TADs and prevent them from spreading to Turkey's western borders with Europe.

Like Turkey, all animals in **Jordan** are registered and vaccinated regularly – a requirement for farmers to benefit from subsidized animal feed for their sheep and goats. However, Jordan does not undertake any TAD surveillance and reporting, and its nearest quarantine facility is 35 km from the Syrian border, which does not comply with minimum international biosecurity standards.

Veterinary services in **Iraq** and **Lebanon** are weak, with no surveillance and reporting of TADs, animal quarantine facilities nor registered animal vaccination programmes. Lebanon has opened vacancies and has been recruiting 200 additional veterinary surgeons since last year, but this is too late for this present threat of TADs.

As mentioned above, **Egypt** is a special case where FAO is already assisting the Ministry of Agriculture to control TADs through a multi-donor funded project, which has been running since 2005 at a total cost of USD 16.7 million (see Annex 1.1).

FAO's advice to Iraq, Jordan and Lebanon to reinforce their countries' quarantine facilities and mobilize vaccination campaigns against major TADs across its border areas with Syria has been well received by the respective government authorities. Active animal disease surveillance and reporting systems and effective quarantine infrastructure in high-risk border areas are clearly not in place at present. FMD, PPR and LSD are the diseases most feared by the veterinary authorities of those countries. The establishment of effective TAD surveillance systems for major threats such as FMD (including new strains), PPR and LSD is therefore urgently required before the high-risk months of April and November.

A second significant impact of the Syria crisis on animal and human health is the safety and quality of animal feeds and animal source foods. Unlawful trade of unsafe foods and animal feeds is being practiced owing to the disruption of regulatory systems, border inspection posts and law enforcements in Syria (and is possibly the case in neighbouring countries due to insecurity in border areas). For example, inspection of products of animal origin and regulatory systems failed to identify chicken meat that had been imported for processing for other uses, ending up in the Zaatari Refugee Camp and sold as fresh meat for human consumption. There is a danger that unsafe animal feeds, stored in bad storage facilities or stranded in unrefrigerated trucks along insecure trade routes, may end up in the hands of desperate smallholder farmers and herders who are impacted by the current high price of animal feed.

3.3.2 Threat of transboundary crop diseases and pests

Like TADs, there is also a threat of transboundary crop diseases and pests breaking out in Syria and spreading across the region. Crop protection and phytosanitary inspection services collapsed in Syria during 2012 – just like their veterinary services. There has been increasing informal trade (smuggling) of food and agricultural commodities across borders with Syria in Iraq, Jordan and Lebanon following the crisis in Syria. There have also been significant changes in agricultural trading routes throughout the region. All of these developments have increased the risk of trading food of substandard quality and the threat of transboundary plant diseases and pests accompanying the moving commodities – given the weak food safety and phytosanitary inspection systems in these countries, particularly at existing border crossings and especially at new border crossings.

The plant protection affairs of Turkey (including internal and external plant quarantine, control of harmful organisms, sampling procedure and plant quarantine inspection regulation) are adequate and operational with no major deficiencies – a model for other countries in the Near East Region to follow. The informal importation and smuggling of Syrian plant materials and food products do not

pose a significant sanitary and phytosanitary threat, although economic implications have been documented elsewhere in this report.

Three crop fungi and pests of note are wheat rust, tomato leaf miner and fruit flies – all of which can severely damage important crops in the region.

Wheat rust

Wheat rust diseases are among the major constraints to wheat production in the Near East. Rust diseases are airborne and respect no boundaries. They can spread over borders and cause significant yield losses across large areas. Wheat rust diseases, being among the major transboundary plant pests and diseases, cause significant losses to farmers, and pose a major threat to food security. Climate change – in terms of rising temperatures, and the timing and increasing variability of rainfall – is contributing to the spread and severity of rust diseases. Emerging races of rust are showing adaptations to extreme temperatures not seen before. For example, virulent Stem rust variant Ug99 (identified in Uganda in 1999) has been progressing out of East Africa via airborne spores. In early 2007, Ug99 was detected in the Near East Region. Similarly, yellow rust (also known as stripe rust) has in recent years become more of an immediate threat, with the emergence of new, highly-aggressive strains that are able to knock out genetic resistance in many of the most popular varieties of wheat.

To combat the problem of wheat rusts, farmers in the Near East Region need to adopt new varieties of wheat that have durable resistance to both stem and stripe rust. Unfortunately, lack of local capacity and ability of national programmes to rapidly multiply seeds and deliver them to seed markets are bottlenecks to getting resistant varieties into the field in time to protect local harvests. In the case of Syria, the development of new varieties was conducted by ICARDA in Aleppo, but the conflict has totally disrupted research and development work there. Some research activities and seed multiplication works are being conducted in satellite sites (e.g. Terbol, Lebanon). FAO has identified Egypt, Syria and Turkey as three of nine countries most at risk of new virulent races of wheat rust. Uncontrolled movement of wheat grain between Syria and neighbouring countries is therefore a major and significant biosecurity risk that requires immediate attention. Regional risk-based inspection systems are necessary in order to improve biosecurity.

Tomato leaf miner (Tuta Absoluta)

Tomato borer, with its high reproductive capacity, is deemed one of the most serious and destructive pests of tomato crops. It also attacks plants of the *Solanaceae* family, such as potato, eggplant, pepper, tobacco and solanaceous weeds, as well as common beans. Tomato is one of the most economically important crops in the Near East Region (particularly in Jordan) and is the main host of the pest.

The small brownish moth was first introduced from South America into Spain in 2006, and later spread into all countries of the Mediterranean Basin and the Near East. The tomato borer has bred quickly and moved easily across borders. Some countries have been able to minimize the insect's ability to reproduce and limit its potential to spread and damage crops. In January 2013, FAO launched a small regional project to cover the most affected countries in the region, namely Egypt, Iran, Iraq, Jordan, Lebanon, Syria and Yemen (see Annex 1.6). FAO's objective is to replicate this successful intervention as the pest makes its way east and south-eastwards. However, the project does not foresee general inspection procedures for clearing commercial and non-commercial importation of fruits and vegetables in critical areas such as the Syrian borders.

Fruit flies

The last major outbreak of fruit flies was the peach fruit fly across the Near East and North Africa Regions in mid-2000. An FAO regional programme assisted the Ministries of Agriculture of Egypt, Iran, Jordan, Saudi Arabia and Yemen to eliminate peach fruit fly from specific areas through the identification and strengthening of phytosanitary measures implemented in order to prevent the introduction and spread of the pest to the non-infested areas.

3.3.3 Environmental threats

Traditional livestock movements across the Near East Region in the form of transhumance are very common – particularly across the Badia rangelands of southern Syria, northwestern Iraq and northeastern Jordan. The Badia rangelands are fragile semi-desert steppes, characterized by a sparse vegetation cover (of nutritious species palatable for sheep and goats). The continued insecurity in Syria has meant that the cross-border movement of Bedouin herders from winter grazing in Syria to summer grazing in Iraq and Jordan has been severely disrupted. The protracted crisis has resulted in Bedouin herders abandoning their Syrian pastures and staying all-year round on the rangelands of northwestern Iraq and northeastern Jordan. The consequences of this include the invasion of unpalatable species (weeds and scrub) in the Syrian pastures and overgrazing, and land degradation (leading to potential desertification) of the Badia rangelands of Iraq and Jordan. There is already evidence of overgrazing in northeastern Jordan as herders seek alternative animal feed sources, especially in winter months.

Over the past two decades, Jordanian farmers have been irrigating parts of the Badia rangelands using underground water sources (from local aquifers) to grow fruit and vegetables (especially tomato, watermelon and potato), wheat, fruit trees and animal fodder. The Government of Jordan is now very concerned that recent boreholes sunk for water supplies at the Zaatari Refugee Camp will deplete, if not exhaust, the local aquifer used by rural communities and large-sale irrigated farmers in that area. The Government is further concerned that the inadequate waste disposal systems found at the Zaatari Camp will also lead to pollution of local water supplies.

3.4 National and international responses to the Syria crisis

3.4.1 Governments of neighbouring countries to Syria

On the whole, responses from the Governments of Egypt, Iraq, Jordan, Lebanon and Turkey have been welcoming in terms of keeping borders open and providing social services to Syrian refugees. Registered Syrians, staying in refugee camps and with host communities, are generally permitted to access public health and education services of those countries.

The Government of **Egypt** grants Syrian refugees a visa-free entry, followed by a renewable three-month residency, and access to public schools and hospitals without bearing additional costs. There has not been a priority as of yet to address the impacts and needs of host communities related to this crisis. Additionally, the Government has requested WFP to distribute food vouchers to registered Syrian refugees for use in local supermarkets.

The Government of **Jordan**, in collaboration with international agencies, is working to plan and manage the Zaatari and a second new refugee camp, as well as to provide access to services among non-camp populations, and to address the growing number of people crossing the border. The Government has indicated that they will close the border if the numbers become too great for the camps and host communities to accommodate. Currently, Palestinian refugees without sufficient Syrian documentation are refused entry. In addition, the Government is increasingly aware of the strain and impact on host communities and is attempting to target poor and vulnerable populations for safety-net and recovery programmes and projects in response to this issue.

The Government of **Lebanon** has an open border policy and is actively working with international agencies to address the needs of both the Syrian refugees and their host communities, but not Lebanese returnees. Lebanon has not yet established any camps for the refugees due to a number of sensitivities and challenges in the border areas. In December 2012, the Government set up a ministerial committee to produce a plan, which sets out areas of government engagement totalling USD 178 million.

The Government of **Turkey** has established 17 camps for Syrian refugees – which provide medical and educational services and three meals per day – and continues to construct new ones. By mid-February 2013, the Government had reportedly spent over USD 600 million on services addressing

the crisis in Syria (not including salaries, expenses, etc.). The Disaster and Emergency Management Presidency of Turkey (AFAD), in collaboration with the Turkish Red Crescent, are actively engaged in the management of the camps, as well as in providing access to medical services for non-camp registered populations.

In Zaatari Camp, the Government of Jordan has permitted Syrian refugees to operate small make-shift shops with goods ranging from fruit, vegetables and meat products, to clothes, heaters and televisions – all supplied by Jordanian wholesalers from Amman and other cities. Like the camps in Iraq and Turkey, there is insufficient space for refugees to operate kitchen gardens to grow vegetables and rear chickens. However, there is evidence from Turkish camps that refugees are growing vegetables and herbs in small containers around, or hanging from, their tents and containerized housing units. This is despite AFAD stating that there is no need for such food production, given the “three meals per day” policy and the risk of unhygienic conditions developing within the camps. Contrary to this directive, the Provincial Government of Kilis has recently announced that all new Syrian refugee camps in its province will include areas designated for refugees to grow fruits, vegetables, herbs, etc. – more for reasons of occupational therapy than for the provision of added nutrients and vitamins to diets and small amounts of supplementary income generated from the sale of produce.

3.4.2 United Nations agencies

The UN reports that the dramatic increase in the number of refugees from Syria across the region in 2012 and early 2013 continues to require a large-scale response to address the needs of both refugees already present in host countries and new arrivals who continue to pour into Jordan, Lebanon, Iraq and Turkey at a rate of thousands per day. When the first Syrian Regional Response Plan (RRP) was published in March 2012 (and subsequently revised twice, in June and September 2012), it initially planned for some 96 500 refugees to receive assistance over a period of six months. As part of the second revision of RRP, UN agencies appealed for a total of USD 487.9 million to cover needs up to the end of 2012. As of 15 November 2012, 51 percent of this amount had been funded.

In December 2012, UN agencies prepared a third revision (“RRP-IV”), setting the strategic objectives and activities for the first six months of 2013. At that time, the RRP anticipated that the number of refugees would reach 1.1 million by June 2013. However, by March 2013, the number of Syrian refugees had already reached 1 million and continues to grow. For the first time, this planning figure covers refugees in Egypt, whose numbers have grown significantly over the past year. At a time of social, political and economic upheaval in many of the host countries, further compounded by the conflict in Syria, RRP-IV aims to provide lifesaving assistance to refugees, while ensuring that the cost of their welcome is not borne by the countries of asylum alone, or by the many local communities and their vulnerable populations which have already shown considerable generosity despite their limited means.

The second Regional Strategic Objective of RRP-IV confirms that the priority areas of intervention will continue to include: the provision of food assistance, non-food items and/or financial assistance; access to healthcare and education; and quick impact projects in host communities that are struggling to cope with the additional strain on their infrastructure. However, there was no consideration for the increasing threat of transboundary animal and crop diseases and pests emerging from Syria, the deteriorating condition of food traded across official and unofficial border crossings, increasing malnutrition among farm families of host communities, and the medium-term needs of rural host communities to recover their food production and income-generating functions following the shock of the Syria crisis in the border areas of Iraq, Jordan, Lebanon and Turkey and the peri-urban areas of Egypt (see Sections 3.1, 3.2 and 3.3).

As part of the Seventh Syria Humanitarian Forum on 19 February 2013, the United Nations Under-Secretary General for Humanitarian Affairs and Emergency Relief Coordinator chaired a roundtable discussion of UN agencies based in Amman, Jordan. The meeting concluded that there are strong needs for: (i) follow-up with all the countries (especially from the Gulf States) having made pledges during the donor conference in Kuwait (see Section 3.4.3) on how funds will be channeled and priorities defined; (ii) linking emergency response to medium-term recovery and long-term rehabilitation and development – agriculture was mentioned as a key sector in this domain;

(iii) developing strong contingency plans – as the end of the crisis is uncertain: (iv) increasing UN assistance to refugees, and even more so to host communities – an opinion expressed by every agency participating in the roundtable discussions.

The United Nations Under-Secretary General for Humanitarian Affairs and Emergency Relief Coordinator also expressed a strong interest in FAO's regional assessment to assess the impact of the Syria crisis on the agriculture sector of host countries/communities and requested an early release of its findings and recommendations. To conclude, it is clear that there is now a strong shift towards providing additional support to host families in the Syria border areas of Jordan, Lebanon, Iraq and Turkey (most of which are from poor farming communities) and in Egypt. It is anticipated that RRP-V, which is currently under preparation, will address the 'agricultural dimension' of early recovery following this Humanitarian Forum and FAO's assessment and response plan.

UN agencies in Lebanon have recently created a "Task Force to Support Lebanese Communities Affected by the Syrian Crisis" – co-led by UNDP and UNHCR. The Task Force has developed a Strategic Framework for Response comprising 72 project proposals targeted at host communities to Syrian refugees in Lebanon, with a total funding request of some USD 50 million over two years (with many small projects of six months or less). Most of the project proposals were urban-based; the three projects targeted at farmers (at a total cost estimate of USD 1.25 million) cover activities such as the training of farmers in cooperative management and organic farming, as well as improving livelihoods through quick-impact interventions such as equipping cooperatives with generators and tools, and supporting fishers through the rehabilitation and improvement of fish processing and selling facilities. It should be noted that the worst affected and most vulnerable and impoverished Lebanese farming families hosting Syrian refugees in the border areas do not belong to cooperatives.

3.4.3 Development partners

On 30 January 2013, the Government of Kuwait hosted a donor conference, which was chaired by the Secretary-General of the United Nations, to assist civilians affected by the ongoing crisis for the first half of 2013, including those taking refuge beyond the Syrian borders. Donor countries and international organizations pledged more than USD 1.5 billion – i.e. USD 1 billion for Syrian neighbours hosting refugees and USD 500 million to fund humanitarian work for Syrians afflicted by the crisis inside their country, in support of RRP-IV and the Syrian Humanitarian Response Plan, respectively.

Nearly two-thirds of the total funds pledged by donors were by the Gulf countries, but it was unclear how these funds would be channelled. To date, much of the humanitarian assistance funded by these States prior to the donor conference has been provided bilaterally outside of the two UN Response Plans. However, they stated that future funds "will be delivered in assistance to countries helping Syrians and to various United Nations agencies... and all options are on the table".

The Governments of Australia, Japan and most European countries pledged support to the two UN Response Plans, with a focus on funding protection, shelter, food security and health through UNHCR, UNICEF, WFP and the International Committee of the Red Cross. However, the Governments of Belgium, Canada, the United Kingdom and the United States of America (with a total pledge of some USD 160 million) confirmed that, while supporting the humanitarian effort of the two UN Response Plans, they pledged to (among others), "provide flour to bakeries, provide winter supplies to those in communal shelters, and help refugees and their host communities in neighbouring countries", and provide "food, protection and support to all of those affected by the conflict", while "ensuring that coordinated aid reaches people across Syria, including agreed cross-line and cross-border work" – suggesting openness to funding initiatives outside of the two UN Response Plans.

Since the Kuwait donor conference, FAO has met with development partners based in Cairo, Amman, Beirut and Ankara, and there is a clear indication that bilateral donors and international organizations are willing to fund early recovery initiatives targeting the border areas and their host communities, including those related to the agriculture sector (e.g. transboundary animal and crop diseases and pests control, food safety control, and community-based income generation).

4. AGRICULTURAL RESPONSE PLANS

4.1 Objective

Based on the situation analysis and needs assessment of the previous sections and taking into account the most likely scenario that the Syria crisis will continue for at least a further two years, FAO, in collaboration with the Ministries of Foreign Affairs and of Agriculture of Egypt, Jordan, Lebanon and Turkey, have prepared a strategic response framework to support men, women, boys and girls of rural host communities, returnee farming families and farming refugees affected by the protracted crisis in Syria, with the objective of **enabling conflict-affected rural communities and poor and vulnerable smallholder farming families to recover their agricultural livelihoods**.

FAO is one of several actors responding to the needs of conflict-affected farming families. In order to maximize their contribution, FAO and its development partners have identified the following areas in which the national and international humanitarian communities can offer a distinct added value, especially in terms of reaching the most vulnerable rural populations:

- (i) support to national Ministries of Agriculture and of Social Affairs in the strategic coordination of agricultural assistance provided by all stakeholders;
- (ii) technical advice in agricultural early recovery;
- (iii) material and financial support to the crops, livestock, forestry and fisheries subsectors; and
- (iv) capacity building of stakeholders (in particular, Ministries of Agriculture and smallholder farmers' organizations) to address the consequences of the Syria crisis (and any future crises in the region) in rural areas.

4.2. FAO's comparative advantage

FAO, working together with other relevant actors, aims to leverage its comparative advantage in the areas listed below, by focusing on the development of two regional agricultural response plans and 13 national agricultural response plans (summarized in Sections 4.3 and 4.4, and detailed as project profiles in Annex 4).

FAO's comparative advantage can be summarized as follows:

- Building on FAO's unique expertise and mandate on issues related to transboundary animal and crop diseases and pests – through its global Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases, Global Framework for Transboundary Animal Diseases, ECTAD, International Plant Protection Convention, Wheat Rust Disease Global Programme and regional IPM networks.
- Using FAO's expertise on food processing, sanitary and phytosanitary measures – through its global leadership of the Codex Alimentarius Commission, International Network of Food Data Systems and Food for the Cities Network.
- Unfolding FAO's mandate on food security and agriculture-based livelihoods programming in conflict- and disaster-affected regions and countries of the world (e.g. the Democratic Republic of the Congo, the West Bank and Gaza Strip, Iraq, Pakistan, South Sudan, the Sudan and Yemen).
- Building on FAO's country programmes and privilege partnerships with Ministries of Agriculture – and the use of recently completed and ongoing agricultural food security projects, from which lessons can be drawn and emergency and early recovery responses can be launched (see Annex 1).

4.3 Regional Agricultural Response Plans

R1. Strengthening regional capacity for the control of transboundary animal diseases

Syrian veterinary services and animal vaccination programmes have collapsed since early 2012 and the ‘number one’ threat to the agriculture sector of the region is the spread of TADs from Syria to neighbouring countries. A significant number of cases of bluetongue, bovine tuberculosis, brucellosis, cutaneous leishmaniasis, FMD, LSD, PPR and rabies have already been identified along the Syrian border in Iraq, Jordan, Lebanon and/or Turkey at higher than normal levels (see Section 3.3.1 and Annex 1). April and November are the peak months for outbreaks of most of these TADs. To address such threats, veterinary services in Iraq and Lebanon are weak, in Jordan they are inconsistent (but weak in border areas) and in Turkey they are good (having received European Union support). In Egypt, FAO has a fully operational TAD control programme supporting the Government’s veterinary services.

The focus of the programme would be on the effective control of TADs along the Syrian border areas of Iraq, Jordan, Lebanon and Turkey and the strengthening of national capacities and regional coordination for better management of animal health systems and ensuring enhanced management of threats using stakeholder-participatory principles and approaches (see Annex 4-R1). The programme’s activities would be developed and implemented in an exclusive and collaborative manner by FAO’s global ECTAD, among countries and critical international partners in animal and public health (i.e. FAO, OIE and WHO) – by establishing the Regional Centre for Animal Health and Food Safety for the Near East.

The anticipated outputs of the regional programme are: (i) an effective emergency response mechanism to any TAD outbreak in Egypt, Iraq, Jordan, Lebanon and Turkey; (ii) prevention of TAD outbreaks in the region through improved surveillance systems in Iraq, Jordan and Lebanon; (iii) more efficient and effective regional coordination and networking systems for the monitoring and reporting of TADs; and (iv) building regional and national capacities for the control of TADs in the Near East.

Programme duration: three years.

Programme cost estimate¹³: USD 14.2 million.

R2. Improved food quality control services along the Syrian border in Jordan and Lebanon

Syrian phytosanitary and food safety control services have collapsed over the past 6 to 12 months. There has been increasing informal trade (smuggling) of food and agricultural commodities across borders with Syria in Iraq, Jordan and Lebanon following the crisis in Syria (see Section 3.3.2). There have also been significant changes in agricultural trading routes throughout the region. All of these developments have increased the risks of trading food at substandard quality as well as the threat of the plant transboundary diseases and pests accompanying the moving commodities, given the weak food safety and phytosanitary inspection systems in these countries – particularly at existing border crossings and especially so at the new border crossings.

