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ESCWA

STRATEGIC REVIEW OF FOOD AND NUTRITION SECURITY IN LEBANON

MAY 2016

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FOREWORD

The 2030 Agenda for Sustainable Development has set Zero Hunger as one of the world's major development goals. As countries around the world step up efforts to achieve their individual targets, Lebanon is also working towards the implementation of the Agenda 2030 under particularly challenging circumstances caused by the spill-over of several regional crises.

The Government of Lebanon and its concerned Ministries together with national and international partners are collaborating to address the country's food security and nutrition challenges and to progress towards the implementation of Agenda 2030's sustainable development goals.

In their support, and to study the current situation with a view towards enabling the prioritization of policy reforms, the United Nations Economic and Social Commission for Western Asia (ESCWA) and the World Food Programme (WFP) joined forces to commission an in-depth analysis of the country's food security and nutrition context.

This comprehensive Strategic Review of Food and Nutrition Security in Lebanon builds on existing studies and research on food security and nutrition in the region and was conducted in a participatory manner giving a voice to numerous stakeholders. It aims to support and broaden the ongoing discussion on how to increase food security and on what needs to be done by all involved stakeholders to reduce long-term vulnerability and improve overall nutrition in Lebanon.

The discussion makes a case for economic, social and environmental policies that require greater integration and cooperation among many public, private and civil society institutions in Lebanon in order to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture."

On behalf of ESCWA and WFP, we hope that the findings and recommendations of this Strategic Review will be helpful to the Government of Lebanon and the international community to make the most of their efforts in addressing the existing gaps and reach SDG2 by 2030; a goal that both Lebanon and its people can achieve.

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Director Economic Development
and Integration Division,
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ABBREVIATIONS

AUB	AMERICAN UNIVERSITY OF BEIRUT
ARDP	AGRICULTURAL AND RURAL DEVELOPMENT PROGRAMME
BDL	BANQUE DU LIBAN
CAS	CENTRAL ADMINISTRATION OF STATISTICS
CDR	COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION
DGCB	DIRECTORATE GENERAL OF CEREALS AND BEETROOT
EAA	EUROPEAN UNION ASSOCIATION AGREEMENT
EFTA	EUROPEAN FREE TRADE ASSOCIATION AGREEMENT
ESCWA	ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA
EU	EUROPEAN UNION
FAO	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
GAFTA	GREATER ARAB FREE TRADE AREA
GDP	GROSS DOMESTIC PRODUCT
HACCP	HAZARD ANALYSIS CRITICAL CONTROL POINT
IPCC	INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
SDG	SUSTAINABLE DEVELOPMENT GOALS
LARI	LEBANESE AGRICULTURAL RESEARCH INSTITUTE
LIBNOR	LEBANESE STANDARDS INSTITUTE
FGD	FOCUS GROUP DISCUSSIONS
IDAL	INVESTMENT DEVELOPMENT AUTHORITY OF LEBANON
INGO	INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS
ICARDA	INTERNATIONAL CENTRE FOR AGRICULTURAL RESEARCH IN DRY AREAS
IYCF	INFANT AND YOUNG CHILD FEEDING
LCRP	LEBANON CRISIS RESPONSE PLAN
MENA	MIDDLE EAST AND NORTH AFRICA
MDG	MILLENNIUM DEVELOPMENT GOALS
MOA	MINISTRY OF AGRICULTURE
MOAS	MINISTRY OF AGRICULTURE STRATEGY 2015-2019
MOE	MINISTRY OF ENVIRONMENT
MOET	MINISTRY OF ECONOMY AND TRADE
MOF	MINISTRY OF FINANCE
MOSA	MINISTRY OF SOCIAL AFFAIRS
MOPH	MINISTRY OF PUBLIC HEALTH
MOWE	MINISTRY OF WATER AND ENERGY
NEO	NATIONAL EMPLOYMENT OFFICE
NSSF	NATIONAL SOCIAL SECURITY FUND
NWSS	NATIONAL WATER SECTOR STRATEGY
OCHA	OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS
OECD	ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
PACM	PUBLIC AUTHORITY FOR CONSUMER MARKETS
SDCS	SOCIAL DEVELOPMENT CENTRES
UN	UNITED NATIONS
UNHCR	UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES
UNRWA	UNITED NATIONS RELIEF WORKS AGENCY
VASYR	VULNERABILITY ASSESSMENT OF SYRIAN REFUGEES IN LEBANON
WB	WORLD BANK
WFP	WORLD FOOD PROGRAMME
WTO	WORLD TRADE ORGANIZATION



EXECUTIVE SUMMARY

On September 25th 2015, Lebanon adopted Agenda 2030 and the Sustainable Development Goals (SDGs) which comprise of 17 development goals that aim to end poverty, protect the planet, and ensure prosperity for all. Among those goals is SDG2 which, through five targets, seeks to "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture." While malnutrition is presently not a grave concern for the small Levantine nation, ensuring the dimensions of food and nutrition security (availability, access, utilization, and stability) are sound has, at times, proved difficult.

Known for its mercantile history, Lebanon's markets are one of its lifelines: up to 80 percent of the country's food needs are imported in any given year. Being market savvy, however, comes with both blessings and drawbacks. Since the end of the civil war in 1990, the political tempo has been high; governments have come and gone and policy has been fragmented, not least with respect to food and nutrition security. Tax bases have remained low while successive governments have adapted to spending requirements through borrowing, mostly from local banks. The political turmoil has resulted in economic growth not keeping pace with rising debt which now stands as one of the highest in the world compared to GDP. Partially as a result, social safety nets remain underdeveloped and the poverty rate has remained at around 30 percent.

The official unemployment rate was 11 percent before the arrival of Syrian refugees, yet unofficial estimates place the figure at twice that amount. Between 2011 and 2015, the size of the labour force is thought to have increased by about 50 percent due to the influx of Syrian workers. As a result, youth unemployment is estimated to have increased by 50 percent since 2011, while unemployment among Syrians who are active in the labour market is estimated at 30 percent.

Lebanon's markets never fully opened up to benefit from free trade because, among other factors, key market reforms such as those related to regulating competition and intellectual property never materialized. As a result, Lebanon has a consumer market typified by low concentrations of suppliers together with exclusivity rights and little to no market regulation. As of this writing, Lebanon is still working to pass the legislation required to enter the World Trade Organization.

Heavily indebted, Lebanon is also import dependent on the very foods that it consumes the most, such as bread and other cereals. And while it can maintain a reasonably sufficient supply of food, economic access to food and nutrition creates a raft of issues, especially during price shocks.

In 2007/2008 commodity prices sky-rocketed; food and nutrition security in Lebanon faltered. The government responded by re-introducing subsidies on wheat, bread and flour that it had been phasing out, but the effects on economic access to food were still enormous. In 2008 alone average food prices in Lebanon rose by 18.2 percent and have only recently begun to enter negative territory. The Lebanese felt these prices hikes both in their wallets and their bodies.