FAO proposes to build on its recently completed “Strengthening Production and Marketing of Lebanese Agricultural Products Project”, which provided support for food inspection services at the ports of entry in Lebanon. The proposed project will focus primarily on Jordan and Lebanon but, funds permitting, it could be extended to Iraq where similar problems exist at its border crossings with Syria (see Annex 4-R2). However, all neighbouring countries affected by the Syria crisis will benefit from knowledge-sharing under the project. The anticipated outputs of the programme are: (i) the handling of food import control in the countries is based on the analysis of food risks; (ii) risk-based food control is reinforced; (iii) border food inspectors are trained on risk-based control systems; (iv) phytosanitary capacity and infrastructure for inspection and control of transboundary crop diseases and pests are strengthened; (v) phytosanitary capacity for post-entry regulation measures and treatments are improved; and (vi) laboratory facilities are strengthened and staff associated with border food control and phytosanitary control are trained.

Project duration: 18 months.

Project cost estimate: USD 4.5 million.

¹³ The exact cost of “expendable procurement” (such as animal vaccines) can only be determined when TAD threats have been identified and outbreaks confirmed.

4.4 National Agricultural Response Plans

4.4.1 Egypt

E1. Strengthening urban and peri-urban nutritious and high-value crop production through expansion of urban farming in host communities of Syrian refugees in Egypt

The influx of Syrian refugees into Cairo and other cities of Egypt is further increasing the critical importance of self-grown food for the poorest urban dwellers, particularly those living in households headed by women (see Section 3.2.2). The project will build on the successful experiences of FAO in Egypt and neighbouring countries with urban farming (i.e. ‘rooftop’ and ‘vertical’ gardening), as well as on the global “Food for the Cities” network of experts led by FAO (see Annex 4-E1). The project aims to provide drip-irrigated vegetable production units and training that will enable 500 Egyptian families, that are supporting Syrian refugees, to produce fresh, diversified and healthy food (and possibly generate income from the sales of any surplus production). It will also further strengthen cohesion and solidarity between communities hosting Syrian refugees.

Project duration: one year.

Project cost estimate: USD 440 000.

E2. Enhancing nutritious food production and income generation of Egyptian communities hosting Syrian refugees

There is a need to support poor communities hosting Syrian refugees in peri-urban areas of Cairo and other cities of Egypt to improve their food and nutrition security, and generate income to restore their livelihoods, as well as to assist refugees engage in part-time employment (see Section 3.2.2). Syrians have brought a tradition of milk processing, sweet manufacturing, baking and other similar activities to Egypt, and such skills need to be developed and transferred to the poorest of urban dwellers, particularly those living in households headed by women. For example, entrepreneurial Syrians have already started small milk processing units in the Cairo suburb of 6th of October as a source of employment and income.

FAO proposes to build on the experiences of its ongoing Italian-funded project, “Improving Household Food and Nutrition Security in Egypt by Targeting Women and Youth” to enhance the capacity of refugees and host communities to benefit from the skills and experience of Syrian refugees, generate income and increase the availability of high quality, nutritious food in communities of greater Cairo where refugees reside. In this context, the project aims to provide fresh, diversified and healthy food to poor Egyptian families that are supporting Syrian refugees, and to refugees themselves, while strengthening cohesion and solidarity between communities (see Annex 4-E2).

Project duration: one year.

Project cost estimate: USD 462 000.

4.4.2 Iraq

I1. Improved animal health services (i.e. surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Iraq

The Syria crisis is negatively affecting animal health services and herders in northwestern parts of Iraq (see Sections 3.2.3 and 3.3.1, and Annex 3). Syrian veterinary services collapsed during 2012 and Iraqi veterinary services are non-existent, especially in remote border areas with Syria. FAO proposes to support an additional component for the ongoing United Nations Development Group/Iraq Trust Fund-funded project implemented by FAO to “Develop the Performance of Small Ruminants (Sheep and Goats) and Improve the Level of Income for Small Breeders” in Ninawa Governorate, building on a project management unit that is already in place.

The anticipated outputs of the component are: (i) numbers of sheep and goats vaccinated against important serotypes of TADs increased; (ii) veterinary and livestock extension services developed at the community level in Syrian border areas of Ninawa Governorate; and (iii) improved proper and timely communication of risks and outbreaks for rapid containment and TAD control programmes (see Annex 4-I1).

Project duration: two years.

Project cost estimate: USD 4.4 million.

I2. Improved food production and marketing among host communities to Syrian refugees in the Kurdistan Region of Iraq

The large number of Syrian refugees in the Kurdish Region of Iraq has created competition for labour as well as increased pressure on local food production (see Section 3.2.3). The agriculture sector in the Kurdish Region had been declining in recent times, and has been identified by both the Government of Iraq and the Kurdistan Regional Government as an important area for rehabilitation and development (see Section 2.2.1). Refugees have come from a mix of urban and rural areas, a number of whom have agricultural backgrounds in various types of cereal crop and vegetable farming. Kurdish populations have become increasingly urbanized due to lack of investment in the agriculture sector and perceived opportunities. While 70 percent of the population lives in urban areas, food insecurity and poverty are disproportionately concentrated in the rural areas, where two-thirds of food insecure people are located. The effects of the influx of large numbers of refugees will be felt the most by those who are already vulnerable to food and nutrition insecurity and poverty.

To enhance food production and income-generating opportunities among vulnerable Kurdish rural households and the Syrian refugees they are hosting, FAO proposes to build on two recent FAO-implemented projects funded by the Government of Australia and by the United Nations Development Group/Iraq Trust Fund, entitled “Emergency Support Project to Food Insecure Rural Households through Establishing Home Gardens in Iraq” and “Community Livelihoods and Micro-industry Support Project in Rural and Urban Areas of Northern Iraq”, respectively (see Annex 4-I2).

Project duration: two years.

Project cost estimate: USD 3.1 million.

4.4.3 Jordan

J1. Improved animal health services (i.e. surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Jordan

The Syria crisis has negatively impacted on animal health services and livestock herders in northern areas of Jordan (see Sections 3.2.4 and 3.3.1, and Annex 3). Syrian veterinary services collapsed in 2012, and unvaccinated Syrian animals are now crossing into Jordan. FMD, PPR, bluetongue, brucellosis, LSD and avian influenza (H9) have all been unofficially reported in the Syrian border areas of Jordan at higher than normal levels. While all Jordanian animals are registered and vaccinated, the country does not undertake any TAD surveillance and reporting, and its nearest quarantine facility is 35 km from the Syrian border.

FAO proposes to work with the Government of Jordan’s Ministry of Agriculture and the Faculty of Veterinary Medicine of the Jordan University of Science and Technology (located in Irbid, northern Jordan) to strengthen: (i) animal health service delivery at the community level in the remote border areas; (ii) national disease surveillance, monitoring and reporting; and (iii) animal quarantine systems to a standard required to address the increasing threat of TADs. The anticipated outputs of the project are: (i) increased numbers of sheep, goats and cattle vaccinated against important serotypes of FMD and PPR; (ii) improved veterinary and livestock extension services at the community level in areas along the Syrian border; and (iii) improved, proper and timely communication of risks and outbreaks for rapid containment and TAD control programmes (see Annex4-J1).

Project duration: 18 months.

Project cost estimate: USD 2.1 million.

J2. Restoring livelihoods and reducing land degradation through community-based range management initiatives among host communities in the Syrian border areas of Jordan

The Government of Jordan has recently completed a poverty assessment and mapping exercise for the country. Moreover, WFP will soon launch a two-year, USD 23 million protracted relief and recovery (PRRO) project which will target ‘poverty pockets’ of Jordan with demand-driven and community-based “food assistance for assets” interventions. Several poverty pockets have been identified in the northern border areas with Syria. These are the very same communities that are now hosting the majority of Syrian refugees outside of the Zaatari Refugee Camp. Section 3.2.4 has highlighted the

urgent need to restore the agricultural livelihoods of these host communities in northern Jordan through, for example, household and community-based income-generation initiatives. One such initiative could be through the rehabilitation of degraded rangelands (i.e. food- and cash-for-work and agricultural inputs).

The Badia rangelands of northern Jordan, northwestern Iraq and southern Syria provide traditional grazing lands to herders who migrate with their sheep and goats in search of seasonal animal feeds. Increasing animal populations and the increased frequency and intensity of droughts have meant that, even before the Syria crisis, the rangelands were being overgrazed, the land was being degraded and the semi-desert steppes were being reduced to non-productive deserts (see Section 3.3.3). With the insecurity in Syria and the increased threat of TADs, herders are now concentrating on the margins of the Badia rangelands in northern Jordan and northwestern Iraq – and placing additional pressure on both Jordan’s fragile natural resource base and the impoverished socio-economic situation of many host communities to Syrian refugees in these areas.

The Government of Jordan’s Ministry of Agriculture and WFP have subsequently requested FAO to mobilize resources and provide technical and financial assistance to support the new two-year PRRO project with interventions specifically targeted at the host communities of Syrian refugees in northern Jordan. The anticipated outputs of the project are: (i) household incomes generated by 20 000 farming families¹⁴ through community works to restore community assets and natural resources; (ii) household incomes generated and sustained by 5 000 farming families through post-harvest management initiatives, such as food processing, packaging and marketing; and (iii) capacities of stakeholders built (i.e. 100 staff of public and private service providers, 300 representatives of farmers’ groups, and male and female beneficiary farmers) to financially and environmentally sustain the project’s interventions (see Annex 4-J2).

Project duration: two years.

Project cost estimate: USD 5.1 million.¹⁵

J3. Improved smallholder vegetable crop protection in Jordan for the sale of quality, nutritious and affordable produce to Syrian refugee camps and host communities

The Syria crisis has transformed a number of seasonal Syrian migrant workers into longer-term destitute refugees and heightened the threat of transboundary crop diseases and pests (see Sections 3.2.4 and 3.3.2). At the same time, a number of farmers in the Jordan Valley who used to employ Syrian labour have now become host families to those labourers and their families. Jordanian farmers are already facing significant challenges in relation to the viability of their enterprises. Indeed, increasing production costs and endemic pests and diseases, such as tomato leaf miner (*Tuta absoluta*), wheat rust and fruit flies are compounding the efforts of smallholder farming families to make a living out of farming. The economic cost of Syrian refugees on Jordanian farming communities is further exacerbating their vulnerability status. However, the influx of refugees could also represent a market opportunity for Jordanian farmers, and access to fresh, nutritious and affordable products, particularly in camps and host community centres, should be encouraged.

FAO proposes to extend its recently launched project, “Management of Tomato Borer: *Tuta Absoluta* in the Near East Region” and a recently completed FAO project funded by the Government of Italy “Regional Integrated Pest Management (IPM) Programme in the Near East” to focus on: (i) reducing the prevalence of fruit and vegetable pests (particularly fruit flies and *Tuta absoluta*) in production areas hosting and employing Syrian refugees; and (ii) increasing the availability of and access to fresh, nutritious and affordable vegetables in refugee camps and community centres in Jordan; while (iii) preserving the capacity of some 10 000 Jordanian smallholder farmers to employ around 10 000 seasonal Syrian workers; and (iv) creating income-generation opportunities at Syrian refugee camp and community centre-levels (with a focus on some 300 women) through the establishment of retail shops for the sale of quality fruit and vegetables and other nutritious foodstuffs (see Annex 4-J3).

Project duration: two years.

Project cost estimate: USD 4.3 million.

¹⁴ Includes WFP’s food- and cash-for-work contributions.

¹⁵ FAO contribution.

J4. Enhancing income generation and nutritious food production through the introduction of small-scale household food processing facilities in the Zaatari Refugee Camp and among host communities of Syrian refugees in the border areas of Jordan

There is a need to reduce poverty, malnutrition and general hopelessness among refugees in the Zaatari Refugee Camp and refugee community centres in areas along the Syrian border and to restore the livelihoods of impoverished smallholder farming families of border communities hosting refugees that have been seriously affected by the Syria crisis (see Sections 2.1.3 and 3.2.4). FAO proposes to: (i) assist the Ministry of Agriculture, local NGOs and CBOs to improve income-generating opportunities for 500 Syrian refugee families and Jordanian smallholder farming families (from host communities) through the transfer and adoption of new food processing and marketing technologies and practices; and (ii) reduce malnutrition among 15 000 Syrian refugee families and Jordanian smallholder farming families (from host communities) through improved access to quality, safe and nutritious foods, such as fresh and processed vegetables, fruits, dairy products, eggs and fresh meat, and improved knowledge in food nutrition and health behaviour (see Annex 4-J4).

Project duration: one year.

Project cost estimate: USD 616 000.

This project proposal could be up-scaled to USD 2 million over a two-year timeframe as an alternative to selected (post-harvest management) components of projects J2 and J3.

J5. Increased household egg production among host communities of Syrian refugees in the border areas of Jordan

The increased demand for poultry products in Jordan and a reduced supply from Syria has more than tripled the price of eggs in the country (see Section 3.1.5). Prior to the Syria crisis, Jordan was almost totally dependent on imports from Syria to meet its demand for eggs. Poultry production is the most affected agro-industry in Syria, with the total destruction of large poultry farms in areas such as Idleb, Homs, and Rural Damascus. It is estimated that the demand for eggs in Jordan will increase from 820 million in 2012 to 1.2 billion in 2013 with the increasing influx of Syrian refugees. The Government of Jordan's Ministry of Agriculture has reported a shortfall of some 400 million eggs in 2012.

FAO proposes to assist the Ministry of Agriculture, local NGOs and CBOs to increase village and household egg production among some 40 to 80 host communities of Syrian refugees in the border areas of northern Jordan. The anticipated outputs of the project are: (i) reintroduction of village/household poultry production systems accompanied by improved poultry farming skills of some 2 000 beneficiary farming families; (ii) enhanced family nutrition through the increased consumption of poultry products, in particular fresh eggs; (iii) improved household income opportunities through the sale of eggs to ready markets; and (iv) sustainable value chains for the supply of poultry inputs and marketing of eggs from/beyond the local markets (see Annex 4-J5).

Project duration: one year.

Project cost estimate: USD 1.1 million.

4.4.4 Lebanon

L1. Emergency vaccination and feeding of Bedouin herds grazing in areas along the Syria-Lebanon border

The Syria crisis has negatively impacted on animal health services and livestock herders in northern and eastern parts of Lebanon (see Sections 3.2.4 and 3.3.1, and Annex 3). Syrian veterinary services collapsed during 2012, and Lebanese veterinary services are non-existent, especially in remote border areas. FAO proposes to work with the Government of Lebanon's Ministry of Agriculture, private sector veterinarians and trained community animal health workers to strengthen animal health service delivery at the community level in the border areas, national disease surveillance, monitoring and reporting, and animal quarantine systems to a standard required to address the increasing threat of TADs in Lebanon. In addition, high feed prices and pressure on seasonal pastures and rangelands are forcing Lebanese farmers out of business. For example, some 12 000 Syrian Mountain and Shami goats have crossed into northern Lebanon and settled – bringing the added threats of overgrazing, land

degradation and potential desertification. Lebanese returnees used to benefit from Syria's (winter) seasonal pastures and generous feed subsidies but, like free vaccines, these sources have disappeared.

The anticipated outputs of the project are: (i) increased numbers of sheep, goats and cattle vaccinated against important serotypes of FMD and PPR; (ii) veterinary and livestock extension services developed at the community level in remote areas along the Syrian border; (iii) improved, proper and timely communication of risks and outbreaks for rapid containment and TAD control programmes; and (iv) increased number of livestock keepers able to retain and make a living from their herds of sheep and goats, and dairy cattle in the medium term (see Annex 4-L1).

Project duration: two years.

Project cost estimate: USD 5.2 million.

L2. Assistance to returnees and host communities in the impoverished Syria border areas of Lebanon through the recovery and rehabilitation of smallholder agricultural production and marketing

The Syria crisis has affected 30 000 poor smallholder Lebanese returnees who have been farming inside Syria for generations, viz: (i) they have lost all of their assets (including houses, farm buildings, livestock, fruit trees, farm machinery and irrigation equipment); (ii), they, and their Lebanese relatives, are now obliged to host their former Syrian neighbours (many of whom are living in unsanitary tented accommodation); and (iii) they have lost access to subsidized Syrian agricultural inputs, such as fertilizers, seeds, pesticides, animal feed, vaccines and animal medicines, and the ability to generate income through cross-border trading in such goods (see Section 3.2.5). The highly vulnerable returnees are now hosted in some 136 villages of all districts bordering Syria, most of which represent the poorest population pockets of the country (e.g. Akkar, Baalbek, Hasbaya, Hermel and Marjaayoun) that were already the target of the Government of Lebanon's social safety-net programmes prior to the Syria crisis.

FAO proposes to extend its recently completed "Strengthening Production and Marketing of Lebanese Agricultural Products Project" and expand its ongoing "Recovery and Rehabilitation of the Dairy Sector in Bekaa Valley and Hermel-Akkar Uplands Project" and "Emergency Livelihoods Support for Vulnerable Lebanese Who Fled from Syria to Lebanon Seeking Refuge and their Hosting Families Project" (where FAO project management units are already in place). The aim is to target those Lebanese returnees and their host families with demand-driven, community-based and participatory value chain approaches to agricultural livelihood recovery and rehabilitation through the provision of agricultural livelihood packages selected from a menu of proven and sustainable interventions. Such interventions include: (i) restocking and feeding of sheep and goats; (ii) household dairy development and community-based milk collection; (iii) land clearing and fruit tree planting; (iv) rehabilitation of small-scale farmer-managed irrigation schemes; (v) integrated homestead farming; (vi) homestead food processing and improved nutrition; and (vii) group-based agroprocessing and marketing. The project would also build the capacities of beneficiary farmers and beneficiary groups through technology transfer and participatory learning of new, improved production and post-harvest management technologies and practices, such as farmer field schools (see Annex 4-L2).

Project duration: two years.

Project cost estimate: USD 7.5 million.

4.4.5 Turkey

T1. Support to 'micro-gardening' initiatives for improved food nutrition and income generation in selected Syrian refugee camps of Turkey

There is a need to increase income-generation opportunities among Syrian refugees in Turkish camps (see Sections 3.2.6 and 3.4.1). There is insufficient space for refugees to operate kitchen gardens to grow vegetables and rear small livestock, such as chickens and rabbits. However, there is evidence from some camps that refugees are growing vegetables and herbs in small containers around, or hanging from, their tents and containerized housing units. Moreover, the Provincial Government of Kilis has recently announced that all new Syrian refugee camps in that province will include areas

designated for refugees to grow fruits, vegetables, herbs, etc. – more for reasons of occupational therapy than opportunities for income generation and improved diets. FAO proposes to draw on its global experience of working with urban refugees and provide technical assistance to Provincial Directorates for Food, Agriculture and Livestock, AFAD and local NGOs in the establishment of short-season ‘micro-gardens’ within the limited space of refugee camps. The project also proposes to build the capacity of impoverished refugees (particularly women and youth) to generate income from the sale of produce grown in the gardens, while improving their nutritional status in the camps.

Project duration: one year.

Project cost estimate: USD 506 000.

T2. Recovery and rehabilitation of smallholder agricultural production and marketing in the impoverished Syria border areas of Turkey

The Syria crisis has severely impacted smallholder families farming within 5 km of the Syria border in Gaziantep, Hatay, Kilis and Saniurfa Provinces (see Section 3.2.6). They have lost more than half of their annual household income as a result of: (i) a more than 40 percent fall in farm-gate prices for grapes, olives and pistachio nuts, as Syrian refugees are returning to their farms, harvesting their crops, and returning to Turkey to sell their produce to processors/wholesalers at much reduced prices; (ii) shortages of animal fodder, and high animal feed prices and vaccination costs; (iii) insecurity close to the border, looting/damage to irrigation equipment/structures and loss of fruit trees; (iv) loss of local cross-border trading opportunities with neighbouring communities; and (v) high agricultural input and fuel prices, limited access to agricultural credit and poor dairy animal hygiene (the latter, not as a consequence of the Syria crisis but a compounding issue).

The Government of Turkey’s Ministry of Food, Agriculture and Livestock has subsequently requested FAO to mobilize resources and offer technical and financial assistance to support a project providing 50 percent grant assistance and capacity development to smallholder farming families affected by the Syria crisis. The assistance would include provision of livelihood recovery packages, such as animal fodder and vaccines, wheat and lentil seeds, fertilizers, irrigation equipment, organic farming equipment and materials, tractor spare parts and fuel, and household agroprocessing and storage (see Annex 4-T2). The packages would be supplemented with training in good agricultural practices, animal husbandry and post-harvest management through group-based participatory learning approaches, such as farmer field schools. It is proposed that the project be funded or co-funded by the ongoing FAO-Turkey Partnership Programme being implemented by FAO, following the modalities of the Ministry of Food, Agriculture and Livestock-supported “Rural Development Support Programme” and “South-Eastern Anatolia Project Action Plan” (see Annex 1.6).

Project duration: two years.

Project cost estimate: USD 12 million.

4.5 Indicative cost of the Regional and National Response Plans

The overall cost for the two regional and 13 national response programmes and projects is estimated at **USD 65.5 million**. Details are provided in Annex 4 and can be summarized as follows:

- Regional: USD 18 700 000
- Egypt: USD 902 000
- Iraq: USD 7 500 000
- Jordan: USD 13 216 000
- Lebanon: USD 12 700 000
- Turkey: USD 12 506 000

4.6 Medium- and long-term support to agricultural trade and marketing

Section 3.1 has highlighted how the Syria crisis has impacted negatively on the neighbouring countries of Syria, resulting in: (i) significant decline in food and agricultural exports and loss of markets; (ii) disruptions to food imports and agricultural inputs; (iii) loss of incomes at farm gate and along the agricultural commodity chain; and (iv) increased risks and threats related to food safety and transboundary animal and plant pests and diseases. The proposed emergency and recovery actions would need to be complemented with, and embedded in, a medium- and long-term response strategy.

To cope with these challenges, **four areas for medium- and long-term response** are considered critical, as outlined below.