As a result of the 2007/2008 price shocks, it is estimated that, on average, micronutrient levels for eight key vitamins and minerals in the Lebanese population fell between 16.3 percent (Calcium) and 2.8 percent (Vitamin C). These reductions were registered at elevated levels in urban areas, where over 80 percent of Lebanese reside. Naturally, the ability of the poor to afford food in this context was also affected. Between 2004 and 2011, the amount of money required to attain minimum caloric needs in one year had risen by

75 percent to around USD 987. Indeed, economic growth and food inflation boomed from 2008 up until 2011, when over one million poor food insecure Syrians arrived in Lebanon seeking refuge from the conflict raging next door.

While all this was taking place, the Lebanese proved resilient, primarily through the workings of private initiatives, government efforts as well as support from the country's comparatively large and wealthy diaspora. The country was able to rely on its markets, its diaspora and its local agricultural production which provides Lebanon with food sufficiency in most fruits and vegetables.

LIKE THE VALLEY IS THE LAND

Once the bread basket of the Roman empire, Lebanon's Bekaa valley remains its largest agricultural area by surface area and production volume. Perhaps fittingly the valley also embodies the ailments of the agricultural sector. Since the 1950s and 1960s households who lived an agrarian life in the valley for generations began to migrate either to Lebanon's cities or to join the ranks of the diaspora. Haphazard construction continues to eat away at arable land which could, potentially, be used as a source of life for Lebanon's needy.

Like the valley, the agricultural sector has also been left behind. According to different estimates, agriculture has fallen from as high as 23 percent of economic output at the end of the last civil war to make up only 4 percent of GDP today. At the same time, agriculture is thought to account for up to 25 percent of employment in the country and up to 80 percent of economic output in rural areas. Agricultural workers are also the poorest workers of any employment sector with around 40 percent of farmhands considered poor, a double burden for the Bekaa valley which hosts the largest proportion of Syrian refugees than any other region of Lebanon, many of whom also work in the agricultural sector.

According to different estimates, agriculture has fallen from as high as 23 percent of economic output at the end of the last civil war to make up only 4 percent of GDP today.

This dour situation, however, masks the agricultural sector's true potential. Around 37 percent of land in Lebanon can be cultivated while current agricultural area is estimated to be just 231,000 hectares, with only half irrigated. Seed diversity is greatly limited while farm holdings remain relatively small and fragmented. Large irrigation projects have floundered and are beset with technical issues while the ability of the government to respond is again limited by financial constraints. At present, the Ministry of Agriculture's budget totals around 0.5 percent of its overall allocations and, without proper funding and technical capacity, the ministry has not been able to offer appropriate extension services to small farm holders. As a result small farm holders do not greatly benefit from information on good agricultural practices, access to research and finance, or a well organised cooperatives sector.

A CRISIS OF NUTRITION AND DISPLACEMENT

After half a decade of dealing with a population influx equivalent to 25 percent of its native population, the Lebanese and the refugees they host have been suffering. The poverty rate among nationals is thought to have risen by around 4 percent to reach some 32 percent of Lebanese while around 70 percent of Syrian refugees cannot meet their basic food needs.

Competition for jobs has increased and wages have been falling due to increased supply of Syrian labour, particularly in low-skilled casual employment. Thus, Syrian refugees are almost completely dependent on food aid, provided primarily by the WFP's cash-for-food voucher programme at participating stores. Indeed, only 11 percent of Syrian refugees in Lebanon were food secure in 2015, a figure which has fallen from 32 percent in 2013.

The Lebanese fare relatively better, but they too are starting to show signs of widespread food and nutrition insecurity. Before the crisis, among certain segments of Lebanon's population (for instance in the South and Bekaa) almost half of those surveyed exhibited forms of food insecurity. Now, due to lack of money and resources, 49 percent of Lebanese have reported being worried about their ability to source enough food, while 31 percent say they were unable to eat healthy and nutritious food over the course of a year.

On the other side of the nutrition spectrum, diets are changing and the Lebanese are moving away from micronutrient-rich diets towards Western diets which are higher in energy, sugar, and fats. The change in diet has resulted in a higher incidence of obesity, which has increased to 10.9 percent for six to 19 year olds and 28.2 percent in adults. The risk of rising obesity remains very real given that, on average, men are more overweight (72.8 percent) than women (59.4 percent). This has increased the risk of other chronic diseases emerging and resulted in deepening poverty due to competing demands on food and healthcare expenditures among both refugees and Lebanese citizens.

HAMSTRUNG RESPONSE

Unaided, Lebanon could not have coped with the arrival of some 1.5 million refugees in the country. The international response to the refugee crisis has helped the country manage and, as of 2015, the Government of Lebanon and the United Nations have embarked on a joint-plan known as the Lebanon Crisis Response Plan (LCRP), which is part of the Regional Refugee and Resilience Plan. The LCRP aims to improve the resilience of Lebanon to the crisis by assisting both the Lebanese and its refugee populations with a wide range of interventions that cover food security, but also employment, infrastructure development and institution building.

49 percent of Lebanese have reported being worried about their ability to source enough food, while 31 percent say they were unable to eat healthy and nutritious food over the course of a year.

This cross-cutting assistance is greatly needed as only around 60 percent of wage earners are covered by the National Social Security Fund (NSSF), Lebanon's largest social protection organization. The other 40 percent of the working age population are either unemployed, self-employed, work in informal sectors or in sectors which are not covered by the labour law such as agriculture and domestic labour. Healthcare is covered by the Ministry of Public Health as long as it has funds available. Patients must provide out-of-pocket payment that reaches up to 15 percent of the total cost of treatment. Most Lebanese who are not covered by some form of official insurance rely on remittances to cover the costs of healthcare as well as education.

RECOMMENDATIONS

Since the onset of the Syrian conflict and refugee crisis, the achievement of SDG2 has become less of an objective and more of a necessity. With an additional one million food insecure refugees to feed and hundreds of thousands of more Lebanese below the poverty line, if a food price shock similar to 2007/2008 were to occur today, the effects would be devastating for food and nutrition security in Lebanon. So while global food commodity prices remain relatively low, now is the time to implement the much needed reforms needed to bolster food and nutrition security.

The first step to resolving any issue—not least food and nutrition security—is to define the problem within the local context. Lebanon cannot respond to food and nutrition security without a clear, comprehensive, multi-stakeholder Food and Nutrition Security Strategy which defines the parameters of response. In tandem, Lebanon will also need to work to transition its current system of social support through subsidies into targeted social programming that eventually leads to the establishment of a universal nationally-defined social protection floor.

Given Lebanon's mix of refugees and host community residents, responsibility for funding such programmes cannot fall on the government alone. International institutions and agencies must continue to support Lebanon to handle so many refugees, both Palestinian and Syrian, while offering technical support to Lebanon in order to improve its social safety nets. Ultimately, working towards facilitating the end of the conflicts that sustain refugees' presence in Lebanon should underlie all efforts.

While Lebanon cannot be self-sufficient in food and nutrition in the foreseeable future, it certainly can become more food sovereign if mechanisms and policies related to food and nutrition security are institutionalized, applied, and monitored. Becoming more food sovereign and achieving SDG2 will entail strategic choices about which local food sectors and products offer the most sustainable and long-term food and nutrition security outcomes, while also enhancing Lebanon's ability to source and access affordable and nutritious food through imports. This will also mean that the country needs to develop and implement a strategy to rationalize local production with trade policy in a manner which is sustainable, especially with regard to supply chains, natural resources (particularly water) as well as associated monetary and opportunity costs.

A country so well endowed in the region with the means to sustain life should not ignore the blessing it possesses. Indeed, the fundamental causes of agriculture's retreat will need to be addressed if Lebanon is to achieve greater food and nutrition security or SDG2. The country already has a comprehensive strategy on which to build this response in the form of the Ministry of Agriculture Strategy 2015-2019. The strategy already entails eight Courses of Action which, if implemented based on national priorities, can prove essential to reaching SDG2 targets.

Without land, no agricultural revival can take place in Lebanon. Thus haphazard construction and the lack of land-use planning must cease and the National Land Use Master Plan should finally be enforced. Lebanon has also drafted a National Water Sector Strategy and needs to work diligently towards its implementation to realise many SDGs by 2030. In terms of food safety, the institution of the farm-to-fork principle will be essential towards ensuring that local agricultural

products can be safely consumed and marketed, both at home and abroad. But without the effective implementation of the new food safety law, these much needed reforms are at risk of remaining ink on paper.

In terms of the refugee crisis, the LCRP already provides the framework to mitigate its negative effects on Lebanon, and its tenents should be supported by the international community. At the same time governmental and non-governmental actors also need to focus on providing the most vulnerable with the means to purchase food and self-subsist. Yet, because evidence shows that refugees are, by a significant degree, the most food and nutrition insecure, the interventions that target them will need to be more heavily focused on alleviating that insecurity. Specifically, Lebanon needs to make good on its commitment to relax working restrictions for refugees in ways that allow them to increase their food and nutrition security as well as comply with Lebanese policy. In turn, the international community should respond by increasing financial support to the country. In parallel, the Lebanese also require interventions that take into account their right to food and nutrition security as well as thriving livelihoods and social mobility.

On a more macro level, it is recommended that employment opportunities form the core of Lebanon's poverty alleviation programmes, for both residents and refugees. The coverage under the current labour law needs to be expanded in order to extend existing social safety nets, increase labour market formalization and, in turn, raise tax revenue to fund that process. Indeed, one of the most essential institutional initiatives to provide food and nutrition security to all people in Lebanon is, and will remain, a deep reform of the social protection regime. Existing institutions such as the NSSF and MoPH health facilities obviously need to be bolstered. However, more immediately the relatively nascent National Poverty Targeting Programme needs to be continually supported and upgraded. Eventually the programme should be streamlined into a unified benefits system, which provides a nationally defined social protection floor to cover all Lebanese citizens in a manner which directly relates to food and nutrition security.

CONCLUSION

Food and nutrition knows no colour or creed, and neither should any considerations to provide these basic human rights. Given its generosity in hosting over 25 percent of its population as refugees, Lebanon deserves to achieve the SDG goals and abolish hunger once and for all.

Lebanon is past the point where not taking action is an option and the potential for Lebanon to achieve SDG2 is there, as are many of the plans, strategies and resources. All that remains is the political will to put aside considerations that have long hindered the ability of Lebanon's people to achieve the food and nutrition security they deserve.



1. SUSTAINABLE DEVELOPMENT GOALS 2030

On 25 September 2015, United Nations member states adopted the Agenda 2030, and within it a set of 17 development goals entitled Sustainable Development Goals (SDGs) that aim **to end poverty, protect the planet, and ensure prosperity for all**.[1] Each goal has specific targets numbering 169 in total, and countries worldwide have committed to work towards achieving these targets over the next 15 years. The SDGs continue and broaden the development agenda prepared by the Millennium Development Goals, which expired in 2015 (See Figure 1). As part of these efforts to implement the Agenda 2030 in Lebanon, a Strategic Review of Food and Nutrition Security in Lebanon was commissioned by the United Nations Economic and Social Commission for Western Asia (ESCWA) and the World Food Programme (WFP).

Despite the effects of the Syrian conflict and refugee crisis on Lebanon, during the MDG period from 2000 to 2015, Lebanon managed to achieve some of the MDG goals and several of their associated targets.[2] According to the most recent official report issued by the government with the assistance of the UN, Lebanon has managed to fulfil MDG2, which aimed to provide universal primary education to all, albeit without considering the effect of the Syrian conflict and refugee crisis on education enrolment of all children in the country.[3] Despite some remaining gaps, Lebanon was also able to achieve MDG3 targets which measured women's empowerment and gender equality in education as well as wage employment and political participation.[4] MDG4, which aimed to reduce child mortality by two-thirds, was achieved with rates reaching those of developed countries.[5] Targets to improve maternal health (MDG5) were also realised.[6]

Lebanon's MDG achievements are remarkable, especially within the context of continuous political turmoil and the increase of its population by more than 25 percent. Thus, it is understandable that Lebanon was not able to achieve MDG goals related to halting and reversing HIV/AIDS (MDG6), adopting environmental programmes and policies as well as reducing biodiversity loss (MDG7), and reforming finances for greater development outcomes (MDG8).[7] Perhaps the most pressing challenge that Lebanon was not able to achieve was MDG1, which aimed to halve the proportion of people in the country living in extreme poverty by 2015.[8] It should be noted, however, that much of the information used to measure MDG targets was compiled and published before the onset of the Syrian conflict and refugee crisis.

Figure 1: Sustainable Development Goals

(Source: United Nations)



Building on Lebanon's MDG achievements and lessons learned, as one part of the post-2015 development agenda, Sustainable Development Goal 2 (SDG2) aims to: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" for all people.[9] The focus on hunger is particularly relevant given that it has been separated from poverty (as reflected in a joint goal under the MDG framework) in order to emphasise its relevance and importance.[10] SDG2 breaks down into a set of five targets (See Figure 2)

and within each target a set of sub-goals aims to guide the prioritisation towards addressing the "Zero Hunger Challenge" within the timeframe of the next 15 years. The Zero Hunger Challenge is an initiative launched by UN Secretary-General Ban Ki-moon in 2012 that adopts an integrated approach to eliminating hunger by working towards zero stunting and good nutrition, and access to adequate food for everyone at all times; sustainable, inclusive and resilient food systems, with no loss or waste of food; and support for smallholders, especially women and young people.[11]

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TARGET 1

- By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

TARGET 2

- By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

TARGET 3

- By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

TARGET 4

- By 2030, ensure sustainable food production systems and implement resilient agricultural prac tices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

TARGET 5

- By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

Figure 2: Sustainable Development Goal 2 Targets (Source: United Nations)



METHODOLOGY

In line with United Nations support to the Government of Lebanon, ESCWA and the WFP commissioned this report to supplement and guide the work of UN agencies and partners towards supporting Lebanon to achieve SDG2.