1. Promoting agricultural value chains for smallholder farmers in affected areas

The disruption of trade and the changes in trading are affecting many smallholders and other stakeholders along the agricultural commodity chain. Examples of commodities that are negatively affecting the incomes of a wide range of households in hosting communities include citrus, apples and olives in Akkar and Hermel in Lebanon, and vegetables in the Jordan Valley. Two initiatives of particular relevance include: (i) expansion of cold storage; and (ii) olive oil processing facilities and marketing, viz:

- (i) *Assisting small-scale producers and farmers' cooperatives in establishing modern cold storage facilities.* Egypt, Jordan, Lebanon and Turkey are known for their high quality fruit and vegetables. However, with the changing trading routes, many farmers and traders are not able to cope because of the high perishability of their produce and the lack of necessary cold storage facilities, particularly at small production centres. There is a need to improve the post-harvest handling system of fruit (particularly citrus and apples), train farmers and small-scale traders on post-harvest handling, and replace old fruit stocks and introduce new varieties for which there is demand and/or better prices can be obtained. Establishing cold storage will permit up to six-month storage of fruit, such as apple and citrus, and will substantially increase farmers' income and reduce post-harvest losses. In addition, better post-harvest handling and processing will create more value addition and reduce losses.
- (ii) *Olive oil processing, packing and marketing.* The current quantities of olive oil produced, if well marketed, would provide revenues to a large number of smallholder farming families and labourers from within and outside the affected areas of Lebanon and Jordan, and would allow more attention to be paid to the olive trees, which are highly resistant to natural resource hazards and water scarcity. In addition, the potential for expanding the production and marketing of high quality olive oil is significant. This can best be obtained if processing units are established with a better marketing strategy for the product inside and outside of Jordan and Lebanon. Such an initiative would enhance the cost-effective and environmentally sustainable production of high quality olive oil as a means to improve the livelihoods of smallholder olive farmers and promote overall development in host communities. It would raise the earnings of farmers from olive oil, adding value to the commodity in terms of productivity and the quality of olive oil through diversifying and improving the market potential of olive oil.

2. Ensuring availability of adequate food supplies at the regional and national levels

In view of the significant increase in demand for imported cereals, owing to the deterioration in cereal production in Syria, it is extremely important that countries in the region adopt the necessary measures to avoid any massive shortages in basic food supplies. At the regional level, governments need to coordinate their import policy and grain storage plans to absorb the expected shock. Appropriate actions also need to be put in place to boost domestic production of cereals and other basic food commodities through improved productivity, while ensuring that land and water resources are put to their highest-value and most sustainable use (e.g. conservation agriculture, IPM and more efficient on-farm water management systems).

3. Diversification of traditional agricultural markets

The Syria crisis has demonstrated that countries of the Near East Region are over-reliant on Syria, the Gulf States and Saudi Arabia for their agricultural markets. There is a need for countries such as Egypt, Iraq, Jordan and Lebanon to seek alternative markets for their agricultural produce in Europe, central Asia, etc. To some degree, Turkey has already achieved this goal and the other neighbouring countries need to follow with trade promotion and development initiatives – however, this comes with all of the regulatory requirements of food quality and safety required of countries from those regions. No longer can Lebanese apples, for example, be loaded loosely into a truck and carted off to Syria and Iraq without quality control, phytosanitary inspection, proper packaging, etc.

4. Strengthening the regulatory, institutional and human infrastructure for food control

To strengthen and sustain the food control service along borders, there is a need to review and develop the regulatory system and certification programmes, strengthen/establish necessary laboratory facilities, train the required number of quality staff and strengthen institutional establishment to ensure compliance with internationally recognized standards and procedures in food quality and safety, and sanitary and phytosanitary measures.

ANNEX 1: FAO COUNTRY PROGRAMMING FRAMEWORKS AND PAST AND RELATED WORK IN AGRICULTURAL RECOVERY AND DEVELOPMENT

1. Egypt

(A total of nine priority areas have been identified, of which one is relevant to a Syria response)

Priority Area B – Improving productivity and ensuring food security

This includes the promotion of self-sufficiency in strategic food commodities, improvement of consumer patterns to improve nutritional standards and vital body functions, and applying policies and programmes to encourage the consumption of local high-value food products, including meat, milk, eggs, fish, as well as foods high in vitamins and minerals, such as fruit and vegetables, while achieving a positive development in per capita consumption of staple food (e.g. through the expansion of urban and peri-urban agriculture initiatives).

Recently completed and ongoing programmes and projects upon which an agricultural response to the Syria crisis could be built include:

- (i) 23 Government of Egypt and FAO-funded projects implemented by FAO (costing USD 450 000) to promote urban and semi-urban agriculture (i.e. vegetable, rabbit and honey production and school gardening);
- (ii) Government of Italy-funded, FAO-implemented project “Improving Household Food and Nutrition Security in Egypt by Targeting Women and Youth” (2011 to 2015; USD 3 million);
- (iii) FAO and the Government of Germany, Spain, Sweden, United Kingdom and United States of America-funded assistance (managed by FAO-ECTAD) in response to TADs in Egypt – mainly for the control of HPAI, but also FMD and brucellosis (2005 to present; USD 16.7 million); and
- (iv) recent initiatives of WFP and UNHCR for a food aid voucher system and community registration, skills profiling and job-placement schemes for Syrian refugees.

2. Iraq

(A total of three priority areas have been identified, of which two are relevant to a Syria response)

Priority Area 2 – Building up the investment projects’ portfolio for agricultural development

This includes value chain development and food safety mechanisms for smallholder farmers (e.g. cottage industries), rehabilitation of irrigation and drainage infrastructure, and capacity development of producers’ and water users’ organizations.

Priority Area 3 – Normative and technical assistance work on specific subsector issues

This includes coping with risks from outbreaks of transboundary animal and plant diseases and pests, a coordinated approach to natural resource management (integrating forestry and rangeland management and soil conservation), and capacity development for the introduction of improved technologies for ruminant production systems.

Recently completed and ongoing programmes and projects upon which an agricultural response to the Syria crisis could be built include:

- (i) Government of Australia-funded and FAO-implemented “Emergency Support to Food Insecure Rural Households through Establishing Home Gardens in Iraq” (2009 to 2011; USD 3.0 million);
- (ii) United Nations Development Group/Iraq Trust Fund-funded and FAO-implemented “Community Livelihoods and Micro-industry Support Project in Rural and Urban Areas of Northern Iraq” (2006 to 2009; USD 2.7 million); “Strengthening the Capacity of the Iraqi Veterinary Services for the Control of Zoonotic and Transboundary Animal Diseases” (2009 to 2012; USD 3.0 million); and a project to “Develop the Performance of Small Ruminants (Sheep and Goats) and Improve the Level of Income for Small Breeders” (2013 to 2015; USD 3.7 million) – benefiting, among others, the Governorates of Al-Anbar, Dahuk, Erbil and Ninawa, bordering or close to Syria.

3. Jordan

(A total of three priority areas have been identified, of which two are relevant to a Syria response)

Priority Area A – Facilitate multilateral cooperation

This priority area addresses transboundary crop, livestock and fish diseases and pests, including “support to the establishment of veterinary quarantine centres”.

Priority Area C – Pilot innovative approaches

This includes improvement in food security at the household level in rural areas; improvement in water canals to reduce losses; rangeland development in Badia (the eastern desert bordering Iraq and Syria); introduction of methods of water-harvesting in rangeland areas; and post-harvest management and value chain development for small-scale farmers and livestock producers.

Recently completed and ongoing programmes and projects upon which an agricultural response to the Syria crisis could be built include: FAO-funded project “Emergency Animal Health Assistance to Pastoral Small Stockholders Affected by Drought” (2001 to 2003; USD 330 000); “Technical Assistance to Restructuring Livestock Health and Production Delivery Systems in Rural Jordan (2002 to 2005; USD 300 000); “Home Gardening for Better Family Nutrition and Income in Upland Areas” (2004 to 2005; USD 210 000); “Sustainable Agricultural Production through the Promotion of Conservation Agriculture” (2009 to 2011; USD 270 500); and regional transboundary animal and crop diseases and pests control programmes (detailed in Section 6 below).

Moreover, WFP is at present appraising a two-year, USD 26 million protracted relief and recovery project, which will target ‘poverty pockets’ of Jordan and include: demand-driven “food assistance for assets” (e.g. community works to generate income for food insecure and vulnerable households, while restoring community assets and natural resources); targeted food assistance focusing on forestry subprojects (e.g. tree planting, de-rocking and terracing for olive, vegetable and fodder production), water-harvesting, orchard management, rangeland improvement and irrigation rehabilitation); food assistance for training (e.g. livestock management, dairy product processing and marketing, integrated homestead farming, olive, vegetable and fodder production, and water management); and national capacity development.

4. Lebanon

(A total of three priority areas have been identified, of which two are relevant to a Syria response)

Priority Area B – Agriculture/value chains developed, involving small-scale farmers (with special focus on young and women farmers) and using innovative approaches and best practices

This includes increased agricultural production (with special emphasis on the dairy subsector) through improved practices and the introduction of new technologies; and improved marketing and traceability of agricultural products, development of marketing infrastructure and support to marketing systems.

Priority Area C – Research and development activities for the sustainable use and management of natural resources.

This includes the implementation of reforestation programmes, and initiatives to improve land and water management and promote the use of renewable energy sources.

Recently completed and ongoing programmes and projects upon which an agricultural response to the Syria crisis could be built include:

- (i) multi-donor Lebanon Recovery Fund-funded and FAO-implemented “Recovery and Rehabilitation of the Dairy Sector in Bekaa Valley and Hermel-Akkar Uplands Project” (2009 to 2014; USD 3.7 million);
- (ii) Government of Italy-funded and FAO-implemented “Strengthening Production and Marketing of Lebanese Agricultural Products Project” (2009 to 2013; USD 2.9 million);

- (iii) four projects to sensitize stakeholders on the importance of livestock value chains in Lebanon and the necessity to encourage the control of animal diseases under a regional framework (2001 to 2009; USD 2.6 million); and
- (iv) CERF-funded and FAO and IOM-implemented “Emergency Livelihoods Support for Vulnerable Lebanese who Fled from Syria to Lebanon Seeking Refuge and their Hosting Families Project” (2013; USD 365 000).

5. Turkey

(A total of three priority areas have been identified, of which two are relevant to a Syria response)

Priority Area 1 – Food and nutrition security and food safety

This includes the improvement in food safety systems; supporting food and nutrition security; increasing the food supply value chain; accelerating economic growth and alleviating rural poverty; human resource development in small- and medium-size food processing and selling enterprises; and raising public awareness on food safety, organic farming, good agricultural practices, natural foods and food-environment relations.

Priority Area 2 – Sustainable use of natural resources and forestry

This includes sustainable land management and climate-friendly agriculture, such as the promotion of conservation agriculture; transboundary pest and disease monitoring, surveillance and control; promotion of IPM and integrated pesticide management.

A prime funding mechanism upon which an agricultural response to the Syria crisis in Turkey could be built is the Government of Turkey-funded and FAO-implemented FAO-Turkey Partnership Programme, which has provided USD 10 million in support of 30 subregional, multi-country and national agricultural projects in Central Asia and Turkey since 2009. Ongoing projects of relevance to the Syria crisis include: “Capacity Development for Analysis and Strengthening of Agricultural Innovation Systems in Central Asia and Turkey”; “Initiative for Pesticides and Pest Management in Central Asia and Turkey”; and “Enhancing Organic Farming in Turkey”.

Other potential funding and implementation mechanisms include a Government of Turkey-funded programme implemented by the Ministry of Food, Agriculture and Livestock “Rural Development Support Programme”, which has provided 50 percent grants to small- and medium-scale farmers for agroprocessing, packaging, wrapping and storage equipment/facilities, and farm and irrigation machinery/equipment (2006 to present; USD 750 million); and the “South-Eastern Anatolia Project Action Plan”, which allocated USD 800 million in subsidies for the period 2008 to 2012 to undertake economic development in the local agriculture sector, improve local rural infrastructure and build the capacity of local institutions.

Recently completed and ongoing FAO programmes and projects upon which an agriculture response to the Syria crisis could draw lessons include:

- (i) FAO-funded project, “Development and Implementation of the Integrated and Controlled Crop Management in Turkey” (2010 to 2013; USD 436 000); and
- (ii) Government of Spain-funded programme, implemented by FAO, International Labour Organization and IOM, “Growth with Decent Work for All: National Youth Employment Programme and Pilot Implementation in Antalya – Youth, Employment and Migration” (2009 to 2012; FAO share: USD 660 000).

6. FAO regional programmes

(i) Integrated pest management

“**Management of the Peach Fruit Fly in the Middle East and North Africa**” (2003 to 2004; USD 380 000; FAO-funded). This programme assisted the Ministries of Agriculture of Egypt, Iran, Jordan, Saudi Arabia and Yemen to eliminate peach fruit fly from specific areas through the

identification and strengthening of phytosanitary measures implemented in order to prevent the introduction and spread of the pest to non-infested areas in the regions. The programme: (i) trained government and industry personnel and phytosanitary officers in surveillance and management techniques and pest risk analysis and mitigation; (ii) reviewed and updated phytosanitary legislation of participating countries; (iii) established national and regional vigilance/surveillance systems; and (iv) prepared, in each country, an emergency response capability to eliminate peach fruit fly outbreaks and prevent its spread.

“Regional Integrated Pest Management (IPM) Programme in the Near East” (2004 to 2011; USD 7.6 million; Government of Italy-funded; FAO-implemented). This programme reduced pesticide use through community-based participatory processes, such as farmer field schools in Algeria, Egypt, Iraq, Iran, Jordan, Lebanon, Morocco, Tunisia, the West Bank and Gaza Strip, and Yemen. This, in turn, contributed to the protection of farming communities, their environment and the health of consumers, as well as expanded local and export markets for high-value crops in line with European Union standards and rules for international trade. The programme provided technical assistance to facilitate the exchange of expertise and implement pilot activities in the field. For its implementation, the programme formed and built on partnerships among farming communities (and their members and organizations), relevant NGOs, government units/line departments, research and university institutions, and other FAO national projects. These partnerships finally merged into a forum for discussion and policy development on IPM at national and regional levels.

“Management of Tomato Borer: *Tuta absoluta* in the Near East Region” (2013 to 2014; USD 440 000; FAO-funded). The project will cover the most affected countries in the region (i.e. Egypt, Iran, Iraq, Jordan, Lebanon, Syria and Yemen). It will strengthen regional collaboration, coordination, and information and knowledge exchange in the management of *Tuta absoluta*, as well as assist in mapping the pest and containing its spread within the region. It will also contribute to the countries’ capacity development in the management of *Tuta absoluta* based on IPM approaches with a focus on the capacity development of National Plant Protection Organizations in pest surveillance, biological control development and phytosanitary measures. Furthermore, the project will assist countries in developing a national sustainable strategy for the management of *Tuta absoluta*.

“Policy and Technical Support for National Contingency Planning in Countries at Direct Risk of New Virulent Races of Wheat Rust” (2010 to 2012; USD 185 000; Government of Italy-funded; FAO-implemented). This regional crop disease and pest control project targeted nine countries, including Egypt, Syria and Turkey.

(ii) Transboundary animal diseases

Following HPAI outbreaks in the region, the **Regional Animal Health Centre for the Middle East (RAHC-NE)** was established by the FAO global Emergency Centre for Transboundary Animal Disease Operations (ECTAD) in Beirut during 2007, through an agreement between FAO, the World Organisation for Animal Health (OIE) and the Ministry of Agriculture of Lebanon. The RAHC-NE played an important role in regional coordination and protection of human and animal health efforts, timely implementation of effective TAD control strategies that led to progressive disease control, increases in animal production efficiencies and opening of new markets for healthy livestock and trade of animal products. A lack of sustained financial support led to the closure of RAHC-NE in 2011. However, FAO-ECTAD has retained a national TAD programme in Egypt – where there is an ISO-accredited animal disease diagnostic laboratory (i.e. National Laboratory for the Quality Control of Poultry Production), which has been supported by FAO over the past decade. Furthermore, Turkey has ISO-accredited and Category PI-3 laboratories, a strong technical capacity for laboratory analysis, and extensive and effective public veterinary services – again, supported by FAO in recent times.

The RAHC-NE was responsible for the implementation of USD 1 million worth of TAD control interventions in the region, primarily focusing on HPAI. In this context, FAO developed and implemented an action plan for HPAI preparedness and response in the Middle East region to strengthen veterinary services and to build human and physical resource capacity in response to outbreaks. FAO also provided technical assistance to member countries to finalize their dossier for accreditation of rinderpest freedom according to OIE “pathway”. Assistance was specifically provided

to some countries to carry out the required surveillance for rinderpest freedom accreditation. Furthermore, FAO was responsible for advancing practical knowledge and experience in the prevention and control of other TADs and zoonoses in various countries of the region. Examples of these include foot-and-mouth disease, *peste des petits ruminants*, bluetongue, brucellosis, lumpy skin disease, avian influenza and bovine tuberculosis.

One follow-up regional project to RAHC-NE is the FAO-funded “Strengthening Veterinary Quarantine Capacity in the Middle East Region” (2011 to 2013; USD 307 000), which has assessed the capacity of veterinary quarantine systems and provided training on import risk analysis and quarantine to the beneficiary countries.

ANNEX 2: AGRICULTURAL TRADE STATISTICS FOR COUNTRIES BORDERING SYRIA

Table 1. Total merchandise exports of Lebanon, Jordan, Egypt and Turkey (USD million)

Country	2009	2010	2011	2012	Change in 2011 compared with 2010 (%)	Change in 2012 compared with 2011 (%)
Lebanon	3 484	4 253	4 265	4 483	0.3	5.1
Jordan ^{1/}	5 084	5 990	6 807	6 109	13.6	-10.3
Egypt	24 206	27 353	31 497	26 585	15.2	-15.6
Turkey	102 143	113 883	134 907	152 561	18.5	13.1

Table 2. Total agricultural exports of Lebanon, Jordan, Egypt and Turkey (USD million)

Country	2009	2010	2011	2012	Change in 2011 compared with 2010 (%)	Change in 2012 compared with 2011 (%)
Lebanon	437	518	581	614	12.2	5.7
Jordan ^{1/}	621	736	825	872	12.2	5.7
Egypt	4 285	4 762	4 828	2 523	1.4	-47.7
Turkey	10 701	12 041	14 427	11 561	19.8	-19.9

Table 3. Total agricultural imports of Lebanon, Jordan, Egypt and Turkey (USD million)

Country	2009	2010	2011	2012	Change in 2011 compared with 2010 (%)	Change in 2012 compared with 2011 (%)
Lebanon	2 471	2 852	3 181	3 289	11.5	3.4
Jordan ^{1/}	3 510	4 051	4 518	4 672	11.5	3.4
Egypt	7 782	10 160	14 788	8 264	45.6	-44.1
Turkey	6 355	7 683	10 961	10 732	42.7	-2.1

Table 4. Bilateral agricultural exports of Lebanon, Jordan and Turkey, to Syria (USD thousand)

Country	2009	2010	2011	2012	Change in 2011 compared with 2010 (%)	Change in 2012 compared with 2011 (%)
Lebanon	225 443	220 745	214 838	294 275	-2.7	37.0
Jordan ^{1/}	212 240	240 561	256 901	185 861	6.8	-27.7
Egypt	850 865	826 582	393 338	216 966	-52.4	-44.8
Turkey	1 421 637	1 844 605	1 609 861	502 822	-12.7	-68.8

Table 5. Bilateral agricultural imports of Lebanon, Jordan and Egypt, from Syria (USD thousand)

Country	2009	2010	2011	2012	Change in 2011 compared with 2010 (%)	Change in 2012 compared with 2011 (%)
Lebanon	89 670	146 295	103 871	74 932	-29.0	-27.9
Jordan ^{1/}	97 438	115 918	133 958	114 683	15.6	-14.4
Egypt	142 991	200 897	118 044	59 105	-41.2	-49.9

Table 6. Bilateral agricultural trade (exports and imports) of Lebanon with Iraq, Russia, Ukraine and Turkey imports (USD thousand)

Country	2010		2012		Change (%)	
	Import	Export	Import	Export	Import	Export
Iraq	1 072	37 404	2 122	30 960	97.9	-17.2
Russia	66 481	1 528	105 404	2 589	58.5	69.4
Ukraine	86 714	898	195 971	758	126.0	-15.6
Turkey	110 111	5 927	185 111	1 815	68.1	-69.4

Table 7. Bilateral agricultural trade (exports and imports) of Jordan with Iraq, Russia, Ukraine and Turkey (USD thousand)

Country	2010		2012		Change (%)	
	Import	Export	Import	Export	Import	Export
Iraq	0	136 779	0	118 558	0.0	-13.3
Russia	59 917	10 770	98 129	11 821	63.8	9.8
Ukraine	74 682	716	162 875	148	118.1	-79.3
Turkey	52 352	14 002	38 563	11 082	-26.3	-20.9

Table 8. Imports of chemical fertilizers in Lebanon, 2009 and 2012

Year	Import	
	Quantity (tonnes)	Value (USD thousand)
2009	225 616	74 517
2012	206 511	85 674
Change in 2012 compared with 2009 (%)	-8.5	15.0

Table 9. Imports of animal feed in Jordan, 2009 and 2012

From Iraq, Turkey and Eastern Europe	Animal feed	Year	Imports	
			Quantity (tonnes)	Value (USD thousand)
		2009	23 014 060	8 373 996
		2012	32 120	3 267
		Change (%)	-71 550.2	- 256220.7
Total	Animal feed	Year	Imports	
			Quantity (tonnes)	Value (USD thousand)
		2009	252 641 936	97 833 243
		2012	300 888 182	133 914 164
		Change (%)	19.1	36.9

Table 10. Imports of chemical fertilizers in Jordan, 2009 and 2012

From Iraq, Turkey and Eastern Europe	Chemical fertilizers	Year	Imports	
			Quantity (tonnes)	Value (USD thousand)
		2009	1 556 263	311 376
		2012	816 017	295 280
		Change (%)	-47.6	-5.2
Total	Chemical fertilizers	Year	Import	
			Quantity (tonnes)	Value (USD thousand)
		2009	52 737 699	18 704 017
		2012	31 994 983	8 871 805
		Change (%)	-39.3	-52.6

Notes:

^{1/} Data for Jordan for 2012 is up to 30 November 2012.