As such, five key objectives guided the underlying research:

- To establish a joint, comprehensive analysis of Lebanon's food and nutrition security situation within the pillars of the Zero Hunger Challenge and targets of SDG2;
- To determine the progress that policies and programmes aimed at improving food and nutrition security have made for women, men, girls and boys and to identify gaps in response, available resources and institutional capacity;
- To provide a generalised overview of potential resources related to the food and nutrition security sector in Lebanon;
- To discuss and prioritize actions by government and other stakeholders that will be required to meet response gaps and accelerate progress towards achieving zero hunger, and, if possible, provide an overview as to how such actions could be implemented and funded, including through the private sector and civil society; and
- To identify food and nutrition security goals or targets that are implied or established in national plans or agreed upon in regional frameworks to facilitate progress toward Zero Hunger.

SDG2 BENCHMARKING

The targets defined under SDG2 are considered the benchmark against which to measure national progress and developmental plans. Additional specific indicators are still under development. Using the SDG2 benchmarks also facilitated the design of research tools that probed how Lebanon can most effectively work towards reaching SDG2 targets. Specifically, the research team transformed the five targets associated with SDG2 into research questionnaires, which served as a template to conduct semi-structured key informant interviews as well as the basis for workshops on 12 and 15 April 2016 at ESCWA in Beirut.

FOOD SECURITY

In 1996 representatives of heads of state gathered at the World Food Summit in Rome, Italy to draw up a list of commitments to abolish hunger. The resulting and globally recognized definition on what food security means was formulated as follows:

Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

1996 World Food Summit

PHYSICAL AVAILABILITY OF FOOD	Food availability addressess the "supply side" of food security and is determined by the level of food production, stock levels and net trade.
ECONOMIC AND PHYSICAL ACCESS TO FOOD	An adequate supply of food at the national and internatonal level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives.
FOOD UTILIZATION	Utilization is commonly understood as the way the body makes use of various nutrients in food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutrional status of individuals.
STABILITY OF THE OTHER THREE DIMENSIONS OVER TIME	Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status.

Figure 3: Food Security Dimensions (Source: Food and Agriculture Organization, 2008)

Within this definition, four dimensions of food security have been identified: 1) availability, 2) access, 3) utilization and 4) stabilization (See Figure 3). This report has adopted these four dimensions as the basis for identifying gaps that need to be addressed in Lebanon in order to achieve SDG2 targets.

Furthermore, researchers based a significant portion of their analysis on the latest available indicators determining food security for Lebanon as defined by the United Nations Food and Agriculture Organization (FAO) and as related to the four dimensions mentioned above (See Figure 4).[12]



METHODOLOGY

This review builds upon an action-oriented empirical research methodology specifically oriented to analyse institutional gaps in the context of the Agenda 2030 framework and the sustainable development goals, specifically SDG 2.[13] The review process took place over a period of six weeks (starting at the beginning of March 2016 and concluding mid-April 2016). The process consisted of:

Primary data collection: The researchers conducted a total of 30 in-depth interviews with local and national experts, government officials, UN staff members, INGO representatives, institutional donors and other relevant stakeholders identified in consultation with WFP/ESCWA and the project's technical advisor. Interviewees were granted anonymity in order to solicit more candid information. (See Annex D for a list of organizations which contributed to the key informant interviews and validation workshops.)

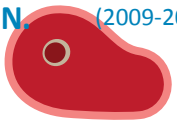
Secondary data collection: A desk/literature review of developmental, academic and journalistic literature that frames food and nutrition security in the context of Lebanese national development plans, capacities, and the SDGs. Such secondary data analysis was conducted throughout the duration of the research period.

AVAILABILITY

AVERAGE DIETARY ENERGY SUPPLY ADEQUACY.
(Dietary Energy Supply as a percentage of the Average Dietary Energy Requirement)
135% (2014-2016)

AVERAGE VALUE OF FOOD PRODUCTION.
(Constant 2004-2006 $ per capita)
$244 (2011-2013)

AVERAGE SUPPLY OF PROTEIN OF ANIMAL ORIGIN.
(gr/capita/day)
32gr (2009-2011)



SHARE OF DIETARY ENERGY SUPPLY DERIVED FROM CEREALS, ROOTS AND TUBERS.
(percentage of the total Dietary Energy Supply)
39% (2009-2011)

AVERAGE PROTEIN SUPPLY.
(gr/capita/day)
81gr (2009-2011)



ACCESS

PERCENT OF PAVED ROADS OVER TOTAL ROADS.
84.9% (1999-2001)

PREVALENCE OF UNDERNOURISHMENT. (%)
<5.0 (2014-2016)



DEPTH OF THE FOOD DEFICIT.
(kcal/capita/day)
29kcal (2014-2016)

ROAD DENSITY.
(per 100 square km of land area)
66.7% (2005-2007)

GDP PER CAPITA.
(In purchasing power equivalent, constant 2011 USD international)
$16,559 (2014-2016)

PREVALENCE OF FOOD INADEQUACY. (%)
8.4% (2014-2016)

STABILITY



CEREAL IMPORT DEPENDENCY RATIO. (%)
88.3% (2009-2011)

VALUE OF FOOD IMPORTS OVER TOTAL MERCHANDISE EXPORTS. (%)
44% (2011-2013)

PERCENT OF ARABLE LAND EQUIPPED FOR IRRIGATION. (%)
80.2% (2011-2013)

POLITICAL STABILITY AND ABSENCE OF VIOLENCE/ TERRORISM. (INDEX)
-1.72 (2014-2016)

PER CAPITA FOOD PRODUCTION VARIABILITY.
(Constant 2004-2006 thousand international USD per capita)
16.5 (2013-2015)

PER CAPITA FOOD SUPPLY VARIABILITY.
(Food net per capita production value constant 2004-2006 international, USD)
41 (2011-2013)

UTILIZATION

ACCESS TO IMPROVED WATER SOURCES IN %.
(Percentage of the population with reasonable access to an adequate amount of water from an improved source)

99%
(2014-2016)

PREVALENCE OF ANAEMIA AMONG PREGNANT WOMEN IN %.

26.8%
(2011-2013)



ACCESS TO IMPROVED SANITATION FACILITIES IN %.

80.7%
(2014-2016)

PREVALENCE OF ANAEMIA AMONG CHILDREN UNDER 5 YEARS OF AGE IN %.

24.2%
(2011-2013)

Figure 4: FAO Food Security Indicators in Lebanon (Source: FAO Stat, Data reported after 2013 is estimated)

Validation, feedback and reporting: Two validation workshops with broad-based stakeholder representation were implemented on 12 and 15 April 2016. Participants included government officials, representatives of INGOs, development experts, members of the Ministry of Agriculture-led Food Security Sector Working Group, as well as local experts. In a participatory manner, the workshops provided a platform for constructive discussion and feedback on research results and expert review of the present report.

LIMITATIONS

Analysing food security and nutrition is an extensive exercise which covers an array of inter-related dimensions and aspects. Given the strict timeframe set for this strategic review, limitations with respect to systematic reviews of literature and selection of key informants apply. For example, a non-random selection of stakeholders was adopted across various fields of food and nutrition security so as to collect and collate as many view points as possible from expert sources. The research teams also chose literature on topics directly or indirectly related to food and nutrition as issues, as well as the theoretical underpinnings of the present research, which were not established prior to the empirical analysis but in parallel.

Beyond the research design, limitations emerged with respect to data availability. Data on issues related to food and nutrition security among the Syrian refugee population is growing due to the joint-response of both the Government of Lebanon and the international community to the refugee crisis. Yet much of the data and statistics related to food and nutrition security in Lebanon precedes the Syrian refugee crisis, something which complicated temporal analysis due to the timeliness and reliability of such data.

Even before the civil war, Lebanon's capacity to collect nationally representative data was limited by the ability of official statistics bodies, which remain constrained by inadequate financial, human, administrative and legal capacity to collect timely and reliable data.[14]

Establishing population baselines is challenging: Lebanon has not conducted a national census since 1932 (before the country became a republic) and does not run regular national surveys on poverty, income and expenditure, nutrition, labour or household status. Most nationally representative data relies on the Household Survey conducted in 2004 by the Central Administration for Statistics that was updated by a Living Conditions Survey in 2007 and a Multiple Indicators Cluster Survey in 2009.[15]

In terms of reliability, most of this data is self-reported, which creates issues relating to inaccurate perceptions or willingness to reveal data. Finally, given that the bulk of nationally representative data precedes the Syrian refugee crisis, all figures on Lebanon should be treated with caution. Furthermore, and in terms of comparability, Lebanon does not possess a wealth of nationally representative data with which to assess the nutrition situation as a whole. Instead, the data that exists covers certain population segments over different periods of time.

National food and nutrition security measurements also suffer from shortcomings. By nature, the relationship between food and nutrition are intricately linked, yet attempts to measure and evaluate outcomes relating to the dimensions of food and nutrition security fall outside of a coordinated framework. The country does not have a working definition of food and nutrition security, something which impedes the ability of policymakers to address the issue in a holistic manner.

Taking data limitation issues into account, the present report employs the most recent data available. Disaggregated data, even if not comprehensive or nationally representative, is also used to give an indication of wider trends (Figure 5 below provides a selected overview on the status of data limitations in Lebanon).



AREA	LATEST AVAILABLE/ EXISTENCE	SOURCE	REMARK
SYRIAN REFUGEE VULNERABILITY	2015	WFP / The United Nations High Commissioner for Refugees / The United Nations Children's Fund	
PALESTINE REFUGEES VULNERABILITY	2015	The United Nations Relief and Works Agency	
LEBANON HOST COMMUNITY VULNERABILITY	2015	Food and Agriculture Organization / REACH	Limited Sample Size
AGRICULTURAL PRODUCTION VALUE	2013	Food and Agriculture Organization	Based on nationally reported data for values and volume
FOOD SECURITY INDICATORS	2013	Food and Agriculture Organization	Data reported after 2013 is estimated
GROSS DOMESTIC PRODUCT	2013	Central Administration for Statistics	Revisions to growth estimates for 2011-2012
HOUSEHOLD BUDGETS	2012	Central Administration for Statistics	Sample size has high non-response rate
POVERTY	2011	Central Administration for Statistics and World Bank	Relies on a household budget survey with high non-response rates. The latest nationally representative dates back to 2004
AGRICULTURAL CENSUS	2010	Ministry of Agriculture	
WATER	2010	National Water Sector Strategy	Based on a variety of sources including FAO Aquastat and Water Market Middle East
LABOUR FORCE	2009	Central Administration for Statistics	Based on wider social indicators survey
HOUSEHOLD INCOME AND EXPENDITURE SURVEY	2007	Central Administration for Statistics	
CONTRIBUTIONS TO ENERGY INTAKE	2006	Public Health Nutrition (Academic Journal)	Data is only collected in Beirut
CHILD NUTRITION INDICATORS	2004	The World Bank/ The United Nations Children's Fund/ The World Health Organization indicators	Data is based on Lebanon Family Health Survey
NATIONAL CENSUS	1936	French Mandate Authorities	Not conducted for political reasons
FARMERS REGISTER	Incomplete	Ministry of Agriculture	Many farmers are unwilling to participate

Figure 5: Selected Statistical Limitations
(Source: IMF, The World Bank, Central Administration for Statistics, Ministry of Agriculture, UNICEF, WHO, Public Health Nutrition, Ministry of Energy and Water, FAO, UNHCR, UNRWA))