Total agricultural trade data (exports and imports) for Lebanon and Turkey are defined as the aggregates of HS Chapters 1 to 24 of their trade data.

Sources:

Lebanon: Lebanon Customs
Jordan: Department of Statistics
Egypt: General Agency for Public Mobilization and Statistics
Turkey: Turkish Statistical Institute

ANNEX 3: IMPACTS OF THE SYRIA CRISIS ON THE LIVESTOCK SUBSECTOR OF THE NEAR EAST REGION

1. Iraq

Animal movements

Traditional livestock movements across Iraq in the form of transhumance are very common. The cross-border movement from winter grazing in Syria to summer grazing in northern Iraq has been disrupted. The livestock-keeping Bedouins of the Syria/Iraq border areas are of the same tribe and used to move their animals in a traditional grazing management system called *Hema*.

Biosecurity and animal health threats

The collapse of field veterinary services in Syria is a serious threat to Iraqi livestock as the potential for outbreaks and the spread of TADs is real. PPR and FMD are the most feared diseases in Iraq. Unvaccinated animals are crossing into Iraq. Vaccination programmes, disease surveillance and animal quarantine in high-risk border areas are not in place. Emergency vaccination against priority TADs and capacity building of veterinarians to train community animal health workers are urgently needed to strengthen animal health services in the rural areas of Nineveh Province. Food safety check points and veterinary quarantine facilities are also much needed.

Impacts on animal feeds

Feed price has increased in Iraq due to the increased livestock and trade disruptions. The Ninawa Governorate of Iraq, which borders Syria, is endowed with huge livestock resources, mainly sheep, goats and dairy cattle. The deterioration of natural grazing land (rangelands) is getting worse due to overgrazing as animals are forced to stay in Iraq throughout the year. More animals are moving out of Syria, resulting in the incursion of unpalatable invasive species in Syria and overgrazing of desirable species in Iraq. The high animal feed prices and lack of animal health services in the marginal areas bordering Syria have seriously affected sheep and goat producers. Loss of livestock assets among the poor is eminent as livestock keepers are selling part or all of their livestock assets to purchase animal feeds and to cover their immediate family expenses.

Livestock development

FAO's present Programme for Iraq indicates that the livestock subsector is a first priority for the Government of Iraq in its Five-Year Development Plan (2009 to 2014) and the Road Map for integrating emergency and development. Sector-specific priorities include: increased milk production by increasing herd size with the import of selected breeds; the establishment of milk processing plants and of modern slaughtering facilities; improved veterinary services to prevent and control animal diseases; and increased production through the development of improved Awassi sheep and Shami/Damascus goat breeds.

2. Jordan

Animal movements and trade

The number of animals crossing the Jordanian border has increased as there is no official import ban placed on Syrian livestock and animal products. Government authorities, however, say that the border is secure and there is no illegal movement of animals. The movement of Bedouins across borders is said not to be at appreciable levels because there is not much grazing in the desert area of Jordan bordering Syria, which is the same on the Syrian side. On the other hand, the Ministry of Agriculture recently disclosed that Jordan is importing sheep and goats from Syria. It has imported 300 000 goats in 2012 alone for slaughter/meat. Jordan has also been importing sheep from Romania and Slovenia using the Tartous port transiting through Syria, whose share from this route slowed down or is coming to a halt due to the insecurity. The trade of animal products is ongoing between the two countries;

Syrian communities that fled the crisis are organizing themselves to create more business, as increasingly more Syrian products are demanded by Syrian refugees and Jordanian returnees.

Dairy products are particularly needed by Syrians given that dairy consumption is very much entrenched in their traditions and, with more refugees, there is greater demand. The reduced price of sheep has led to competition in a limited market and is pushing smallholder Jordanian farmers out of business. This is because many Syrian sheep and goats are being sold in local markets for lower prices than Jordanians will accept.

Biosecurity and animal health threats

Jordan imports Awassi sheep and Shami goats from Syria. Transit of Awassi sheep to Saudi Arabia stopped since August 2012, when the trade route was disrupted and vaccination programmes in Syria collapsed. The Veterinary Quarantine Facility of Jordan is located 35 km from the Syrian border and does not comply with minimum international biosecurity standards. TADs of major concern include FMD-SAT2, PPR and LSD. Authorities fear FMD-SAT2 as Lebanon imports animals from countries where the strain is endemic; unofficial cases of SAT2 were reported and the border between Lebanon and Syria is porous. Recently, a PPR outbreak was (unofficially) reported in small ruminants and LSD in dairy cows at Al Mafraq near the Syrian border; however, government authorities have dismissed such claims. It is worth noting that the contentious bluetongue outbreak of 2011, diagnosed by the Faculty of Veterinary Medicine of Jordan University of Science and Technology, was not officially communicated to the rest of the world. According to WHO, cases of influenza viruses have increased in the region. They reported three fatalities out of 41 cases in Jordan and 30 fatalities out of 150 confirmed cases among Palestinians in the neighbouring West Bank due to H1N1 virus (swine flu). New emerging corona virus has resulted in two fatalities in Jordan. The caseload of cutaneous leishmaniasis is also increasing in Zattari Refugee Camp. A joint FAO/WHO mission for their “One Health” approach to disease control is envisaged.

The Ministry of Agriculture of Jordan provides free mandatory vaccination against FMD (i.e. three times per year) and PPR for registered (ear-tagged) sheep and goats. Animal identification, which started in Jordan during 2008, is being used to ensure that animals are vaccinated against FMD and PPR. It is also one criterion for the animal feed subsidy. Vaccinating cattle against FMD (where the cost is borne by the owners) is mandatory to receive feed subsidies for their small ruminants and follow-up veterinary services if farmers own both. Feeds for cattle and buffaloes are not subsidized. It is believed that farmers who own cattle are better-off compared to those keeping only sheep and goats.

FAO’s advice to ramp up vaccination against major TADs, such as FMD and PPR, across the Jordan/Syria border has been well received by government authorities. Disease reporting systems and active animal disease surveillance in high-risk border areas are not in place. TAD surveillance for major threats such as FMD (including new strains), PPR and LSD is urgently required.

Impacts on animal feeds

The Syria crisis has impacted feed imports into Jordan, particularly cheaper feeds from Ukraine. The impact of recent droughts in the United States of America and the resulting price hike in animal feed have been felt in Jordan, although this has been normalized recently. Jordan also imports soya bean for poultry production. The increased cost of feed during 2011 resulted in a reduction in egg production from 900 to 820 million eggs in 2012. The changing import routes from transit through Syria to another source and route including Haifa have impacted the price of feed, which is directly felt by cattle and poultry producers. The price of feed (wheat and barley) is subsidized and fixed at USD 250 per tonne for sheep and goat owners, while international market prices can reach up to USD 500 per tonne. Some exchange of subsidized feed between sheep and goat farmers and cattle farmers has developed a black market for cattle owners to increase their margins. Rangeland degradation is being reported as far as the Jordan Valley by Bedouins coming from Syria. Farmers’ increased demand for animal feeds has therefore seriously affected prices and supplies.

Impacts on animal products

The amount of livestock and animal products on the Jordanian market has changed. High demand for eggs and dairy products is straining the local supply. The price of eggs has tripled. Jordan's annual production was 820 million eggs in 2012. A deficit in the supply of eggs has already been felt in Jordan and demand is expected to reach to 1.2 billion eggs in 2013. The authorities link this to the increased demand for eggs by the Syrian refugees because of their tradition of consuming eggs and egg products. The same trend is observed for dairy products, and for the same reason. The claimed increase in the importation of livestock and animal products needs quantification. Likewise, the claim that the price of meat in Syria is higher than that in Jordan needs further clarification, and is not convincing given that Syrians are forced to sell their animals at low prices due to reduced access to grazing areas and the disruption to feed supplies and veterinary services.

3. Lebanon

Livestock is the mainstay of the rural economy of Lebanon and has a significant impact on rural well-being and poverty alleviation, particularly in marginal areas bordering Syria. The subsector is a major economic activity, generating significant household cash income through sales of live animals and/or animal products. Many people, mainly youth and women, are usually involved in milking, animal care, milk processing or industrial poultry enterprises.

Animal movements and trade

Animal keepers and communities depending on livestock for their livelihoods are highly affected as prices have dropped for their cattle by up to 60 percent, and by an unspecified amount for their sheep and goats. This has a devastating impact on resource-poor rural households. Uncontrolled movement of animals in the border areas is a norm rather than an exception in the Syria/Lebanon border areas. Historically, many Lebanese farmers have retained their land inside Syria while keeping their Lebanese identity. The border is therefore porous and the usual practice is that sheep and goats are moved between the two countries as normal transhumance (in Syria during winter and Lebanon during summer). This practice of moving animals also applies to Syrian livestock farmers.

During the Syria crisis, however, the extent and scale of livestock movement is much greater as a large number of sheep, goats and dairy cattle have been brought into Lebanon on a permanent basis. Syrians fleeing the crisis have been forced to bring their animals as this is the only asset that they can transport. Most of their crops and fruit trees have perished in their fields. The animals coming from Syria are sold for a third of their market price inside Lebanon, both for meat and for breeding purposes. The border is porous with only 5 percent of the animals being imported legally; however, smuggling has kept the price of meat relatively steady as Syrian animals are sold at a lower rate than local animals. Some animals were taken by their buyers to various places deep within the Lebanese territory – without quarantine and vaccination.

According to the Ministry of Agriculture, animal trade between the two countries is limited to certain commodities and Lebanon is an importer of livestock and meat, mainly Awassi mutton. Half of Lebanon's needs of live sheep and mutton used to come from Syria. Lebanon has a long border with Syria; illegal entry of animals from Syria to Lebanon is happening at a much higher rate than before the crisis. Lebanon also imports sheep from the Sudan, Ethiopia, Djibouti and Somalia, and is now increasing the quantity of livestock and animal products imported, as well as the number of countries from which it imports. However, some of these goods are illegally transported and therefore affect local meat prices.

White cheese used to be imported from Syria, but now the strategy is to resort to Egypt for such products, with a possible increase in price. Due to the smuggling of sheep, the price of mutton has been stable so far. The Ministry of Agriculture claims that they have intensified their surveillance in the neighbouring areas, which is not the case according to information on ground.

Biosecurity and animal health threats

The field veterinary service in the border areas of Lebanon could be considered as very weak or nil. For areas from Zahle to the Hermel and Akkar, only two private/public veterinarians were available per type of veterinary service. In Hermel town, for example, no veterinary quarantine facility was available at the crossing points along with border police and customs check points. The Ministry of Agriculture fears that the collapse of TAD control in Syria will impact Lebanon. The country needs support in surveillance, quarantine, vaccination and disease control programmes. The Ministry is recruiting 200 veterinary surgeons, but this is too late for these present threats.

Many Syrian horse breeders requested Lebanon for the transfer of their horses and an exceptional permit was granted to allow entrance of special value Arabian horses, with the condition that they are quarantined and kept in separate places. Syrian Arabian horses were tested for glanders protein in isolated areas. Lebanon is maintaining disease freedom – a requirement to return to European Union markets. The European Union has banned the import of Arabian horses from Lebanon for fear of the introduction of glanders, which the country has declared. Lebanon has contained the disease and would want their efforts recognized by the European Union for lifting the import ban. However, the introduction of Syrian horses from where glanders is endemic might compromise Lebanon's application for lifting of the ban.

Field veterinary services

Farmers reported PPR and FMD as common diseases in the Bekaa, Akkar and Hermel areas, which peak in April and November. Most of these farmers used to get vaccines from Syria free of charge, but now that source has dried up. Recently, Lebanon officially reported LSD to the World Animal Health Organization. Weak veterinary services in the aforementioned areas is of alarm. Small-scale dairy farmers from Bekaa reported that veterinarians used to respond to their call on payment for service, but now they are not coming at all. Farmers have requested basic training in animal health so they can address their problems themselves. All animals that have crossed into Lebanon are negatively affected by the lack of veterinary services. Strengthening animal health service, surveillance, diagnosis and control of TADs is urgently needed.

Impacts on animal feeds

High feed prices and pressure on grazing/rangelands is forcing Lebanese farmers out of business. Some 12 000 mountain and Shami goats are believed to have crossed into North Lebanon from Syria and settled, grazing on the Lebanese pastures and rangelands. The farmers, including the Lebanese returnees, used to benefit from feed subsidies from Syria. Lebanese agropastoralists in the border areas used to farm and get subsidized feeds and free vaccines from Syria, which are no longer available. All animals that have crossed into Lebanon are negatively affected by high feed prices. Animal feed and vaccines are immediate needs for livestock-keeping communities in border areas in Lebanon.

Impacts on animal products

Traditional dairy products, particularly *laban* and *labneh*, are the most popular protein sources in the Lebanese diet and accompany daily meals, providing people with high quality protein, especially children and women. White cheese used to be imported from Syria, but now Lebanon has resorted to buying more expensive products from Egypt. FAO has a successful project for the recovery and rehabilitation of the dairy subsector in the Bekaa Valley and Hermel-Akkar Uplands, which could be scaled up to reach more affected farmers. The project has a management unit in place, which has already undertaken a preliminary survey of Lebanese returnees and host communities with the aim of extending the project to implement a more of demand-driven, community-based and participatory value chain approach to the recovery and rehabilitation of their livelihoods.

4. Turkey

Turkish farmers bordering Syria are mostly raising sheep, goats and dairy and beef cattle. The cattle production system varies from highly commercialized farms to smallholder dairy units of less than ten cows. The beef cattle, sheep and goats are raised mainly in traditional farms in the east and southeast of Turkey. The overall trend of red meat production is declining due to high feed prices and restrictions in accessing pasture on common land. The Government provides subsidies through controlling feed prices and zero duty on imports of breeding stock to sustain the market.

Animal movements and trade

Family-run mixed farms on the Syrian border have reported concerns over the decreasing price of their animals and the increasing price of animal feeds. Poor Turkish farmers are not sure if the trend has any link to the incursion of Syrian animals. Such farmers need special assistance in terms of adopting good agricultural practices and resource use in order to maximize their benefits and keep their farm businesses running.

Biosecurity and animal health threats

The increased threat of TADs and zoonoses is the main concern for Turkish authorities and farmers. Illegal animal movements are largely controlled, though not fully due to the long (911 km) border shared with Syria. Animals are crossing into Turkey, with cases of PPR, bovine tuberculosis and brucellosis reportedly confirmed in captured animals. Thirteen cases of rabies have been reported in Gaziantep Province alone, which had not been seen before. In Turkey, all animals are identified by ear tags. Any captured animals without identification numbers are subject to immediate investigation, quarantine for 20 days and slaughter after the necessary testing for disease and legal judiciary decisions. Proceeds from the sale of healthy meat go to the treasury for funding of customs. Turkey has a very good and active disease surveillance system in place. The border with Syria is largely controlled; border police report to veterinary authorities when any illegal animal crosses into Turkish territory. Veterinary authorities in Gaziantep Province have reported cases of PPR and brucellosis, as well as malnourishment in animals crossing from Syria.

There are alleged reports that cutaneous leishmaniasis is a growing threat in the refugee camps of Turkey. It should be noted that areas surrounding Aleppo are breeding ground for sand flies with a high number of cases reported by migrants from Aleppo in Tartous and in the Hassakeh camp for internally displaced people in Syria.

ANNEX 4: PROJECT PROFILES FOR THE REGIONAL AND NATIONAL AGRICULTURAL RESPONSE PLANS

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Near East Region (including Egypt, Iraq, Jordan, Lebanon and Turkey)
Project name	<u>R1</u> . Strengthening regional capacity for the control of transboundary animal diseases (TADs)
Objective	Effective control of TADs along the Syrian border areas of Iraq, Jordan, Lebanon and Turkey, and the strengthening of national capacities and regional coordination for better management of animal health systems
Beneficiaries	Public and private veterinary services of Egypt, Iraq, Jordan, Lebanon and Turkey; smallholder animal herders of those countries; and processors, retailers and consumers of animal products originating from those countries
Implementing partners	Ministries of Agriculture of the Governments of Egypt, Iraq, Jordan, Lebanon and Turkey, World Organization for Animal Health (OIE) and World Health Organization (WHO)
Duration	Three years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 14 218 600
<p>Rationale and justification:</p> <p>Syrian veterinary services and animal vaccination programmes have collapsed over the past 6 to 12 months, and the ‘number one’ threat to the agriculture sector of the region is the spread of TADs from Syria to neighbouring countries. A significant number of cases of bluetongue, bovine tuberculosis, brucellosis, cutaneous leishmania, FMD, HPAI, LSD, PPR and rabies, have already been identified along the Syrian border in Iraq, Jordan, Lebanon and/or Turkey at higher than normal levels. April and November are the peak months for outbreaks of such TADs. Veterinary services in Iraq and Lebanon are weak, in Jordan they are inconsistent (but weak in border areas), and in Turkey they are effective (having received European Union support over the past decade) – to address such threats. In Egypt, FAO has a fully operational TAD control programme supporting the Government’s veterinary services. This could be scaled up to meet the new challenges of the Syria crisis.</p>	
<p>Expected outcome:</p> <p>Significant reduction in the threat of TAD outbreaks originating from Syria in Iraq, Jordan, Lebanon and Turkey.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • An effective emergency response to any outbreak of TADs in Egypt, Iraq, Jordan, Lebanon and Turkey. • Prevention of TAD outbreaks in the region through improved surveillance systems in Iraq, Jordan and Lebanon. • More efficient and effective regional coordination and networking systems for the monitoring and reporting of TADs (including the re-establishment of a Regional Centre for Animal Health). • Increased regional and national capacity for the control of TADs and zoonoses in the Near East. 	
<p>Key activities:</p> <p>(i) <u>Support to the emergency response to TADs</u></p> <ul style="list-style-type: none"> ✓ Build the capacity of national public and private veterinary services for emergency response (i.e. preparedness, development of response plans, ensuring rapid response to TAD threats and assistance in resource mobilization in the case of emergencies such as the Syria crisis). ✓ Provide technical and financial assistance to national veterinary services from Egypt, Iraq, Jordan, 	

Lebanon and Turkey for the effective control of TADs through vaccination campaigns along Syria border areas, as required and in a timely manner.

- ✓ Provide multidisciplinary training specifically designed to support overall regional resilience to significant TAD threats that could jeopardize regional and global agri-food trade.

(ii) Support to the prevention of TADs

- ✓ Strengthen surveillance mechanisms for outbreaks of TADs in the Syrian border areas through improved diagnostics and reporting of disease outbreaks, including the collection of samples and their submission to the nearest diagnostic laboratories, and epidemiological investigation of any reported outbreaks.
- ✓ Promote and adopt the most effective, practical and regionally sustainable tools and systems for the prevention, early warning and horizon scanning of potential TAD threats (e.g. diagnostic laboratories, surveillance networks, quarantine facilities and slaughterhouses).
- ✓ Ensure enabling and coherent national legislative structures across the animal food chain and related commercial operations.

(iii) Regional coordination and networking

- ✓ Re-establish a Regional Centre for Animal Health¹⁶ (as an integral part of FAO’s global ECTAD network) in a country of the region with accredited reference laboratories for TAD diagnostics and rapid air transport links, through provision of technical and financial support to the veterinary service of that host country.
- ✓ Assist in regional coordination of existing and new networks for surveillance, prevention, detection, diagnostics and control of emerging TAD threats in Syrian border areas and beyond, and other high impact issues, according priorities of the region (as determined by the FAO/OIE Global Framework for TADs and the proposed Regional Centre for Animal Health).
- ✓ Facilitate networking and exchange of data and technical information among the countries bordering Syria and in the region as a whole, including partnership and collaboration among national and international animal health bodies and institutions.
- ✓ Assist national veterinary services of Egypt, Iraq, Jordan, Lebanon and Turkey in effective and coordinated multisectoral management of regional priorities in animal health and TAD control.

(iv) Support to the capacity development of regional TAD control

- ✓ Provide assistance to the Governments of Egypt, Iraq, Jordan, Lebanon and Turkey to support communication and public awareness capacity, and the formulation and implementation of TAD risk communication strategies for the Syrian border areas and beyond.
- ✓ Provide scientific advice and technical assistance to national animal health organizations with specific needs for developing policies.
- ✓ Provide training to build effective national and regional response to animal health threats from Syria in an integrated manner.

Cost estimate:

Item	USD
Personnel (international and national)	2 274 000
Contracts (with partners)	3 794 000
Travel	425 000
Training (implementing partners, staff and beneficiaries)	2 525 000
Expendable procurement (laboratory materials, vaccines, etc.)	1 900 000
Non-expendable procurement (vehicles, computers, etc.)	350 000
Technical support services (evaluations, TSS missions, etc.)	658 000
General operating expenses	1 000 000
Sub-total	12 926 000
Support costs (10% of sub-total)	1 292 600
Total	14 218 600

¹⁶ Prior to the Syria crisis, FAO had already proposed that a Regional Centre for Animal Health and Food Safety be established under its global multi-sectoral “One Health” initiative with OIE and WHO.

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Near East Region (including Jordan and Lebanon)
Project name	<u>R2</u> . Improved food quality control services along the Syrian border in Jordan and Lebanon
Objective	Strengthening border food control measures to assure adequate consumer protection and to support agricultural exports by ensuring compliance with internationally recognized standards and procedures
Beneficiaries	Consumers of food products from the Near East Region (particularly Jordan, Lebanon and Syria), as well as Syrian refugees and host communities
Implementing partners	Ministries and line departments involved in food safety control
Duration	18 months
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 4 500 000
<p>Rationale and justification:</p> <p>Syrian phytosanitary and food safety control services have collapsed over the past 6 to 12 months. There has been an increase in informal trade (smuggling) of food and agricultural commodities across borders with Syria in Iraq, Jordan and Lebanon following the crisis in Syria. There have also been significant changes in agricultural trading routes throughout the region. All of these developments have increased the risk of trading food at substandard quality, and the threat of transboundary plant diseases and pests accompanying the moving commodities – given the weak food safety and phytosanitary inspection systems in these countries, particularly at existing border crossings and especially at the new border crossings.</p> <p>FAO proposes to build on its recently completed “Strengthening Production and Marketing of Lebanese Agricultural Products Project”, which provided support for food inspection services at the ports of entry in Lebanon. The proposed project will focus primarily on Jordan and Lebanon but, funds permitting, it could be extended to Iraq where similar problems exist at its border crossings with Syria. However, all neighbouring countries affected by the Syria crisis will benefit from knowledge sharing under the project.</p>	
<p>Expected outcome:</p> <p>Import/export food inspection and certification systems strengthened in Jordan and Lebanon to manage the threat of transboundary crop diseases and pests, and contaminated and unsafe foodstuffs.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • The handling of food import control in the countries is based on the analysis of food risks. • Risk-based food control is reinforced. • Border food inspectors are trained in the risk-based control systems. • Phytosanitary capacity and infrastructure for the inspection and control of transboundary crop diseases and pests are strengthened. • Phytosanitary capacity for post-entry regulation measures and treatments is improved. • Laboratory facilities are strengthened, and staff associated with border food control and phytosanitary control is trained. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Improve systems of food import control and guidance on the further expansion of this system as required. ✓ Strengthen national food control laboratory capabilities, through the provision of equipment and training, covering both microbiological and chemical analysis. ✓ Train 40 managers and technicians on import food inspection (20 from each country). 	