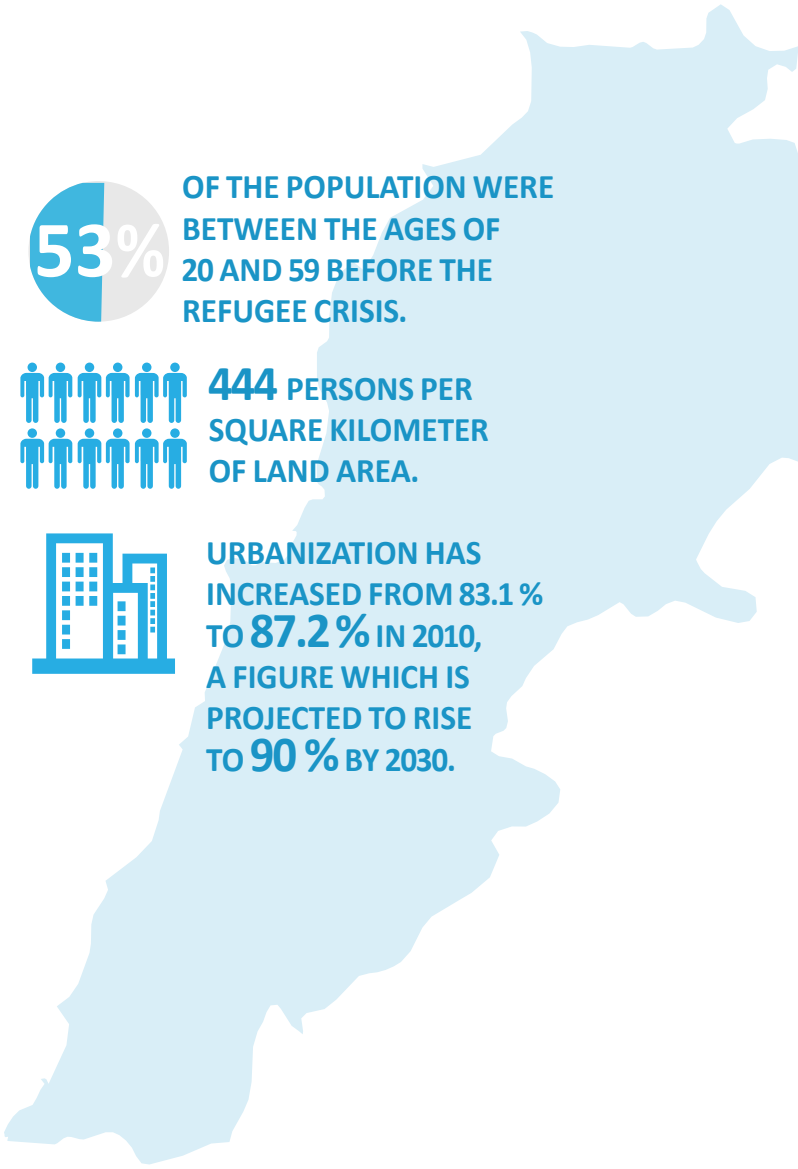
3. INTRODUCTION

COUNTRY BACKGROUND

Lebanon is a relatively small country on the Eastern Mediterranean with a geography that covers a total surface area of 10,452 square kilometres. Its native population reached 4.5 million in 2014.[16] Since 2011, Lebanon has hosted an estimated 1.5 million refugees from Syria and currently hosts some 280,000 Palestinian refugees (including those initially displaced from Syria).[17] As of late January 2016, the number of Syrian refugees registered with the United Nations High Commissioner for Refugees (UNHCR) in Lebanon stood at around 1,067,000 persons.[18]

In terms of age, Lebanon's population pyramid is conical with the highest portion of the population (53 percent) between the ages of 20 and 59 before the refugee crisis.[19] With the arrival of Syrian refugees the population segments of youths and women has swelled, and makes up some 80 percent of the Syrian refugee population in Lebanon.[20]

Lebanon's people overwhelmingly reside in urban areas with a population density of about 444 persons per square kilometre of land area.[21] Since the end of the civil war in Lebanon in 1990, urbanization has increased from 83.1 percent to 87.2 percent in 2010, a figure that is projected to reach 90 percent by 2030.[22] Around half of Lebanon's native population resides in the governorates of Beirut and Mount Lebanon (including the Southern Suburbs of Beirut).[23] Syrian refugees are dispersed throughout the country with the majority residing in the North, Bekaa, Beirut and Mount Lebanon governorates.[24]



ECONOMY

Lebanon's economy is largely a service-based economy with trade, services, transport and communications making up some two-thirds of economic output.[25] The country's approach to economic policy is characterised by wide-ranging liberalisation of its markets such as domestic free trade and investment policies, free market pricing for most goods and services, as well as an unrestricted exchange and trade system.[26] Officially, the Lebanese government has kept public ownership mostly limited to infrastructure and utilities while remaining generally non-interventionist towards private investment.[27]

By most recent estimates, Lebanon's Gross Domestic Product stood at USD 45.7 billion at the start of 2015 making it a middle income country with a GDP per capita of USD 17,462.[28] Average GDP growth from 2011 to 2015 is estimated at 2 percent and average inflation during that period registers at 1.1 percent.[29] The latest available official figures on formal employment (which predate the arrival of Syrian refugees) indicate that trade and services make up some 66 percent of Lebanon's employment profile.[30]

While the economy is free and open, markets in Lebanon are beset with inefficiencies. Markets are not conducive to consumer welfare (choice and pricing) or competitiveness that helps alleviate poverty. An estimated half of the products sold in the Lebanese market originated from sectors with a high concentration of a few suppliers (i.e. 40 percent of the market is owned by four companies or less). In sectors such as cement, soft drinks, soap and metal coatings over two-thirds of the market are controlled by less than five firms.[31] According to the latest available market studies from over a decade ago, about 58 percent of product markets are controlled by three firms, having at least 40 percent of each product market—the value of these markets at the time was USD 8 billion.[32] These figures rise to 60 percent market control in 52 percent of markets among the five firms in each product market.[33]

As a trade-based economy, Lebanon is highly import dependent and is becoming more so over time. As of January 2016, the balance of trade is USD -1.3 billion and has been largely negative since 2004.[34] The balance of trade averaged USD -788.45 million from 1993 until 2016 and hit a record low of USD -2.3 billion in February 2012 (See Figure 6).[35]

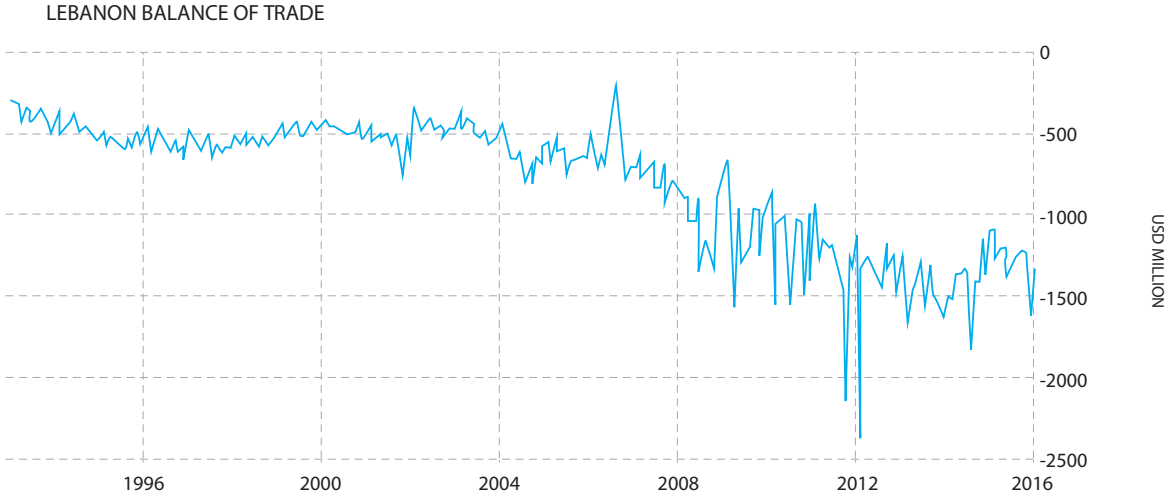


Figure 6: Lebanon Balance of Trade (Source: Banque du Liban)