- ✓ Increase communication among stakeholders (e.g. food control regulatory authorities, consumers and the food industry), including knowledge sharing with food inspection services of Iraq, Jordan, Lebanon, Syria and Turkey.
- ✓ Conduct a phytosanitary capacity evaluation of the national plant quarantine services to identify weaknesses that need to be addressed through institutional strengthening.
- ✓ Train plant quarantine officers and inspectors in the application of the International Standards for Phytosanitary Measures.
- ✓ Improve the infrastructure and facilities of the post-entry phytosanitary stations in each country.
- ✓ Strengthen the laboratories at the central administrations for plant quarantine and plant quarantine stations at the entry points with the necessary equipment and material for disease and pest inspection and recognition/diagnosis.
- ✓ Strengthen the early warning and rapid response capabilities for transboundary pests and diseases.
- ✓ Formulate a project proposal for consideration by governments and development partners for the further development of national food control systems across the Near East Region.

Cost estimate:

Item	USD
Personnel (international and national)	350 000
Contracts (with implementing partners)	400 000
Travel	140 000
Training (implementing partners, staff and beneficiaries)	400 000
Expendable procurement (laboratory equipment and materials, etc.)	600 000
Non-expendable procurement (vehicles, computers, etc.)	2 000 000
Technical support services (evaluations, TSS missions, etc.)	100 000
General operating expenses	101 000
Sub-total	4 091 000
Support costs (10% of sub-total)	409 000
Total	4 500 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Egypt
Project name	E1. Strengthening urban and peri-urban nutritious and high-value crop production through the expansion of urban farming in host communities of Syrian refugees in Egypt
Objective	To reduce household-level food expenditures for vulnerable host communities and refugees
Beneficiaries	Some 2 500 poor Egyptian households in urban and peri-urban host communities and Syrian refugees
Implementing partners	Ministry of Agriculture and Land Reclamation and implementing partners
Duration	12 months
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 440 000
<p>Rationale and justification:</p> <p>The crisis in Syria has generated a large number of so-called ‘urban-refugees’ scattered through Egypt, primarily in Cairo, Damietta, Alexandria and Port Said. Urban poverty is already high in Egypt and tends to be fuelled by people migrating towards the cities in an attempt to escape the deprivations associated with rural livelihoods. While urban food insecurity and its related problems should have already been placed high on the agenda of humanitarian and development actors, the influx of refugees is further underscoring the critical need to increase food production among the poorest urban dwellers, particularly those living in households headed by women. The scope of the proposed intervention builds on successful experiences in Egypt and neighbouring countries as well as on the global “Food for the Cities” network of experts led by FAO. The project will provide fresh, diversified and healthy food to Egyptian families that are supporting Syrian refugees, as well as refugees themselves. It will also further strengthen cohesion and solidarity between communities.</p>	
<p>Expected outcome:</p> <p>Enhanced food availability and dietary diversity at household level in urban and peri-urban settings by growing fresh and healthy food in small spaces, such as patios, terraces, rooftops and backyards.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • A minimum of 500 small urban farming production units are established by the end of the project. • Some 2 000 households (at least half headed by women), including host families and refugees, are accessing free, fresh and healthy food within three months of production unit establishment. • Efficient and sustainable use of natural resources (water in particular). • Gender equality promoted. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Identification of beneficiaries, in partnership with UNHCR and implementing partners. ✓ Response design tailored to the space available and families’ preferences. ✓ Preparation of bills of quantities and procurement of inputs (for backyard garden, aquaponics, small animal units, etc.). ✓ Training of some 500 beneficiaries and technical support to set up production units. ✓ Technical supervision throughout project implementation and maintenance of production units. ✓ Project review and lessons learning documentation. 	

Cost estimate:	
Item	USD
Personnel (international and national)	40 000
Contracts (with implementing partners)	30 000
Travel	10 000
Training (implementing partners, staff and beneficiaries)	20 000
Expendable procurement (agricultural inputs, etc.)	250 000
Non-expendable procurement (vehicles, computers, etc.)	10 000
Technical support services (reporting, evaluations, TSS missions, etc.)	10 000
General operating expenses	30 000
Sub-total	400 000
Support costs (10% of sub-total)	40 000
Total	440 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Egypt
Project name	<u>E2</u> . Enhancing nutritious food production and income generation of Egyptian communities hosting Syrian refugees
Objective	To improve the nutritional status and income-generation capacity of poor communities hosting Syrian refugees in peri-urban areas of Egypt
Beneficiaries	Some 500 poor Egyptian urban households and 2 000 impoverished Syrian refugee households
Implementing partners	Ministry of Agriculture and Land Reclamation, and implementing partners
Duration	One year
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 462 000
<p>Rationale and justification:</p> <p>The crisis in Syria has generated a large number of so-called ‘urban-refugees’ scattered through Egypt primarily in Cairo, Damietta, Alexandria and Port Said. Urban poverty is already high in Egypt and tends to be fuelled by people migrating towards the cities in an attempt to escape the deprivations associated with rural livelihoods. While urban food insecurity and its related problems should have already been placed high on the agenda of humanitarian and development actors, the influx of refugees is further underscoring the critical need to improve nutrition and increase income opportunities for the poorest urban dwellers, particularly those living in households headed by women.</p> <p>Syrians have brought a tradition of milk processing, sweets manufacturing, baking, etc. to Egypt, and such skills need to be developed and transferred to the poorest of urban dwellers, particularly among women-headed households. For example, entrepreneurial Syrians have already established small milk processing ventures in the Cairo suburb of 6th of October, as well as a number of other food processing activities. Refugees are also competing for employment opportunities, and income-generating activities are scarce. Some refugees are therefore opening small businesses in the area of food services and processing, including restaurants and small-scale dairy processing.</p> <p>FAO proposes to build on the experiences of its ongoing Government of Italy-funded project, “Improving Household Food and Nutrition Security in Egypt by Targeting Women and Youth” to enhance the capacity of refugees and host communities to benefit from the skills and experience of Syrian refugees, as well as to generate income and increase the availability of high quality and nutritious food in communities of greater Cairo where refugees reside. In this context, the project aims to provide fresh, diversified and healthy food to poor Egyptian families that are supporting Syrian refugees, as well as to refugees themselves, while strengthening cohesion and solidarity between communities.</p>	
<p>Expected outcome:</p> <p>Enhanced nutritional status and income-generating capacity of Syrian refugees and poor peri-urban communities hosting Syrian refugees.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Improved access to diversified food intake and supplementary income among poor Egyptian households and Syrian refugees (particularly women) through the promotion of homestead and community-based food processing and marketing. • Improved quality and safety of food available in markets for Syrian refugee families, poor Egyptian communities hosting these refugees and the general population. • Food nutrition and health behaviour improved among some 2 000 Syrian refugee households and poor Egyptian households living in the same communities as refugees. 	

- Capacities built and integrated, and participatory approaches for improving food and nutrition security in Syrian refugee community centres institutionalized by stakeholders.

Key activities:

- ✓ Conduct rapid needs assessments and identify beneficiaries or groups of beneficiaries (particularly women and youth), in partnership with local NGOs and CBOs.
- ✓ Undertake simple feasibility studies and prepare basic business plans for project beneficiaries (i.e. individual households or groups of five to ten families) to grade, process, package, store and/or market fruit, vegetable, dairy, egg and meat products.
- ✓ Provide the necessary and appropriate food grading, processing, packaging, storage and marketing equipment and materials to beneficiary households or groups of beneficiary households.
- ✓ Identify and support women and youth willing and ready to engage in setting up hygienic food-based retail shops in poor urban communities where Syrian refugees are residing.
- ✓ Train project beneficiaries who want to establish ad hoc “producer marketing groups” in group formation and management, produce marketing systems, etc. (training will be tailored to use the skills and experience of Syrian refugees and to transfer these to Egyptians).
- ✓ Develop and implement food nutrition and health education strategies for poor Egyptians and Syrian refugees through visual aids, local media messages, focus group meetings, etc.
- ✓ Train project beneficiaries in food handling, preparation and hygiene, grading of agricultural produce, and processing, packaging and storage of fruit, vegetable, dairy, egg and meat-based commodities through participatory and group-based approaches, such as farmer business schools.
- ✓ Train government and NGO extension staff/technicians/mobilizers in group-based participatory extension approaches (e.g. farmer business schools), group dynamics and administration, good agricultural practices, post-harvest management and food and nutrition security/behaviour.
- ✓ Develop participatory value chains for quality fruit, vegetable, dairy, egg and meat commodities (e.g. market information, packing and transportation) with local wholesalers, retailers, processors, etc.

Cost estimate:

Item	USD
Personnel (internationals and nationals)	40 000
Contracts (with partners)	30 000
Travel	10 000
Training (implementing partners, staff and beneficiaries)	40 000
Expendable procurement (agricultural inputs, etc.)	250 000
Non-expendable procurement (vehicles, computers, etc.)	10 000
Technical support services (evaluations, TSS missions, etc.)	15 000
General operating expenses	25 000
Sub-total	420 000
Support costs (10% of sub-total)	42 000
Total	462 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Iraq
Project name	<u>11</u> . Improved animal health services (i.e. surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Iraq
Objective	Effective control of TADs along the Syrian border areas of Ninawa Governorate through improved delivery of animal health services and animal disease surveillance, diagnosis, reporting and early warning systems
Beneficiaries	Community, public and private animal health services of Ninawa Governorate, smallholder livestock keepers, traders and consumers of animal products originating from Ninawa Governorate
Implementing partners	Government of Iraq's Ministry of Agriculture and Ninawa Provincial Bureau of Agriculture
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 4 401 750
<p>Rationale and justification:</p> <p>Ninawa Governorate in Iraq is home to 1.25 million sheep and 150 000 goats. The livestock-keeping Bedouins from the Syrian border areas of Iraq move their sheep and goats to Syria during the winter season and move them back to Iraq during the summer season. This (<i>Hema</i>) transhumance grazing system has been disrupted due to the crisis in Syria. In addition, Syrian veterinary services (i.e. disease surveillance and diagnosis, and vaccination programmes) have collapsed over the past 6 to 12 months. Unvaccinated Syrian sheep and goats are now crossing into Iraq. PPR and FMD are the most feared TADs in Ninawa Governorate. Although major efforts have been made by the Government of Iraq to develop specific disease control strategies, too little attention has been given to improve animal health delivery at the community level in such remote areas. Disease control is hampered by low incomes; inaccessibility of veterinary services; lack of animal health skills, knowledge and interest in disease surveillance and reporting; and the absence of trained auxiliaries. The field veterinary services are constrained by the lack of adequate human and logistic resources.</p> <p>The lack of animal health services in these marginal areas, as well as high animal feed prices, have seriously affected Iraqi livestock herders and many are now selling their animals at much reduced prices. FAO proposes an additional component for the ongoing United Nations Development Group/Iraq Trust Fund-funded and FAO-implemented project "Develop the Performance of Small Ruminants (Sheep and Goats) and Improve the Level of Income for Small Breeders" in Ninawa Governorate, building on a project management unit which is already in place. The new component will therefore focus on the much-needed upgrading of disease surveillance and diagnostic capacity, veterinary quarantine facilities, and emergency vaccination campaigns against priority TADs, along with the capacity development of field veterinarians and community animal health workers (CAHWs).</p>	
<p>Expected outcome:</p> <p>Significant reduction in the threat of outbreaks of TADs and zoonoses originating from Syria in Ninawa Governorate of Iraq and improved livelihoods of host communities and Bedouin herders through increased animal production, food nutrition and household income.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Veterinary and livestock extension services developed and functioning at the community level in remote areas along the Syrian border. • Improved veterinary skills of private and public veterinarians in the target rural areas. • Better equipped veterinary quarantine and operational facilities for veterinarians in the field veterinary clinics. • Improved, proper and timely communication of risks and outbreaks for rapid containment and 	

disease control programmes.

- Sheep, goats (and cattle) vaccinated against important serotypes of FMD and PPR.
- Improved epidemio-surveillance, reporting by communities, diagnosis and post-vaccination monitoring of FMD and PPR for progressive control pathway contributing to disease freedom for the Governorate.
- Increased public awareness and informed decision-making capacity at farm and community levels on TAD control in general and zoonotic diseases in particular.
- Defined roles and responsibilities of private and public veterinary services based on a socio-economic analysis for direct and indirect costs for optimizing efficiency and impacts.

Key activities:

- ✓ Develop the capacity of field veterinarians and CAHWs in the remote areas of Ninawa Governorate.
- ✓ Conduct institutional assessment of veterinary quarantine systems and facilities in Ninawa Governorate.
- ✓ Provide essential equipment and materials required to improve veterinary quarantine, field veterinary clinics and cold chains, including veterinary kits, drugs and vaccines.
- ✓ Train veterinarians in animal disease surveillance, reporting, import risk assessment, veterinary quarantine, early warning and reporting for timely communication of TAD risks for preparedness and rapid containment of disease outbreaks.
- ✓ Conduct mass vaccination campaigns against FMD and PPR, and other priority diseases.
- ✓ Organize public awareness raising workshops at community level on TADs and zoonoses.
- ✓ Provide technical support on legislation and policy advice on the roles and responsibilities of private and public veterinary services.
- ✓ Conduct socio-economic analysis of the intervention, including cost-benefit analysis.

Cost estimate:

Item	USD
Personnel (international and national)	440 000
Contracts (with partners)	400 000
Travel	300 000
Training (implementing partners, staff and beneficiaries)	420 000
Expendable procurement (laboratory equipment, vaccines, etc.)	800 000
Non-expendable procurement (vehicles, computers, etc.)	1 432 500
Technical support services (evaluations, TSS missions, etc.)	120 000
General operating expenses	180 000
Sub-total	4 092 500
Support costs (10% of sub-total)	409 250
Total	4 401 750

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Iraq
Project name	12. Improved food production and marketing among host communities to Syrian refugees in the Kurdistan Region of Iraq
Objective	To improve food security and reduce rural poverty among Kurdish rural communities hosting Syrian refugees and Syrian refugees themselves
Beneficiaries	Some 4 500 vulnerable Kurdish rural households (i.e. smallholder and marginal farmers and agricultural wage earners) and Syrian refugees
Implementing partners	Dohuk, Sulamaniya and Erbil Directorates of Agriculture and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 3 124 000
<p>Rationale and justification:</p> <p>The large number of refugees in the Kurdish Region of Iraq has created competition for labour as well as increased pressure on local food production. The agriculture sector in the Kurdish Region had been declining in recent times and has been identified by both the Government of Iraq and the Kurdistan Regional Government as an important area for rehabilitation and development. Syrian refugees have come from a mix of urban and rural areas, a number of whom have agricultural backgrounds in various types of cereal crop and vegetable farming. Kurdish populations have become increasingly urbanized due to lack of investment in the agriculture sector and perceived opportunities. Additionally, while 70 percent of the population lives in urban areas, food insecurity and poverty are disproportionately concentrated in rural areas, where two-thirds of food insecure people are located. The effects of the influx of large numbers of refugees will be felt the most by those who are already vulnerable to food insecurity and poverty.</p> <p>FAO proposes to build on the recently completed Government of Australia-funded and FAO-implemented “Emergency Support Project to Food Insecure Rural Households through Establishing Home Gardens in Iraq”, and the United Nations Development Group/Iraq Trust Fund-funded and FAO-implemented “Community Livelihoods and Micro-industry Support Project in Rural and Urban Areas of Northern Iraq” to enhance food production and income-generating opportunities among these vulnerable Kurdish rural households as well as the Syrian refugees that they are hosting.</p>	
<p>Expected outcome:</p> <p>Reduced food and nutrition insecurity and increased incomes generated by vulnerable rural households (including smallholder and marginal farmers, agricultural wage earners and Syrian refugees).</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Increased domestic food production by 3 500 vulnerable rural households from communities hosting Syrian refugees in the Kurdistan Region of Iraq. • Increased income-generating opportunities for 1 000 vulnerable rural households from communities hosting Syrian refugees in the Kurdistan Region of Iraq, particularly women, through the expansion of agricultural micro-industries. • Capacities built and integrated, and participatory approaches for improving food and nutrition security institutionalized by stakeholders, such as the Dohuk, Sulamaniya and Erbil Directorates of Agriculture, local NGOs and farmers’ associations. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Conduct rapid needs assessments and identify beneficiaries in partnership with local NGOs and CBOs. ✓ Develop curricula and training materials for increasing smallholder agricultural production in 	

project areas through participatory extension approaches.

- ✓ Train 50 master trainers and FFS/FBS facilitators to implement farmer field schools (FFSs) and farmer business schools (FBSs).
- ✓ Implement 120 FFSs to promote and transfer new and improved crop production technologies and practices (e.g. for cereals, legumes and vegetables), including integrated pest management, on-farm water management and conservation agriculture.
- ✓ Provide farm tools and machinery and agricultural inputs required to support FFSs and their participants, and develop revolving funds where applicable.
- ✓ Confirm the type of micro-industries applicable to the project's target beneficiaries, and develop/replicate curricula and training materials (from FAO's recently completed "Community Livelihoods and Micro-industry Support Project in Rural and Urban Areas of Northern Iraq").
- ✓ Identify women willing and ready to engage in agricultural micro-industries, such as post-harvest handling and storage of fresh fruits and vegetables, as well as dairy, fruit and honey processing.
- ✓ Implement 40 FBSs where women farmers learn food processing, packaging and storage, produce marketing, basic business management, micro-financing, etc.
- ✓ Provide agroprocessing equipment and materials necessary to establish household-based enterprises and community-based producer marketing groups, and develop revolving funds where applicable.
- ✓ Develop value chains (i.e. input supply and produce marketing linkages) to support men and women farmers' groups evolving from FFSs and FBSs.
- ✓ Provide technical support and carry out project monitoring and backstopping, including implementation of any corrective measures.

Cost estimate:

Item	USD
Personnel (internationals and nationals)	480 000
Contracts (with partners)	300 000
Travel	80 000
Training (implementing partners, staff and beneficiaries)	280 000
Expendable procurement (agricultural inputs, etc.)	1 500 000
Non-expendable procurement (vehicles, computers, etc.)	60 000
Technical support services (evaluations, TSS missions, etc.)	30 000
General operating expenses	110 000
Sub-total	2 840 000
Support costs (10% of sub-total)	284 000
Total	3 124 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Jordan
Project name	J1. Improved animal health services (i.e. surveillance, vaccination campaigns, quarantine facilities, etc.) in the Syrian border areas of Jordan
Objective	Effective control of TADs along the Syrian border areas of northern Jordan through improved delivery of animal health services and animal disease surveillance, diagnosis, reporting and early warning systems
Beneficiaries	Community, public and private animal health services of Ninawa Governorate, smallholder livestock keepers, traders and consumers of animal products originating from northern Jordan
Implementing partners	Government of Jordan's Ministry of Agriculture and the Faculty of Veterinary Medicine of the Jordan University of Science and Technology (Irbid)
Duration	18 months
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 2 068 000
<p>Rationale and justification:</p> <p>The livestock-keeping Bedouins from the Syrian border areas of northern Jordan move their sheep and goats to Syria during the winter season and move them back to Jordan during the summer season. This transhumance grazing system of the Badia rangelands has been disrupted due to the crisis in Syria. In addition, Syrian veterinary services (i.e. disease surveillance and diagnosis, and vaccination programmes) have collapsed over the past 6 to 12 months. Unvaccinated Syrian animals are now crossing into Jordan. It is important to note that FMD, PPR, bluetongue, brucellosis, LSD and HPAI have all been unofficially reported in the Syrian border areas of Jordan at higher than normal levels. Jordan does not undertake TAD surveillance and reporting, and its nearest quarantine facility is 35 km from the Syrian border, which does not comply with minimum international biosecurity standards.</p> <p>The disruption of field veterinary services, disease surveillance, diagnosis and vaccination programmes in Syria has serious implications for Jordanian livestock. PPR, FMD (particularly the SAT2 strain) and LSD are the TADs most feared by Jordanian farmers. Smallholder sheep- and goat-keeping communities in the marginal areas bordering Syria are the most vulnerable groups. The lack of animal health services in these areas, as well as high animal feed prices, have seriously affected Jordanian livestock farmers and many are now selling their animals at much reduced prices. Although significant efforts have been made by the Government of Jordan to support sheep- and goat-keeping communities through feed subsidies and vaccination programmes, the capacity to cope with the increased threat of TADs from unvaccinated livestock crossing into Jordan is limited. On the whole, the animal health service delivery at community level in the remote border areas, national disease surveillance, monitoring and reporting, and animal quarantine systems are not up to the standard required to address the increasing threat of TADs. Field veterinary services are constrained by the lack of adequate human and logistic resources.</p>	
<p>Expected outcome:</p> <p>Significant reduction in the threat of outbreaks of TADs and zoonoses originating from Syria in northern governorates of Jordan and improved livelihoods of host communities and livestock herders through increased animal production, food nutrition and household income.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Improved veterinary and livestock extension services at the community level in remote areas along the Syrian border. • Improved veterinary skills of private and public veterinarians in the target rural areas. • Better equipped veterinary quarantine and operational facilities for veterinarians in field veterinary clinics. 	

- Improved, proper and timely communication of risks and outbreaks for rapid containment and disease control programmes.
- Sheep, goats (and cattle) vaccinated against important serotypes of FMD and PPR.
- Improved epidemio-surveillance, reporting by communities, diagnosis and post-vaccination monitoring of FMD and PPR for progressive control pathway contributing to disease freedom for the Governorate.
- Increased public awareness and informed decision-making capacity at farm and community levels on TAD control in general and zoonotic diseases in particular.
- Defined roles and responsibilities of private and public veterinary services based on a socio-economic analysis for direct and indirect costs for optimizing efficiency and impacts.

Key activities:

- ✓ Build the capacity of field veterinarians and community animal health workers in the remote areas of Jordan's northern governorates.
- ✓ Conduct institutional assessment of veterinary quarantine systems and facilities in the northern governorates of Jordan.
- ✓ Provide essential equipment and materials required to improve veterinary quarantine, field veterinary clinics and cold chains, including veterinary kits, drugs and vaccines.
- ✓ Train veterinarians on animal disease surveillance, reporting, import risk assessment, veterinary quarantine, early warning and reporting for timely communication of TAD risks for preparedness and rapid containment of disease outbreaks.
- ✓ Conduct mass vaccination campaigns against FMD and PPR, and other priority diseases.
- ✓ Organize a public awareness-raising workshop at community level on TADs and zoonoses.
- ✓ Provide technical support on legislation and policy advice on the roles and responsibilities of private and public veterinary services.
- ✓ Conduct a socio-economic analysis of the intervention, including cost-benefit analysis.

Cost estimate:

Item	USD
Personnel (internationals and nationals)	300 000
Contracts (with partners)	200 000
Travel	50 000
Training (implementing partners, staff and beneficiaries)	170 000
Expendable procurement (laboratory equipment, vaccines, etc.)	500 000
Non-expendable procurement (vehicles, computers, etc.)	450 000
Technical support services (evaluations, TSS missions, etc.)	100 000
General operating expenses	110 000
Sub-total	1 880 000
Support costs (10% of sub-total)	188 000
Total	2 068 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Jordan
Project name	J2. Restoring livelihoods and reducing land degradation through community-based range management initiatives among host communities in the Syrian border areas of Jordan (<i>a joint venture with WFP</i>)
Objective	To restore the agricultural livelihoods of rural communities hosting Syrian refugees through enhanced rangeland and post-harvest management
Beneficiaries	Some 5 000 poor and vulnerable smallholder households living in rural communities that are hosting Syrian refugees (in ‘poverty pockets’ of northern Jordan); and stakeholders to benefit from capacity development
Implementing partners	WFP, Ministry of Agriculture and local NGOs and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 5 065 500
<p>Rationale and justification:</p> <p>The Government of Jordan has recently completed a poverty assessment and mapping exercise for the country. Moreover, WFP has recently launched a USD 26 million protracted relief and recovery (PRRO) project that will target ‘poverty pockets’ of Jordan with demand-driven and community-based “food assistance for assets” interventions. Several poverty pockets have been identified in the northern border areas with Syria. These same communities are now hosting the majority of Syrian refugees outside of the Zaatari Refugee Camp. There is now an urgent need to restore the agricultural livelihoods of these host communities through, for example, household and community-based income-generation initiatives, such as the rehabilitation of degraded rangelands (i.e. through food- and cash-for-work and provision of agricultural inputs).</p> <p>The Badia rangelands of northern Jordan, northwestern Iraq and southern Syria provide traditional grazing lands to herders who migrate with their sheep and goats in search of seasonal animal feeds and water. Increasing animal populations and the increased frequency and intensity of droughts have meant that, even before the Syria crisis, rangelands were being overgrazed, land was being degraded and the semi-desert steppes were being reduced to non-productive deserts. With the insecurity in Syria and the increased threat of TADs, Bedouin herders and livestock keepers are now concentrating on the margins of the Badia rangelands in northern Jordan and northwestern Iraq – and placing additional pressure on both Jordan’s fragile natural resource base and the impoverished socio-economic situation of many host communities to Syrian refugees in these areas.</p> <p>The Government of Jordan’s Ministry of Agriculture and WFP have subsequently requested FAO to mobilize resources and provide technical and financial assistance to support the new two-year PRRO project with interventions specifically targeted at host communities of Syrian refugees in northern Jordan.</p>	
<p>Expected outcome (shared with WFP/PRRO):</p> <p>Restoration of the agricultural livelihoods of food insecure and vulnerable smallholder farming families from rural communities hosting Syrian refugees through enhanced rangeland and post-harvest management income-generating initiatives.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Income generated by 4 000¹⁷ households through community works to restore community assets and natural resources. • Income generated and sustained by 1 000 farming families through post-harvest management initiatives, such as food processing, packaging and marketing. 	

¹⁷ Includes WFP’s food- and cash-for-work contributions.

- Capacities of stakeholders built to financially and environmentally sustain the project's interventions (i.e. 100 staff of public and private service providers, 300 representatives of farmers' groups, and male and female beneficiary farmers).

Key activities:

- ✓ Conduct rapid needs assessments and identify beneficiaries in partnership with UNHCR, WFP, and local NGOs and CBOs.
- ✓ Design, provide technical assistance and agricultural inputs, and supervise community works to restore community assets and natural resources in the Badia rangelands (e.g. water-harvesting structures and seeding/planting of appropriate grasses and shrubs for rangeland improvement).
- ✓ Design, provide technical assistance and agricultural inputs, and supervise agroforestry subprojects (e.g. fruit tree planting, de-rocking and terracing, rehabilitation of small-scale irrigation systems and integrated homestead farming in more fertile valley bottoms).
- ✓ Design, provide technical assistance and appropriate equipment and materials, and supervise household and community-based food processing, packaging and marketing subprojects (e.g. fruit, vegetables, eggs and milk products).
- ✓ Transfer new and improved production and post-harvest technologies and practices, and group administration to male and female beneficiary farmers through the implementation of farmer field schools (including rangeland management, animal husbandry, water management, fodder production, integrated homestead gardening, and food processing, storage and marketing).
- ✓ Train public and private service providers in group-based participatory extension approaches (e.g. farmer field schools), group dynamics and administration, community-based rangeland management, water management and value chain development).

Cost estimate:

Item	USD
Personnel (international and national)	550 000
Contracts (with implementing partners and service providers)	720 000
Travel	75 000
Training (implementing partners, service providers and beneficiaries)	495 000
Expendable procurement (agricultural inputs, etc.)	2 500 000
Non-expendable procurement (vehicles, computers, etc.)	60 000
Technical support services (evaluations, TSS missions, etc.)	80 000
General operating expenses	125 000
Sub-total	4 605 000
Support costs (10% of sub-total)	460 500
Total	5 065 500

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Jordan
Project name	J3. Improved smallholder vegetable crop protection in Jordan for the sale of quality, nutritious and affordable produce to Syrian refugee camps and host communities
Objective	Linking smallholder farmers from communities hosting Syrian refugees (who are affected by crop pests and diseases) to consumers, including refugees, through a low-cost and financially viable value-chain approach
Beneficiaries	Some 2 000 small-scale farming households from host communities and refugee camps
Implementing partners	Ministry of Agriculture, local NGOs, cooperatives and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 4 285 000
<p>Rationale and justification:</p> <p>The Syria crisis has transformed a number of seasonal Syrian migrant workers into longer-term destitute refugees. At the same time, a number of farmers in the Jordan Valley who used to employ Syrian labourers have now become host families. Jordanian farmers are already facing significant challenges in relation to the viability of their enterprises. Indeed, increasing production costs and endemic pests, such as tomato leaf miner (<i>Tuta absoluta</i>), wheat rust and fruit flies are compounding the difficulties of smallholder farming families to make a living. The economic cost of Syrian refugees is further exacerbating the vulnerability of Jordanian farming communities. However, the influx of refugees could also represent a market opportunity for Jordanian farmers; increasing access to fresh, nutritious and affordable products particularly in camps and host community centres should be encouraged.</p> <p>FAO proposes to extend its recently launched project, “Management of Tomato Borer: <i>Tuta Absoluta</i> in the Near East Region” and its recently completed Government of Italy-funded and FAO-implemented “Regional Integrated Pest Management (IPM) Programme in the Near East” to focus on: (i) reducing the prevalence of fruit and vegetable pests (particularly fruit flies and <i>Tuta absoluta</i>) in production areas hosting and employing Syrian refugees; and (ii) increasing the availability of and access to fresh, nutritious and affordable vegetables in refugee camps and community centres in Jordan.</p>	
<p>Expected outcome:</p> <p>Improved smallholder fruit and vegetable protection in Jordan for the sale of quality, nutritious and affordable produce to Syrian refugee camps and host communities through environmentally sustainable IPM and low-cost and financially viable value-chain approaches.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Reduced prevalence of fruit and vegetable pests (particularly fruit flies and <i>Tuta absoluta</i>) in smallholder farming areas of Jordan hosting and employing Syrian refugees. • Capacity of some 2 000 Jordanian small-scale farming households to employ an equal number of seasonal Syrian workers preserved. • Increased availability of and access to fresh, nutritious and affordable vegetables in Syrian refugee camps and community centres in Jordan. • Income-generation opportunities created at Syrian refugee camps and community centres (with focus on a minimum of 300 women), through the establishment of retail shops for the sale of quality fruit and vegetables and other nutritious foodstuffs. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Conduct rapid needs assessments and identify beneficiaries in partnership with local NGOs and CBOs. ✓ Scale up IPM in the Jordan Valley and other areas with high concentration of smallholder fruit and 	

vegetable farmers through the procurement and distribution of mass trapping equipment, double-door systems, etc.

- ✓ Train 50 master trainers and farmer field school (FFS) facilitators to implement FFSs focused on IPM.
- ✓ Implement 200 FFSs to promote and transfer new and improved IPM technologies and practices.
- ✓ Develop supply chains of quality fruit and vegetables to refugee camps and community centres (market information, packing, transportation, etc.).
- ✓ Implement 12 farmer business schools within existing cooperatives or ad hoc farmers' groups to train farmers in produce marketing, basic business management, etc.
- ✓ Identify women willing and ready to engage in setting up fruit and vegetable retail shops in refugee camps and community centres.
- ✓ Provide equipment and materials necessary to establish small sales points for quality fruit and vegetables.
- ✓ Provide technical support and conduct project monitoring and backstopping, including implementation of any corrective measures.

Cost estimate:

Item	USD
Personnel (internationals and nationals)	220 000
Contracts (with partners)	100 000
Travel	40 000
Training (implementing partners, staff and beneficiaries)	210 000
Expendable procurement (agricultural inputs, etc.)	3 000 000
Non-expendable procurement (vehicles, computers, etc.)	50 000
Technical support services (evaluations, TSS missions, etc.)	90 000
General operating expenses	185 000
Sub-total	3 895 000
Support costs (10% of sub-total)	390 000
Total	4 285 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Jordan
Project name	14. Enhancing income generation and nutritious food production through the introduction of small-scale household food processing facilities in the Zaatari Refugee Camp and among host communities of Syrian refugees in the border areas of Jordan
Objective	To introduce small-scale household and community-based food processing facilities in Zaatari Refugee Camp and host communities in the Syrian border areas of Jordan
Beneficiaries	500 Syrian refugee households living in Zaatari Refugee Camp and community centres along the Syrian border directly benefiting from increased income; and 3 000 refugee households indirectly benefiting from improved food nutrition
Implementing partners	Ministry of Agriculture, local NGOs and CBOs
Duration	One year
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 616 000
<p>Rationale and justification:</p> <p>Zaatari Refugee Camp is host to over 100 000 Syrian refugees. As the camp is beyond capacity, living conditions inside are very difficult. Access to food in the required amounts and variety for a complete diet are lacking, and protein sources are becoming more difficult to access. The ability to purchase these items are restricted by a lack of income-generating opportunities in which Syrian refugees can engage, due to restrictions on entering and exiting the camp, as well as the space available – meaning that kitchen gardening and small livestock production are not an option. Livelihood options inside the camp (as well as in Syrian refugee community centres outside of the camp) are limited to the trading of items needed in the camp/centres (including poor quality fresh fruit and vegetables, and frozen and fresh meats). Some small-scale food processing activities take place in the camp, despite these barriers, and this can be improved and expanded to a limited number of refugees.</p> <p>Communities hosting Syrians in villages bordering Syria are practicing mixed farming (i.e. cereals, fruits, vegetables, dairy, sheep and backyard poultry production). Increased agricultural input costs (in particular, animal feed) have made production inputs unaffordable to small-scale producers. Numerous constraints are sending smallholders out of business, including insufficient of resources, lack of appropriate skills for adding value to crop and animal products (especially vegetables and dairy) and less competitive returns for their produce (as they are unable to access better markets). There is an urgent need to support host communities in developing their skills and good agricultural practices through introducing new and improved hygienic food processing technologies, as well as grading, packaging and marketing systems. Provision of simple household and community-based food processing equipment and materials would improve household nutrition and income.</p>	
<p>Expected outcome:</p> <p>Enhanced wellbeing (i.e. food, nutrition, income, etc.) of Syrian refugee families living in Zaatari Refugee Camp and community centres, and Jordanian farming families from those host communities in the border areas of Jordan.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Improved income-generating opportunities for 500 Syrian refugee households and Jordanian smallholder farming families (from host communities), through the adoption of new food processing and marketing technologies and practices. • Reduced malnutrition among 3 000 Syrian refugee households and Jordanian smallholder farming households (from host communities), through improved access to quality, safe and nutritious foods (e.g. vegetables, fruits, dairy products, eggs and fresh meat). 	

Key activities:

- ✓ Conduct rapid needs assessments and identify beneficiaries or groups of beneficiaries (particularly women) in partnership with local NGOs and CBOs.
- ✓ Undertake simple feasibility studies and prepare basic business plans for project beneficiaries (i.e. individual households, or groups of five to ten farming families) to grade, process, package, store and/or market fruit, vegetable, dairy, egg and meat products.
- ✓ Provide the necessary and appropriate food grading, processing, packaging, storage and marketing equipment and materials to beneficiary households or groups of beneficiary households.
- ✓ Identify and support women willing and ready to engage in setting up hygienic food-based retail shops in refugee camps and community centres.
- ✓ Train project beneficiaries who want to establish ad hoc “producer marketing groups” in group formation and management, produce marketing systems, etc.
- ✓ Develop and implement a food nutrition and health education strategy among target communities hosting Syrian refugees (i.e. visual aids, local media messages, focus group meetings, etc.)
- ✓ Train project beneficiaries in food handling, preparation and hygiene, produce grading, and the processing, packaging and storage of fruit, vegetable, dairy, egg and meat-based commodities through participatory and group-based approaches, such as farmer business schools.
- ✓ Train government and NGO extension staff/technicians/mobilizers in group-based participatory extension approaches (e.g. farmer business schools), group dynamics and administration, good agricultural practices, post-harvest management and food and nutrition security/behaviour.
- ✓ Develop participatory value chains for quality fruit, vegetable, dairy, egg and meat commodities (i.e. market information, packing, transportation, etc.) with local wholesalers, retailers, processors, etc. – especially for smallholder Jordanian beneficiaries from host communities.

Cost estimate:

Item	USD
Personnel (international and national)	60 000
Contracts (with partners)	40 000
Travel	10 000
Training (implementing partners, staff and beneficiaries)	40 000
Expendable procurement (agricultural inputs, etc.)	300 000
Non-expendable procurement (vehicles, computers, etc.)	50 000
Technical support services (evaluations, TSS missions, etc.)	30 000
General operating expenses	30 000
Sub-total	560 000
Support costs (10% of sub-total)	56 000
Total	616 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Jordan
Project name	<u>J5</u> . Increased household egg production among host communities of Syrian refugees in the border areas of Jordan
Objective	Empowering communities hosting refugees in the Syrian border areas of northern Jordan to become small-scale poultry farmers for the reliable supply of eggs to local markets and improved food nutrition of producers and consumers
Beneficiaries	Some 2 000 impoverished farming households from Jordanian host communities, including women-headed households
Implementing partners	Ministry of Agriculture, local NGOs and CBOs
Duration	One year
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 1 100 000
<p>Rationale and justification:</p> <p>Half a century ago, Jordan was self-sufficient in poultry products, primarily coming from small-scale commercial poultry farms, and village or backyard free-range poultry units. Prior to the Syria crisis, Jordan was almost totally dependent on imports from Syria to meet its demand for eggs. Poultry production is the most affected agro-industry in Syria, with the total destruction of large poultry farms in areas such as Idleb, Homs and Rural Damascus. For a while, eggs were smuggled across the Jordanian border but, with the unavailability of day-old chicks, animal feed and animal health services, even this unofficial trade has dried up. It is estimated that the demand for eggs in Jordan will increase from 820 million in 2012 to 1.2 billion in 2013 with the increasing influx of Syrian refugees. Syrians traditionally consume eggs, and egg- and dairy-based products. The Ministry of Agriculture reported a shortfall of some 400 million eggs in 2012.</p> <p>In such a protracted crisis, the most affected and vulnerable groups are food and nutrition insecure host communities that are too economically poor to cope with the increased prices of foodstuffs, such as eggs. There is an urgent need to empower the host communities of northern Jordan to become small-scale farm businesses and increase/improve their food production, nutrition and income generation – becoming sustainable poultry farmers would be a cost-effective option that satisfies all criteria. The proposed project’s outputs include the reintroduction of village/household poultry production systems accompanied by improved poultry farming skills, enhanced family nutrition and improved household income opportunities, all linked to the development of stronger value chains through partnerships with private sector traders and processors. Stakeholders would therefore be encouraged to upscale egg production strategies from one of self-sufficiency, to the adequate and reliable supply of local markets in northern Jordan, to cooperative-based semi-commercial enterprises over time.</p>	
<p>Expected outcome:</p> <p>Reintroduction and enhancement of egg production and marketing among host communities to Syrian refugees in northern Jordan.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Reintroduction of village/household poultry production systems, accompanied by improved poultry farming skills for some 2 000 households from Jordanian host communities. • Enhanced family nutrition through the increased consumption of poultry products, particularly fresh eggs. • Improved household income opportunities through the sale of eggs to ready markets. • Sustainable value chains for the supply of poultry inputs and marketing of eggs in/beyond the local markets. 	

Key activities:

- ✓ Conduct rapid needs assessments and identify host communities and beneficiaries in partnership with local NGOs and CBOs.
- ✓ Conduct a rapid assessment of input supplies (i.e. chickens, feeds, medicines, etc.) and potential market outlets (i.e. local, provincial and national, including Syrian refugees).
- ✓ Prepare business plans and estimate cash flow projections and capital requirements for individual sustainable village/household poultry units.
- ✓ Provide sustainable poultry production packages (i.e. laying hens, cocks, bio-secure housing, feeders, drinkers and three months of chicken feed) to beneficiary groups or households.
- ✓ Train beneficiary farmers in good agricultural practices (i.e. housing and biosecurity, healthcare and feeding, egg collection and packaging, etc.).
- ✓ Create successful and sustainable egg production enterprises (including leadership and oversight arrangements, group formation and cooperative development, housing design and construction, and marketing and business management).
- ✓ Develop value chains for the supply of poultry inputs (including vaccination programmes) and marketing of eggs (surplus to household requirements) to local and eventually through regional and national outlets.
- ✓ Establish egg producing cooperatives to sustain value chains (i.e. formation, training, business development, etc.).

Cost estimate:

Item	USD
Personnel (internationals and nationals)	90 000
Contracts (with partners)	100 000
Travel	50 000
Training (implementing partners, staff and beneficiaries)	100 000
Expendable procurement (poultry inputs, etc.)	500 000
Non-expendable procurement (vehicles, computers, etc.)	50 000
Technical support services (evaluations, TSS missions, etc.)	30 000
General operating expenses	80 000
Sub-total	1 000 000
Support costs (10% of sub-total)	100 000
Total	1 100 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Lebanon
Project name	<u>L1</u> . Emergency vaccination and feeding of Bedouin herds grazing in areas along the Syria-Lebanon border
Objective	To prevent the spread of transboundary animal diseases (TADs) from Syria through targeted emergency vaccination campaigns and prevent the further loss of livestock assets by feeding Bedouin herds grazing on degraded rangelands in Syrian border areas of Lebanon
Beneficiaries	Lebanese returnees and Syrian livestock keepers who crossed with their animals into Lebanon, and Lebanese communities hosting both returnees and refugees
Implementing partners	Ministry of Agriculture, cooperatives and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 5 214 000
<p>Rationale and justification:</p> <p>Animal health services collapsed in Syria during 2012. In Lebanon, livestock keepers and communities depending on livestock for their livelihoods are very concerned about the large influx of unvaccinated Syrian sheep, goats and dairy cattle as a result of the crisis in Syria. These animals are partly sold in Lebanon for one-third of their market price. Some of these animals have been taken by their buyers to various parts of Lebanon without quarantine and vaccination, increasing the threat of TADs. The two most prevalent diseases in the border areas are PPR and FMD, which tend to peak in the months of April and November. Veterinary services in Lebanon are practically non-existent, particularly in the border areas with Syria. Most farmers used to get vaccines from Syria free of charge, but now that source has disappeared. The Ministry of Agriculture needs support in surveillance, quarantine, vaccination and TAD control programmes. The Ministry has opened vacancies to recruit and train some 200 veterinary surgeons, but this is too late for the present threats.</p> <p>On the other hand, high feed prices and pressure on seasonal pastures and rangelands are forcing Lebanese farmers out of business. Some 12 000 Syrian Mountain and Shami goats have crossed into northern Lebanon and settled – bringing the added threat of overgrazing, land degradation and potential desertification. Lebanese returnees used to benefit from Syria’s seasonal pastures and generous feed subsidies but, like the free vaccines, this source has disappeared.</p>	
<p>Expected outcome:</p> <p>Significant reduction in: (i) the threat of TADs and cases of FMD, PPR, etc. reported; and (ii) the number of animals dying, malnourished and being sold at reduced prices.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Increased number of sheep, goats and cattle vaccinated against important serotypes of FMD and PPR. • Veterinary and livestock extension services developed and functioning at the community level in remote areas along the Syrian border. • Improved, proper and timely communication of risks and outbreaks for rapid containment and TAD control programmes. • Increased number of livestock keepers able to retain and make a living from their herds of sheep and goats and dairy cattle in the medium term. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Initiate the development of a national strategy for TAD control through improved epidemio- 	

surveillance, reporting by communities, diagnosis and post-vaccination monitoring of FMD and PPR for a progressive control pathway.