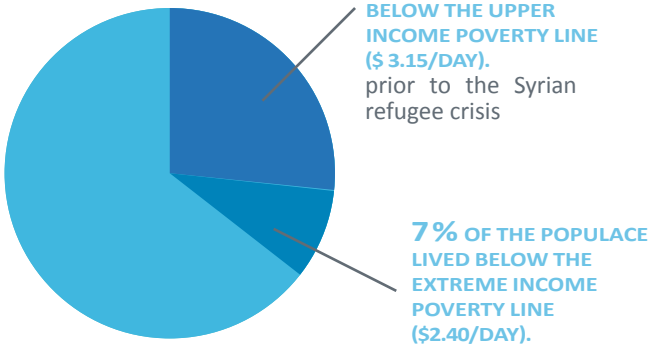
The official unemployment rate amounted to 11 percent before the arrival of Syrian refugees, but most unofficial estimates set the rate at some 20 percent.[36,37] Youth unemployment is estimated to have increased by 50 percent since 2011 while unemployment among Syrians who are active in the labour market amounts to an estimated 30 percent.[38,39] Between 2011 and 2015, the size of the labour force is thought to have increased by about 50 percent because of the Syrian influx.[40] Because Syrian workers are willing to accept significantly lower wages than Lebanese—especially in sectors requiring low-skilled labour such as construction and agriculture—competition for jobs has increased along with downward pressure on wages.[41] As a result, many Lebanese have been pushed out of second jobs, and poverty is believed to have increased by 4 percentage points from its pre-refugee crisis level of 27 percent of the Lebanese population (USD 3.15/day).[42,43]

Figures on economic output and employment should, however, be considered in the context of a dominant informal employment sector which provides somewhere from 30 to 56 percent of national employment opportunities, according to various estimates.[44] Due to its nature, the size of the informal sector is difficult to measure but has been qualitatively studied in Lebanon and is considered to be driven by several factors: the need for informal employment due to lack of formal employment opportunities, remittances, corruption and illegal networks such as smuggling and black markets.[45] In recent years, the Syrian refugee crisis has exacerbated the process of infomalisation with some 92 percent of Syrian refugees in Lebanon working without a formal contract and more than half working in casual or seasonal work arrangements.[46]

The London Conference in February 2016 recognised these challenges and pledged support to the Government of Lebanon to address labour market challenges. In response, the government pledged to relax working regulations for Syrian refugees.[47] However, labour market policies have yet to reflect this stated intention.

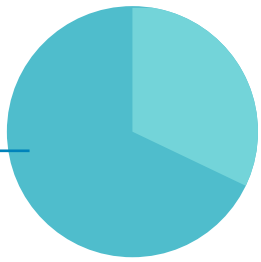
POVERTY & INEQUALITY

Lebanon does not measure poverty in a timely or reliable fashion and studies which deal with the issue use different metrics and employ different income poverty line metrics, depending on when and whom they are measuring. As of today, Lebanon only has one nationally representative poverty study, which was published in 2008. According to analysis of that study about 1 million Lebanese, an estimated total of 27 percent, lived below the upper income poverty line (USD 3.15/day) prior to the Syrian conflict and refugee crisis.[48,49] An estimated 7 percent of the country lived below the extreme income poverty line (USD 2.40/day).[50]



In addition, around 70 percent of Syrian refugees in Lebanon are thought to live in poverty (below USD 3.84/day), according to the poverty line set by Lebanon and the UN's official crisis response framework.[51] The figure for Palestinian refugees in Lebanon and from Syria (those who have been displaced from Syria since 2011)

70% OF SYRIAN REFUGEES ARE THOUGHT TO LIVE IN POVERTY (BELOW $3.84/ DAY).

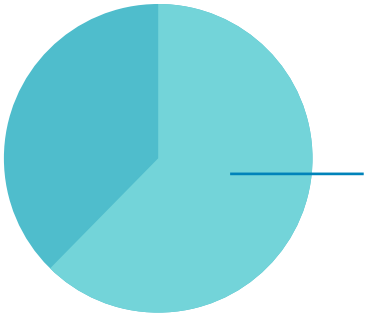


is calculated using different metrics (USD 7/day) by the United Nations. [52] Accordingly, figures show poverty rates among Palestine refugees are comparable to Syrian refugees at 65 percent for Palestine refugees in Lebanon and 89 percent for Palestine refugees who have entered Lebanon from Syria.[53]

Lebanon is also a country with wide ranging inequalities and structural inefficiencies. Before the refugee crisis, the poorest 20 percent of residents in Lebanon were are thought to account for just 7 percent of all consumption while the top 20 percent accounted for over 43 percent.[54] Moreover, on an average per capita basis, the capital city consumes more than one and a half times the national average while the North consumes just three-quarters of the national average.[55] In addition, consumption inequality is also prevalent within regions: 92 percent of consumption inequality is thought to exist within each governorate.[56]

In terms of income, annual median household income is estimated to be about USD 13,004.[57] Actual wealth distribution is also highly skewed in favour of elites. With the level of wealth inequality measure, the Gini coefficient, being 84.8[58] and 67 percent of the population possessing less than USD 10,000, Lebanon is among the top ten countries in the world in terms of wealth inequality.[59] Average wealth per adult is estimated to be USD 5,340 per person compared to the average amount of debt of USD 12,697, thus, on average, Lebanese resort to debt as a negative coping strategy to deal with a lack of income and purchasing power.[60]

The ability of the state to respond to poverty has also been curtailed by low expenditure on social services. The Lebanese government keeps accruing debt and maintains an estimated debt to GDP ratio of some 140 percent, which is forecast to grow to 160 percent by 2020.[61] The majority of government expenditure goes towards personnel costs (36 percent, most of which went to the army and security services), interest payments (34 percent) and transfers to cover the deficit of the public electricity provider (17 percent).[62] As a result, the amount left to spend on social services in Lebanon stands at a relatively low 7 percent of GDP, which is commensurate with regional peers and developed countries in terms of expenditures, but not necessarily quality, affordability and coverage. [63]



67 % OF THE POPULATION POSSESSES LESS THAN $US10,000.

THE MAJORITY OF GOVERNMENT EXPENDITURE GOES TOWARDS PERSONNEL COSTS (MOST OF WHICH WENT TO THE ARMY AND SECURITY SERVICES), INTEREST PAYMENTS AND TRANSFERS TO COVER THE DEFICIT OF THE PUBLIC ELECTRICITY PROVIDER.



4. AVAILABLE BUT NOT ALWAYS ACCESSIBLE

SECTION SUMMARY

Lebanon is an import dependent nation, not only in terms of food but also other essentials such as energy. Thus, in order to meet the demand for food the country must import far more than it produces or exports, in turn leading to vulnerability towards price changes and an impact on the public budget. However, the fact that Lebanon is currently able to import sufficient food through international trade means that its markets provide the country with the means to maintain life. The country's accession to the WTO has been ongoing since the 1990s and only recently the WTO opened a reference centre at the Ministry of Economy and Trade.[64] Beyond urban areas, food is relatively sufficient and available, even though some improvements to logistics would increase food supply levels by reducing spoilage and wastage and, in turn, improving overall access.