- ✓ Conduct rapid needs assessments and identify livestock keepers at risk due to TADs and animal malnutrition, in partnership with local government extension services, cooperatives and CBOs.
- ✓ Undertake emergency vaccination campaigns of sheep, goats and cattle against FMD and PPR with appropriate types of vaccines.
- ✓ Identify, train and equip community animal health workers to improve veterinary services at the community level in remote areas along the Syrian border.
- ✓ Develop the capacity of community animal health workers and livestock keepers in disease identification and reporting for early outbreak investigation and rapid containment of TADs.
- ✓ Humane slaughtering and correct disposal of animals confirmed as being infected with TADs (by veterinary surgeons registered with the Ministry of Agriculture).
- ✓ Procure quality animal feeds and distribute to target beneficiaries through local NGOs and CBOs.
- ✓ Implement farmer field schools to transfer new and improved animal health, animal feeding and pasture/rangeland management technologies and practices to targeted livestock keepers.

Cost estimate:

Item	USD
Personnel (international and national)	550 000
Contracts (with partners)	720 000
Travel	100 000
Training (implementing partners, staff and beneficiaries)	495 000
Expendable procurement (vaccines, animal feed, etc.)	2 500 000
Non-expendable procurement (vehicles, computers, etc.)	100 000
Technical support services (evaluations, TSS missions, etc.)	125 000
General operating expenses	150 000
Sub-total	4 740 000
Support costs (10% of sub-total)	474 000
Total	5 214 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Lebanon
Project name	<u>L2</u> . Assist returnees and host communities in the impoverished Syria border areas of Lebanon through the recovery and rehabilitation of smallholder agricultural production and marketing
Objective	To restore the agricultural livelihoods of Lebanese returnees, rural communities hosting returnees and Syrian refugees through enhanced crop and livestock production and marketing
Beneficiaries	Some 6 000 poor and vulnerable Lebanese returnee households and their host communities residing in the border areas with Syria
Implementing partners	Ministry of Agriculture, and local NGOs and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 7 535 000
<p>Rationale and justification:</p> <p>It is estimated that the Syria crisis has affected 30 000 poor smallholder Lebanese returnees that have been farming inside Syria for generations, viz: (i) they have lost all of their assets (including houses, farm buildings, livestock, fruit trees, farm machinery and irrigation equipment); (ii), they, and their Lebanese relatives, are now obliged to host their former Syrian neighbours (many of whom are living in unsanitary tented accommodation); and (iii) they have lost access to subsidized Syrian agricultural inputs, such as fertilizers, seeds, pesticides, animal feed, vaccines and animal medicines, and the ability to generate income through cross-border trading in such goods. The highly vulnerable returnees are now hosted in some 136 villages of all districts bordering Syria, most of which represent the poorest population pockets of the country (e.g. Akkar, Baalbek, Hasbaya, Hermel and Marjaayoun) that were already the target of the Government of Lebanon’s social safety-net programmes prior to the Syria crisis.</p> <p>FAO proposes to extend its recently completed “Strengthening Production and Marketing of Lebanese Agricultural Products Project” and expand its ongoing “Recovery and Rehabilitation of the Dairy Sector in Bekaa Valley and Hermel-Akkar Uplands Project” and “Emergency Livelihoods Support for Vulnerable Lebanese who Fled from Syria to Lebanon Seeking Refuge and their Hosting Families Project” (where FAO project management units are already in place). The intervention aims to assist Lebanese returnees and their host families with demand-driven, community-based and participatory value chain approaches to agricultural livelihood recovery and rehabilitation – through the provision of agricultural livelihood packages (selected from a menu of proven and sustainable interventions) and appropriate training.</p>	
<p>Expected outcome:</p> <p>Improved food and nutrition security and enhanced income generation through restoring the agricultural livelihoods of poor and vulnerable returnee smallholder Lebanese farming families and their host communities residing in the border areas with Syria.</p>	
<p>Expected results (in line with ongoing FAO projects):</p> <ul style="list-style-type: none"> • Reduced food insecurity of 5 000 affected farming households through increases in crop and livestock production. • Enhanced income generation of 1 000 affected farming households through increased opportunities in food processing, packaging, storage and marketing. • Improved food nutrition and food safety of 6 000 affected farming households through the increased consumption of fruit, vegetables and dairy produce and the adoption of more hygienic production and processing practices. 	

- Capacities of stakeholders developed to financially and environmentally sustain the project's interventions (i.e. 100 staff of public and private service providers, 250 representatives of farmers' groups, and male and female beneficiary farmers).

Key activities (as validated by ongoing FAO projects):

- ✓ Conduct rapid needs assessments and identify beneficiaries, in partnership with local NGOs and CBOs.
- ✓ Provide technical assistance and agricultural inputs, and supervise the provision of agricultural packages to affected farming families to restore their household and community assets through participatory and demand-driven approaches including: (i) the restocking of quality pregnant sheep and/or goats; (ii) artificial insemination services for surviving heifer cows; (iii) provision of concentrated animal feed and quality forage seeds, milking machines, quality tree seedlings of improved varieties (e.g. apple, apricot, almond and cherry), high-yielding hybrid varieties of vegetable seeds, hand tools, organic manures and nutrient fertilizers; and (iv) cash-for-work for the improvement/ rehabilitation of small-scale farmer-managed irrigation systems.
- ✓ Provide technical assistance and appropriate equipment and materials, and supervise the provision of appropriate equipment and materials, in support of household and community-based food processing, packaging and marketing interventions for high-value dairy and meat products, fruit, vegetables, etc.
- ✓ Improve the quality and hygiene of food handling and processing (in particular, milk production, packaging, transportation and marketing) through the provision of mini-sanitary and grading kits to household and community-based processing units.
- ✓ Improve household food nutrition through the provision of improved kitchen utensils and storage containers, as well as training in nutritious diets and food handling, preparation and storage.
- ✓ Assist and guide male and female beneficiary farmers in joining existing cooperative associations to ensure financial sustainability of the project's interventions.
- ✓ Train public and private service providers in group-based participatory extension approaches (e.g. farmer field schools), group dynamics and administration, value chain development, food safety control, etc.
- ✓ Transfer good agricultural practices; new and improved crop and livestock production and post-harvest technologies and practices; improved water management; good hygiene and food safety; as well as group (cooperative) administration to male and female beneficiary farmers through the implementation of farmer field schools.

Cost estimate:

Item	USD
Personnel (international and national)	800 000
Contracts (with implementing partners and service providers)	150 000
Travel	200 000
Training (implementing partners, service providers and beneficiaries)	500 000
Expendable procurement (agricultural inputs, etc.)	4 300 000
Non-expendable procurement (vehicles, computers, etc.)	250 000
Technical support services (evaluations, TSS missions, etc.)	350 000
General operating expenses	300 000
Sub-total	6 850 000
Support costs (10% of sub-total)	685 000
Total	7 535 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Turkey
Project name	T1. Support to ‘micro-gardening’ initiatives for improved food nutrition and income generation in selected Syrian refugee camps of Turkey
Objective	To improve the income-generation capacity and nutritional status of Syrian refugees
Beneficiaries	2 000 impoverished Syrian refugees with no opportunity to find seasonal work outside of refugee camps, particularly women and youth
Implementing partners	Kilis (and other) Provincial Directorates for Food, Agriculture and Livestock, AFAD and local NGOs
Duration	One year
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 506 000
<p>Rationale and justification:</p> <p>The Government of Turkey has established 17 camps for Syrian refugees – which provide medical and educational services and three meals per day – and continues to construct new ones. There is insufficient space for refugees to operate kitchen gardens to grow vegetables and rear small livestock such as chickens and rabbits. However, there is evidence from some camps that refugees are growing vegetables and herbs in small containers around, or hanging from, their tents and containerized housing units. This is despite the Disaster and Emergency Management Presidency of Turkey (AFAD) and the Turkish Red Crescent stating that there is no need for such food production, given the “three meals per day” policy and the risk of unhygienic conditions developing within the camps.</p> <p>However, the Provincial Government of Kilis has recently announced that all new Syrian refugee camps in its province will include areas designated for refugees to grow fruits, vegetables, herbs, etc. – more for reasons of occupational therapy than for the provision of added nutrients and vitamins to diets and small amounts of income generated from the sale of produce. FAO proposes to draw on its global experience of working with refugees in emergency situations and provide technical assistance to the Provincial Directorates for Food, Agriculture and Livestock, AFAD and local NGOs in the establishment of short-season ‘micro-gardens’ within the limited space of refugee camps. The project also proposes to build the capacity of impoverished refugees (particularly women and youth) to generate income from the sale of produce grown in the gardens, while improving their nutritional status in the camps.</p>	
<p>Expected outcome:</p> <p>Enhanced nutritional status and income-generation capacity of impoverished Syrian refugees through support to ‘micro-gardening’ initiatives in selected refugee camps.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Some 2 000 refugee families (with a minimum of 50 percent as women-headed households) are accessing free, fresh and healthy food within three months of production unit establishment, and generating supplementary income from the sale of surplus production. • Capacities built and integrated and participatory approaches for improving food and nutrition security in confined spaces (and among Syrian refugees) institutionalized by stakeholders, such as Directorates for Food, Agriculture and Livestock, AFAD and local NGOs. 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Provide technical assistance and specialized agricultural inputs for the design, establishment and operation of seasonal gardens in selected refugee camps. ✓ Conduct rapid needs assessments and identify beneficiaries (with focus on women and youth) in partnership with AFAD and local NGOs. 	

- ✓ Undertake simple garden design and planting regimes (of appropriate, nutritious and saleable fruit, vegetables and herbs) for project beneficiaries.
- ✓ Provide the necessary and appropriate tools and planting materials to beneficiary households (e.g. seeds, cuttings and seedlings, organic and chemical fertilizers, pesticides, hand tools, watering cans, containers and protective shade and netting).
- ✓ Train project beneficiaries in new and improved horticultural technologies and practices (especially for confined spaces), integrated pest management, food handling and safety, and produce grading and packaging through group-based participatory extension approaches.
- ✓ Identify and support women and youth willing and ready to engage in setting up hygienic food-based retail shops in the Syrian refugee camps.
- ✓ Train project implementing partners/service providers in participatory extension approaches, ‘urban farming/micro-gardening’ production technologies and practices, good agricultural practices, and new and improved post-harvest management technologies and principles of food nutrition and health.
- ✓ Develop urban farming/micro-gardening and food nutrition and health education strategies for Syrian refugees, for replication in other refugee camps and any future protracted disaster.

Cost estimate:

Item	USD
Personnel (internationals and nationals)	60 000
Contracts (with partners)	40 000
Travel	10 000
Training (implementing partners, staff and beneficiaries)	80 000
Expendable procurement (agricultural inputs, etc.)	200 000
Non-expendable procurement (vehicles, computers, etc.)	10 000
Technical support services (evaluations, TSS missions, etc.)	30 000
General operating expenses	30 000
Sub-total	460 000
Support costs (10% of sub-total)	46 000
Total	506 000

	Agricultural Livelihoods and Food Security Impact Assessment and Response Plan for the Syria Crisis in the Neighbouring Countries
Region/Country	Turkey
Project Name	<u>T2</u> . Recovery and rehabilitation of smallholder agricultural production and marketing in the impoverished Syria border areas of Turkey
Objective	To restore income-generating capacities of poor and vulnerable Turkish farming families from communities hosting refugees in the border areas with Syria through the recovery of their agricultural livelihoods
Beneficiaries	Some 2 000 poor and vulnerable smallholder farming households living in rural communities that are hosting Syrian refugees and have lost at least half of their annual farm income as a result of the Syria crisis
Implementing partners	Ministry of Food, Agriculture and Livestock, and local NGOs and CBOs
Duration	Two years
Starting date	April 2013 (subject to the availability of funds)
Funds requested	USD 12 000 000
<p>Rationale and justification:</p> <p>Smallholder families farming within 5 km of the Syria border in Gaziantep, Hatay, Kilis and Saniurfa Provinces have lost more than half of their annual household income as a result of the Syria crisis through, viz: (i) more than 40 percent falls in farm-gate prices for grapes, olives and pistachio nuts because Syrian refugees are returning to their farms, harvesting their crops and returning to Turkey to sell their produce to processors/wholesalers at much reduced prices; (ii) shortages of animal fodder and high animal feed prices and vaccination costs; (iii) insecurity close to the border and looting/damage to irrigation equipment/structures and loss of fruit trees (through a lack of irrigation); (iv) loss of local cross-border trading opportunities with neighbouring communities; and (v) high agricultural input and fuel prices, limited access to agricultural credit and poor dairy animal hygiene (the latter, is not as a consequence of the Syria crisis but a compounding issue).</p> <p>The Government of Turkey’s Ministry of Food, Agriculture and Livestock has subsequently requested FAO to mobilize resources and provide technical and financial assistance to support a project to provide 50 percent grant assistance for key agricultural inputs and capacity building to smallholder farming families affected by the Syria crisis. It is proposed that the project be funded or co-funded by the ongoing FAO-Turkey Partnership Programme (implemented by FAO), following the modalities of the Ministry of Food, Agriculture and Livestock-supported “Rural Development Support Programme” and “South-Eastern Anatolia Project Action Plan”.</p>	
<p>Expected outcome:</p> <p>Restoration of the agricultural livelihoods of rural communities hosting Syrian refugees through the provision of short-term subsidies for key agricultural inputs and capacity development in good agricultural practices.</p>	
<p>Expected results:</p> <ul style="list-style-type: none"> • Improved farm incomes through reduced agricultural input costs and increases in crop and livestock production. • Enhanced household income generation for affected farming families through increased opportunities in food processing, packaging, storage and marketing. • Capacities of stakeholders built to financially and environmentally sustain the project’s interventions (i.e. 120 staff of public and private service providers, and male and female beneficiary farmers). 	
<p>Key activities:</p> <ul style="list-style-type: none"> ✓ Conduct rapid needs assessments and identify beneficiaries in partnership with local NGOs and CBOs. 	

- ✓ Provide technical assistance and supervise the provision of 50 percent grants to affected smallholder farming families – through vouchers for the procurement of livelihood recovery packages, such as animal fodder and vaccines, wheat and lentil seeds, fertilizers, irrigation equipment, organic farming equipment and materials, tractor spare parts and fuel, and household agroprocessing and storage.
- ✓ Provide technical assistance and appropriate equipment and materials and supervise the provision of appropriate equipment and materials in support of household-based food processing, packaging and marketing interventions for high-value dairy and meat products, fruit, vegetables, etc.
- ✓ Improve the quality and hygiene of food handling and processing (in particular milk production, packaging, transportation and marketing) through the provision of mini-sanitary and grading kits to household-based processing units.
- ✓ Provide training to public and private service providers in group-based participatory extension approaches (e.g. farmer field schools), group dynamics and administration, value chain development, food safety control, etc.
- ✓ Transfer good agricultural practices, new improved crop and livestock production and post-harvest technologies and practices, improved water management, good hygiene and food safety practices to male and female beneficiary farmers through the implementation of farmer field schools.

Cost estimate

Item	USD
Personnel (international and national)	1 200 000
Contracts (with implementing partners and service providers)	360 000
Travel	320 000
Training (implementing partners, service providers and beneficiaries)	800 000
Expendable procurement (agricultural inputs, etc.)	7 000 000
Non-expendable procurement (vehicles, computers, etc.)	400 000
Technical support services (evaluations, TSS missions, etc.)	350 000
General operating expenses	4879 000
Sub-total	10 909 000
Support costs (10% of sub-total)	1 091 000
Total	12 000 000

ANNEX 5: LIST OF PERSONS MET

FAO mission members

Christopher Baker	International Consultant, Team Leader
Nasredin Hag Elamin	Senior Policy Officer, Regional Office for the Near East and North Africa (RNE)
Markos Tibbo	Livestock Officer, RNE
Lori Curtis	Socio-Economist/Fisheries Consultant, RNE
Cyril Ferrand	Senior Emergency and Rehabilitation Coordinator, West Bank and Gaza Strip
Hadi Fathallah	Policy Adviser, Lead, Oil and Gas Working Group, Middle East Prospects Forum (Lebanon only)

FAO Regional Office for the Near East, Cairo

Abdessalam Ould Ahmed	Assistant Director-General and Regional Representative for the Near East
Tanja Popovic	Emergency Operations and Liaison Consultant, RNE/TCE Emergency Unit
Irene Omondi	Programme Officer, RNE/TCE Emergency Unit
Mohamed AwDahir	Food Systems Economist
Mohamed Barre	Statistician
Fatima Hachem	Nutrition Officer
Kayan Jaff	Senior Policy Officer
Dost Muhammad	Plant Production and Protection Officer
Elhadi Yahia	Agro-industries and Infrastructure Officer
Bakhta Boualam	Programme Officer (TCP)

FAO Representation in Egypt

Moujahed Achouri	FAO Representative (FAOR) in Egypt and Deputy Regional Representative for the Near East
Mohamed El-Ansary	Assistant FAOR in Egypt
Yilma Jobre	Team Leader, Emergency Centre for Transboundary Animal Disease Operations (ECTAD)-Egypt
Toni Jamil Ettl	Programme Operations Officer, ECTAD-Egypt

FAO Jordan

Talal Al-Fayez	FAOR Administrative Assistant
Banan Mohmond	FAOR Receptionist
Yanal Obeidat	FAOR Secretary

FAO Programme in Iraq (Amman)

Fadel El-Zubi	Senior Programme Coordinator and FAOR to Iraq a.i.
Hilal Mohammed	Chief Technical Adviser/Projects Manager and Deputy Head of Mission
Basem Jumah	Chief Technical Adviser, Fisheries Projects
Deya Al-Fadil	Programme Assistant
Dima Hijazin	Project Assistant
Sabri Ilian	Project Assistant
Rana Al-Naqlah	Operations Assistant
Lana Khalil	Assistant to the Senior Programme Coordinator/Representative

FAO Syria Response Team (Amman)

Marjolaine Martin-Greentree	Interagency Relations
Etienne Peterschmitt	Special Programme Emergency Service (TCE)

FAO Representation in Lebanon

Ali Moumen	FAOR to Lebanon
Georges Nahri	Assistant FAOR (Administration)
Elie Khali Choueiri	Programme Clerk
Mona El Khoury	Personal Assistant to FAOR
Chedly Kayouli	International Livestock Consultant, Recovery and Rehabilitation of the Dairy Sector in Bekaa Valley and Hermel-Akkar Uplands Project
Dany Lichaa	Project Manager, Strengthening Production and Marketing of Lebanese Agricultural Products Project

FAO Representation in Turkey

Ali Emre Yilmazturk	United Nations Joint Programming Assistant
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FAO Subregional Office for Central Asia

Tomasz Lonc	Senior Policy Officer
Ozlem Mutlu	Policy Junior Technical Officer
Abdulbaqi Mahraban	Livestock Officer
Haydar Fersoy	Fisheries Officer
Ufuk Kirmizi	Consultant Project Manager, Assessment and Stewardship of Globally Important Agricultural Heritage Systems in Azerbaijan and Turkey
Sinan Aktas	Project Manager, Livestock Development
Cagatay Cebi	Junior Technical Officer, Livestock Development

United Nations agencies

Egypt

Anita Nirody	UN Resident Coordinator and United Nations Development Programme (UNDP) Resident Representative, Egypt
Rania el Masri	Environment and Energy Policy Specialist, Regional Bureau for Arab States, Regional Centre in Cairo, UNDP
Mohammad Pournik	Poverty Practice Leader, Regional Bureau for Arab States, Regional Centre in Cairo, UNDP
Maraan Abi Samra	Social Policy and Civil Society Adviser, Regional Bureau for Arab States, Regional Centre in Cairo, UNDP
Faten Tibi	Programme Specialist and Manager of Regional Programme for Youth (Syria), Regional Bureau for Arab States, Regional Centre in Cairo, UNDP
Mohamed Dayri	Regional Representative, Office of the United Nations High Commissioner for Refugees (UNHCR)
Ziad Ayoubi	Livelihood Officer, UNHCR
Asif Niazi	Regional Programme Adviser, Vulnerability Analysis and Mapping (VAM), World Food Programme (WFP)
Maria Desojo	Regional Emergency Officer, WFP

Ellen Kramer	Regional Programme Adviser, WFP
Gianpietro Bordignon	Country Director and Representative, Egypt, WFP
Noura Abdelwahab	Programme Officer, WFP
Piera Francesca Solinas	Country Programme Coordinator, International Organization for Migration (IOM)
Martina Salvatore	Programme Support Officer, IOM
Gehad Emad	Migration Health Coordinator, IOM
Katja Schafer	Human Settlements Officer, United Nations Human Settlements Programme (HABITAT)

Jordan

Anna Paolini	Head of Office/Representative to Jordan, United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Resident Coordinator a.i.
Giordano Segneri	Coordination Adviser, Office of the United Nations Resident Coordinator
Maha Ahmed	Representative and Country Director, WFP Jordan
Yaver Sayyed	Programme Officer, WFP Jordan
Mohammad Ismail	Programme Officer, WFP Jordan
Byron Ponce-Segura	VAM Officer, WFP Jordan
Akram Ali Eltom	World Health Organization (WHO) Representative for Jordan and Head of Mission
Lisa Gilliam	Deputy Chief of Staff, Executive Office, United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)
Brendan McDonald	Senior Humanitarian Affairs Officer/Roaming Emergency Surge Officer, United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA)
Mandie Alexander	Monitoring and Evaluation Officer, IOM Iraq
Diana Moulla	Reporting and Communication Officer, IOM Iraq
Andrew Harper	UNHCR Representative in Jordan and Humanitarian Coordinator a.i.
Nadia Al Awamleh	Socio-economic Portfolio Analyst, UNDP Jordan
Yara Mubaidin	Socio-economic Portfolio Associate, UNDP Jordan

Lebanon

Alexander Costy	Head of Office, Office of the United Nations Resident Coordinator for Lebanon (UNSCOL)
Hagop Kauyoumdjan	Coordination Officer, UNSCOL
Nadim Khouri	Deputy Executive Director, Economic and Social Commission for Western Asia (ESCWA)
Carol Cherfane	Chief, Water Resources Section, Sustainable Development and Productivity Division, ESCWA
Martti Antola	Partnerships and Resource Mobilisation Officer, Strategic Direction and Partnerships Section, ESCWA
Bassel Kghadou	Project Coordinator, ESCWA
Ragged Assi	Programme Manager, Social and Local Development Programme, UNDP Lebanon
Nada Sweidan	Programme Associate, Social and Local Development Programme, UNDP Lebanon
Christina Blunt	Senior Humanitarian Adviser, UN-OCHA Lebanon
Ann Dismorr	Director of UNRWA Affairs in Lebanon/United Nations Resident Coordinator a.i.
Agust Flygenring	Special Assistant to the Director of UNRWA Affairs in Lebanon
Etienne Lebande	Officer-in-Charge/Emergency Coordinator, WFP Lebanon
Cosette Maiky	Donor Liaison and Project Development Coordinator, IOM

Turkey

Shahid Najam	United Nations Resident Coordinator and UNDP Resident Representative in Turkey
Karim Atassi	Deputy Representative, UNHCR Turkey
Brenda Goddard	Senior Protection Officer, UNHCR Turkey
Felicia Mandy Owusu	Senior Programme Officer, UNHCR Turkey
Robin Ellis	Senior Operations Coordinator, UNHCR Gaziantep
Fuat Ozdogru	Field Coordinator, UNHCR Gaziantep
Kamil Sultan	Field Assistant, UNHCR Gaziantep
Meera Sethi	Chief of Mission, IOM Turkey
Mazen Aboul Hosn	Emergency/Psychological Officer, IOM Turkey
Sinan Izci	National Operation Officer, IOM Turkey
Christina Hobbs	Programme Officer, WFP Turkey
Gokhan Yildirimkdyd	National Coordinator, United Nations Population Fund (UNFPA) Turkey
Metten Agduk	Gender Coordinator, UNFPA Turkey
MariaCristina Profili	Representative, WHO Country Office in Turkey
Usame Yalcin	Operation Manager, UNDP

Development partners

Jordan

Shereen al Uzaizi	Senior Economic Specialist, Embassy of the United States of America
Tim Russell	Outreach to Jordan-based Syrian Oppositionists, Political Section, Embassy of the United States of America
Barbara Krell	Senior Development Adviser, United States Agency for International Development (USAID)
Scott Christiansen	Director, Water Resources and Environment, USAID
Peter Chisholm	Regional Refugee Coordinator, USAID
Nasri Haddad	Consultant Regional Coordinator for the West Asia Regional Program, International Center for Agricultural Research in the Dry Areas (ICARDA)
Mounir Louhaichi	Senior Scientist, Rangeland Ecology and Management, ICARDA
Serkan Ates	Forage Scientist, ICARDA
Yigezu Atnafe Yigezu	Agricultural Economist, ICARDA
Aden Aw-Hassan	Director Social, Economics and Policy Research Programme, ICARDA
Malika A-Martini	Socio-Economist (Rural Development and Gender Research), ICARDA
Bezalet Dessalegn	WLI Communication and Project Management Specialist, ICARDA
Abdulla Nasser Sultan Al Amri	Ambassador, Embassy of the United Arab Emirates

Lebanon

Koen Geerts	Assistant Director-General-Corporate Services, ICARDA
Hassan Machlab	Country Manager-Lebanon, ICARDA
Tareq Bremer	Grants Management Officer, Project Development and Grants Management Group, ICARDA
Ferid Belhaj	Director, Middle East Department, Middle East and North Africa Region, World Bank
Eric Le Borgne	Lead Country Economist, Middle East and North Africa Region, World Bank
Najla Nakhle	Economist-Head of Office, Local Office in Beirut, International Monetary Fund
Anissa Toscano	Senior Humanitarian Adviser, Middle East and North Africa Department, United Kingdom Department for International Development (DFID)

Governments

Egypt

Abdel El-Moniem El-Banna	President of the Agricultural Research Center (ARC), Ministry of Agriculture (MoA)
Mona Mehrez Aly	Supervisor for the Central Administration of Foreign Agricultural Relations, MoA
Adel Shaaban Mostafa	Director of Organizations and Conferences, Central Administration of Foreign Agricultural Relations, MoA
Mohamed Abdel El-Naby	Director, Agricultural Economics Research Institute, ARC, MoA
Hany Mohamed Ramadan	Director, Soil, Water and Environment Research Institute, ARC, MoA
Abdel Aziz Abdel Aziz	Director, Field Crops Research Institute, ARC, MoA
Hesham Allam	Director, Horticultural Research Institute, ARC, MoA
Khaled Osman	Director, Animal Production Research Institute, ARC, MoA
Shereen Galal Mohamed Kholousy	Head, Laboratory Information Management Unit, Central Laboratory for Quality Control on Poultry Production, MoA
Osama Mahmoud Ahmed Selim	Chief Veterinary Officer, General Organisation for Veterinary Services, MoA
Soheir Hassan Abd El Kader	Undersecretary of Central Administration of Preventive Medicine, General Organisation for Veterinary Services, MoA
Randa Labit Hassan	Deputy Assistant Minister for Arab East Affairs, Ministry of Foreign Affairs (MoFA)
Ahmed El Shandawily	First Secretary, Arab East Affairs, MoFA
Mohamed Abubakr Fattah	Director, International Specialised Agencies Affairs, MoFA

Jordan

Radi Tarawneh	Secretary-General, Ministry of Agriculture (MoA)
Ahmed Kayali	Director of International Cooperation and Trade Agreements Department, MoA
Rami Habuhev	Director of Agricultural Policy Department, MoA
Muneer Halasa	Director of Plant Production Department, MoA
Setan Al-Serhan	Director of Plant Protection Department, MoA
Ayman Al-Salti	Head of Animal Production, MoA
Salah Tarawneh	Assistant Director-General for Marketing and Information
Majed Zakaria	Director of Marketing Department, MoA
Mahmoud Rabei	Manager of Information System, MoA
Feda Faleh Gharibeh	Director, Humanitarian Aid Coordination Unit, Ministry of Planning and Cooperation (MoPC)
Omar Nuseir	Senior Coordinator, Humanitarian Aid Coordination Unit, MoPC
Ahmad Al-Jazzar	Head of Water and Agriculture Section, Projects Department, MoPC
Samar Jumean	Senior Agricultural Engineer, Projects Department, MoPC
Hassouni Muhailan	Assistant General-Secretary, Internal Trade and Director of Market Control and Supply, Ministry of Industry and Trade (MoIT)
Ahmed Hammad	Head of Trade Policy Division, MoIT
Nidal Abbadi	Foreign Trade Policy and Relations Department, MoIT
Fakhry Haziameh	Director of the Office for Economic Affairs, Embassy of Hashemite Kingdom of Jordan in Geneva
Kamal Saleh	Assistant Director-General, Department of Statistics (DoS)
Fouad Irtiemeh	Director, Agricultural Statistics Directorate, DoS
Ahmad Al-Masri	Head of External Trade Division, DoS
Shaher Al-Shawabkeh	Director, Economic Surveys Directorate, DoS

Mohamed AbdelRazaq	Head of Prices and Consumption Costs Division, DoS
Ahmed Al-Majali	Dean, Faculty of Veterinary Medicine, Jordan University of Science and Technology (JUST)
Ehab A. Abu-Basha	Vice-Dean of Faculty of Veterinary Medicine, JUST
Faisal Abdedeldayem	Manager, Jordan Bio-Industries Centre

Lebanon

Wael Abou Faour	Minister of Social Affairs (MoSA)
Hala El-Helou	Project Manager, National Volunteer Service Program, MoSA
Ramzi Naaman	Director, National Poverty Targeting Program for Social Safety Nets, Office of the Prime Minister
Louis Lahoud	Director-General, Ministry of Agriculture (MoA)
Atwi Hassan	Minister's Adviser, MoA
Manar Dagher	Assistant for International Relations, MoA
Nabih Ghaouch	Animal Resources Director, MoA
Obeida Moudawar	Head of Export Import, Animal Quarantine Service, MoA
Imad Saad Sawan	Veterinary Surgeon, MoA, Baalbek
Ghassan Nasrallah	Chief of Service, Customs Computer Centre, Customs Higher Council
Issam Blaibal	Vice-president, Hermal Municipality, Hermal
Ibrohim Allow	Secretary, Hermal Municipality, Hermal
Badri Nasraddine	President, El Qasar Municipality, El Qasar
Ahmed Ghaz	President, Fussane Municipality, Fussane
Rkan Mohamed Jaafar	Deputy-chairman, Fussane Municipality, Fussane

Turkey

Naciye Gokcen Kaya	Deputy Director-General for Multi-national Economic Affairs, Ministry of Foreign Affairs (MoFA)
Mehmet Bulut	Acting Head of Department, Deputy Directorate General for Multi-national Economic Affairs, MoFA
Ercan Ozten	Head of Department, Bilateral Economic Affairs Department, MoFA
Sait Guney	Attaché, Deputy Directorate General for the Middle East, MoFA
Emre Battai	Attaché, Deputy Directorate General for Relations with Iraq, MoFA
Emine Guher Celtek	Deputy Director-General, European Union and External Affairs Department, Ministry of Food, Agriculture and Livestock (MoFAL)
Deniz Berber	Head of Department, Department of International Organizations, MoFAL
Tuna Ozgul	Head of Department, Department of Economic and Technical Relations, MoFAL
Hilmi Ergin	Veterinarian, Department of International Organizations, MoFAL
Ali Ayar	Head of Animal Breeding Department, General Directorate of Livestock, MoFAL
Nahit Yazicioglu	Head of Animal Health and Quarantine, General Directorate of Food and Control, MoFAL
Ibrahim Yilmaz	Director, Gaziantep Provincial Directorate for Food, Agriculture and Livestock
Ahmet Avci	Deputy Director, Gaziantep Provincial Directorate for Food, Agriculture and Livestock
Songol Kadioglu	Director, Kilis Provincial Directorate for Food, Agriculture and Livestock
Seyfullah Gencer	Head of Livestock Department, Kilis Provincial Directorate for Food, Agriculture and Livestock
Kenal Arslan	Agricultural Engineer, Islahiye District Food, Agriculture and Livestock Office
Irfan Dagdelen	Veterinarian, Islahiye District Food, Agriculture and Livestock Office

Hasan Kuru	Veterinarian, Islahiye District Food, Agriculture and Livestock Office
Emine Sendil	Deputy Director-General, General Directorate of Agreements, Ministry of Economy (MoE)
Elcin Edis	Head of Department, General Directorate of Agreements, MoE
Alper Eriten	Foreign Trade Specialist, General Directorate of Agreements, MoE
Evren Subasi	Export Promotion Expert, General Directorate of Agreements, MoE
Ahmet Dargin	General Directorate of Exportation, MoE
Holis Kaya	Chief of Section, Department of Agricultural Goods, General Directorate of Exportation, DoE
Sema Akman	Department of Agricultural Goods, General Directorate of Importation, DoE
Ibrahim Donmez	AFAD Camp Manager, Islahiye-Gaziantep Syrian Refugee Camp
Kubilay Bakir	Head of Security, Islahiye-Gaziantep Syrian Refugee Camp
Ali Ugar	Deputy Director, Disaster and Emergency Management Presidency (AFAD), Gaziantep Province
Ahmet Karatepe	Deputy Governor, Kilis Province
Adil Naz	Deputy Governor, Gaziantep Province

Non-governmental Organizations

Egypt

Sofia Tekidou	Community Outreach Team Leader, Africa and Middle East Refugee Assistance (AMERA)-Egypt
Sarah Hodgson	Psychosocial Team Leader, AMERA-Egypt
Rima Shami	Community Outreach Officer, AMERA-Egypt

Jordan

Mahmoud Obaidat	President, Hartha Charitable Society, Hartha, Irbid Governorate
Gaia Van Der Esch	ACTED

Lebanon

Blanca de Mesa	Directora de Relaciones Institucionales and Alberto Bocanegra Vidal, Head of Mission, <i>Fundación Promoción Social de la Cultura Lebanon</i>
Kamal Siouf	– President of Board Committee, CARITAS Lebanon

Turkey

Mehmit Tonyali	Turkish Red Crescent, Islahiye-Gaziantep Syrian Refugee Camp
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Others

Sima Diab	Syrian Community Centre Focal Point, Cairo, Egypt
Nidal Al-Bashabsheh	President, Al-Anam Jordan Est, Ar-Ramtha, Jordan
Tha'eri Al-Bashabsheh	General Manager, Al-Anam Jordan Est, Ar-Ramtha, Jordan
Ziad Homs	Chairman, Amman Chamber of Commerce, Jordan
Saad Adb-Wadoud Yassin	Secretary General and Board Member, Amman Chamber of Commerce, Jordan
Anwar Haddad	Executive Director, Jordan Exporters and Producers Association for Fruit and Vegetables
Zuhair Jweihan	Chairman, Jordan Exporters and Producers Association for Fruit and Vegetables

Elie Massoud	Agriculture Department, Chamber of Commerce, Industry and Agriculture of Beirut and Mount-Lebanon
Rami Zurayk	Professor of Land and Water Resources, Faculty of Agriculture and Food Sciences, American University of Beirut, Lebanon
Hussein Sakr	Local Development Expert, GFA Consulting Group, European Union-funded Local Development in Northern Lebanon Project, Hermal
Rhoder Jaafar	Chairman, Hermal Cooperative, Hermal
Bassam Nasser	Chief Executive Officer Bakaa Regional Cooperative, Hermal
Ali Hassan	President, Fussane Cooperative, Fussane
Mohamed Kromba	President of Qaa Agriculture and Dairy Project, Ras Baalbek

ANNEX 6: MISSION ITINERARY

Date	Location	Tasks
3 February 2013		Travel: Milton Keynes to London to Cairo.
4 February 2013	Cairo	Briefing meeting with FAO-RNE-TCE staff. Briefing meeting with FAO Assistant Director-General and Regional Representative, RNE. Initial mission team meeting. Two teleconferences with FAO/TCER Jordan. Teleconference with TCE Rome, Syria and Jordan.
5 February 2013	Cairo	Meeting with Assistant FAO Representative (FAOR) in Egypt. Meeting with FAO-RNE Technical Officers. Meeting with WFP Regional Programme and Egypt Country Officer. Meeting with UN Resident Coordinator and UNDP Resident Representative, Egypt. Meeting with UNDP Bureau for Arab States, Regional Centre in Cairo. Template for impact assessment and response plan report.
6 February 2013	Cairo	Discussions with TCE staff. Started Syria Crisis Impact Assessment and Response Plan. Meeting with the Ministry of Agriculture's Agricultural Research Center. Meeting with International Organization for Migration (IOM). Meeting with UNHCR field staff at a Syrian refugee community registration centre at Zamalek in Cairo. Meeting with AMERA (UK/Egypt NGO). Meeting with UNHCR.
7 February 2013	Cairo	Mission team meeting. Meeting with Ministry of Foreign Affairs. Meeting with Sima Diab, associated with Syrian Community Center in 6 th October City, Cairo. Meeting with FAO/Emergency Centre for Transboundary Animal Disease Operations (ECTAD) Egypt. Meeting with FAOR in Egypt and Deputy Representative for the Near East. Meeting with United Nations Human Settlements Programme (HABITAT), Egypt.
8 February 2013	Cairo Amman	Started mission report. Started "FAO Regional Assessment of Syria Crisis" document. Travel: Cairo to Amman. Discussions with FAO Syria Emergency Response Team.
9 February 2013	Amman	Discussions with Senior Programme Coordinator and FAO Representative to Iraq a.i. Meeting with staff of the FAO Programme in Iraq. Continued "FAO Regional Assessment of Syria Crisis" document.
10 February 2013	Amman	Discussions with staff of FAO Jordan. Meeting with the Ministry of Agriculture. Meeting with the Ministry of Planning and International Cooperation. Continued "FAO Regional Assessment of Syria Crisis" document.
11 February 2013	Northern Jordan	Visited Zaatari Refugee Camp in Al Mafraq Governorate, and focus group discussions with Syrian refugees. Visited host community centre in Ar Ramtha, and focus group discussions with NGO staff and Syrian refugees. Visited roadside wholesale fruit and vegetable market on the Syrian border at Ar Ramtha. Visited Hartha Charitable Society in Hartha of Irbid Governorate, and discussions with NGO president and a host family for Syrian refugees. Discussions with Bedouin sheep herders at Hartha.
12 February 2013	Amman	Meeting with USAID, Jordan. Meeting with WFP, Jordan.

Date	Location	Tasks
		<p>Meeting with WHO. Meeting with Ministry of Industry and Trade. Meeting with Faculty of Veterinary Medicine, Jordan University of Science and Technology. Meeting with United Nations Resident Coordinator a.i/UNESCO Representative to Jordan. Meeting with ACTED. Meeting with the Department of Statistics. Prepared template for project profiles.</p>
13 February 2013	Amman	<p>Meeting with the International Center for Agricultural Research in the Dry Areas (ICARDA). Meeting with the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). Meeting with the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). Meeting with IOM Iraq. Meeting with the Ambassador for the Embassy of the United Arab Emirates. Teleconference with TCE staff, FAO-RNE. Discussions with staff of the FAO Programme in Iraq. Meeting with UNDP, Jordan. Mission team meeting. Travel: Amman to Beirut.</p>
14 February 2013	Beirut	<p>Meeting with FAOR in Lebanon and staff of the FAO Representation. Meeting with the Office of the Resident Coordinator for Lebanon. Meeting with the Ministry of Social Affairs and Office of the Prime Minister. Meeting with ICARDA. Meeting with <i>Fundacion Promocion Social de la Cultura</i>. Meeting with Economic and Social Commission for Western Asia (ESCWA) Meeting with UNDP Lebanon. Meeting with OCHA Lebanon. Meeting and field visit with CARITAS. Meeting with United Nations Resident Coordinator a.i/Director of UNRWA Affairs in Lebanon. Meeting with the World Bank Middle East Department and International Monetary Fund Local Office in Beirut. Continued mission report. Drafted project profile titles.</p>
15 February 2013	Beirut	<p>Meeting with the United Kingdom Department for International Development (DFID). Meeting with WFP Jordan. Meeting with Ministry of Agriculture. Continued "FAO Regional Assessment of Syria Crisis" document. Meeting with Customs Higher Council, Lebanon. Meeting with Agriculture Department, Chamber of Commerce, Industry and Agriculture of Beirut and Mount-Lebanon. Meeting with IOM Lebanon. Meeting with the Embassy of Japan. Participated in UNHCR interagency meeting. Meeting with the Faculty of Agriculture and Food Sciences, American University of Beirut.</p>
16 February 2013	Bekaa Valley	<p>Visited Zehle Milk Processing Factory (supported by FAO). Meeting with Hermal Municipality. Focus group discussions with Lebanese returnees, dairy farmer and fruit and vegetable seller in El Qasar at Syrian border crossing. Focus group discussion with host community and Syrian refugees (renting houses) in Fussane.</p>

Date	Location	Tasks
	Beirut	Focus group discussion with Syrian refugees (living in tents) on dairy farm in Ras Baalbek. Meeting with members of the Qaa Agriculture and Dairy Cooperative (supported by FAO) in Ras Baalbek. Visited FAO project office for its “Recovery and Rehabilitation of Dairy Sector in Bekaa Valley and Hermel-Akkar Uplands” in Zehle. Debriefing with FAOR and staff of FAO Representation. Mission team meeting.
17 February 2013	Ankara	Travel: Beirut to Istanbul to Ankara. Literature review. Continued mission report.
18 February 2013	Ankara	Briefing from FAO’s Joint Programming Assistant. Meeting with United Nations Resident Coordinator and UNDP Resident Representative in Turkey. Meeting with UNHCR Turkey. Meeting with Animal Breeding Department, Ministry of Food, Agriculture and Livestock (MoFAL). Meeting with IOM Turkey. Meeting with Multilateral Economic Affairs Department, Ministry of Foreign Affairs (MoFA). Meeting with WFP Turkey. Mission team meeting with FAO’s Joint Programming Assistant. Prepared agricultural questions for UNHCR refugee profiling questionnaire.
19 February 2013	Ankara	Teleconference with TCE staff, FAO-RNE. Meeting with officer-in-charge of FAO Subregional Office for Central Asia (SEC). Meetings with technical officers of FAO/SEC. Meeting with United Nations Country Team in Turkey. Meeting with Treaties/Agreements General Directorate, Ministry of Economy. Meeting with Bilateral Economic Affairs Department, MoFA.
20 February 2013	Ankara	Meeting with Ministry of Food, Agriculture and Livestock. Discussions with technical officers of FAO/SEC. Prepared PowerPoint presentation for FAO-RNE. Continued Syria Crisis Impact Assessment and Response Plan. Travel: Ankara to Gaziantep.
21 February 2013	Gaziantep	Briefing meeting with UNHCR Gaziantep team. Meeting with Gaziantep Provincial Directorate for Food, Agriculture and Livestock. Visited Islahiye Refugee Camp and meeting with camp staff (MoFA, Turkey Red Crescent, etc.). Visited smallholder dairy and vegetable farm with Islahiye District agricultural and livestock staff. Teleconference with FAO/SEC Subregional Representative.
22 February 2013	Kilis Gaziantep	Meeting with Kilis Provincial Directorate for Food, Agriculture and Livestock. Meeting with Deputy Governor, Kilis Province. Visited mixed farming village in Kilis District. Meeting with Deputy Governor and AFAD Deputy Director, Gaziantep Province. Wrap-up meeting/teleconference with UNHCR Gaziantep. Travel: Gaziantep to Istanbul
23 February 2013	Cairo	Travel: Istanbul to Cairo