However, despite relatively high production potential, actual agricultural production is limited with internal market mechanisms being inefficient due to market failures, import inflation, faulty value chains, and lack of employment opportunities.

As a result, and despite being a middle income country, Lebanon continues to register high poverty levels. Government, donors and the diaspora aim to alleviate the problems by providing transfers and subsidies. Unfortunately, subsidies and protection of some local agricultural products from international competition have proven insufficient to increase local food affordability. As a necessary supplement, the international response to refugee food and nutrition insecurity has been crucial to preventing malnutrition among Syrian and Palestinian refugees as well as Lebanese citizens, albeit to relative degrees.

Overall, the level of food and nutrition insecurity is rising along with micronutrient deficiencies. Syrian and Palestine refugees are by far the worst affected among all population segments and have had to adapt through negative coping strategies, as have some Lebanese. While Lebanese are better off than refugees, on average, there are registered incidents of micronutrient deficiencies and food insecurity among the poorest segments of the population. On the flipside, nutritional health and quality related concerns have arisen in the form of rising levels of overweight and obesity which, in turn, are associated with chronic diseases such as diabetes and hypertension. The result of these negative health outcomes can also deepen poverty by competing with demands on healthcare and food expenditure.

To increase food and nutrition security, Lebanon will need to invest in sustainable pro-poor economic policies which address both market failures and production limitations, as well as social safety nets. National markets will need to be reformed in order to increase output and reduce barriers to affordability so they may work for the most vulnerable, particularly small farm holders. In parallel, social safety nets should not be limited in their focus on targeting the most vulnerable over the longer term; these systems also need to focus on improving existing systems to eventually offer a universal nationally-defined social protection floor.

FOOD SUPPLY DYNAMICS

In order to sustain food and nutrition requirements, Lebanon has to import far more than it produces. In any given year imports account for around 60 percent to 70 percent of GDP;

DEPENDING ON DEMAND, LEBANON IMPORTS BETWEEN 65 AND 80 PERCENT OF ITS FOOD NEEDS.



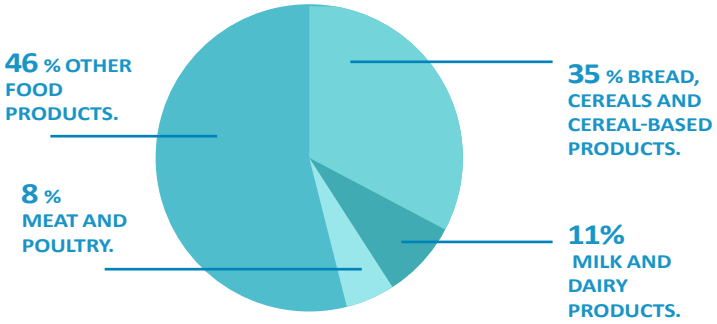
the country imports around five times the value of its exports.[65,66] Depending on shifting demand, Lebanon imports between 65 and 80 percent of its food needs.[67]

Import dependency for goods that are widely consumed such as cereals and sugars remains relatively high. By value, food accounts for around 16.4 percent of the total import bill, second only to fuel.[68] Lebanon's imports of major food groups account for 81 percent of total production, indicating the degree of import dependency.[69] The food items for which Lebanon is completely dependent on imports (100 percent) include: sugar, sweeteners, coffee, sesame seeds, cocoa beans and related products (such as chocolate), tea (including mate), spices as well as rice, vegetable oil, and sunflower oil.[70] Moreover, the food category most consumed through imports is cereals, especially wheat and maize of which 76 percent and 99 percent are imported respectively.[71]

Food import dependency is highest among products where import volumes are also highest. In so as far as import dependency relates to food consumption, food items with the highest estimated contribution to energy intake in Lebanon do not correspond to the items most produced

AT THE END OF THE CIVIL WAR IN 1990, THE AGRICULTURAL SECTOR CONSTITUTED AS MUCH AS 23 PERCENT OF GDP.

CONSUMED FOOD ITEMS IN LEBANON



in the country. Items most consumed in Lebanon are bread, cereals and cereal-based products (35 percent) followed by milk and dairy products (11 percent) and meat and poultry (8.8 percent).[72]

Import dependency for food has been growing since the end of the civil war as the share of the agriculture sector to output has decreased. At the end of the civil war in 1990, the agricultural sector output contributed as much as 23 percent to GDP.[73] Despite its favourable climatic position[74] in the region, agriculture's value added in percent of GDP has declined to an estimated 5.5 percent in 2014 (the latest official figures from 2013 register at 4 percent).[75,76] This decrease can be attributed to patterns of mass urbanization which already began in the 1950s and 1960s. Back then rural populations constituted around half of Lebanon's population.[77,78] Another reason for this retrenchment is likely that public investment targeting the sector's development remains relatively low, something evident in the share of the budget allocated to the Ministry of Agriculture (MoA).

In recent years the general budget allocation to the MoA is only around 0.5 percent of the state's budget, compared to a regional average of around five percent.[79] However, during the period from 2009 to 2012 the government increased the ministry's absolute budget from USD 27 million to USD 66 million.[80]

The local supply of food remains small relative to imports, and is dominated by a few products. The value of agricultural production in Lebanon amounted to USD 1.2 billion in 2013, which constituted around 35 percent of import value.[81] In terms of production, Lebanon's agriculture sector produced some 3 million metric tonnes of food in 2011.[82] More than half of production is in fruits (25 percent) and vegtables (32 percent).[83] Cereals make up just five percent of total production.[84]



TRADE AND LOGISTICS

Reliance on trade has been the central policy of the government to ensure food supply. Lebanon's stated trade policy is to adopt trade liberalization, modernize trade legislation, minimize restrictions and simplify procedures, something that is immediately relevant to the food sector.[85] The country is party to three major multilateral trade agreements where existing tariff and non-tariff barriers applicable to food products are either reduced or abolished to varying degrees. The main multilateral trade agreements are the Greater Arab Free Trade Area (GAFTA), the European Union Association Agreement (EAA) and the European Free Trade Association Agreement (EFTA). Lebanon has also entered into a series of bilateral trade agreements such as the Trade and Investment Framework Agreement with the United States and 47 other countries.[86]

Lebanon has taken partial steps to enter the World Trade Organization (WTO), which would have a significant, yet uncertain effect on food supply. The country began accession proceedings in 1999 and has since progressively reduced trade barriers on a number of levels. However, Lebanon is still an observer to the WTO because it has not taken a series of mandatory measures to regulate and open its markets,[87] including the implementation and enforcement of a competition law to prevent collusion, price fixing, as well as the establishment of the related institutions (e.g. an independent competition authority).[88] Other issues that remain are those related to the imposition of the most favoured nation clause of the WTO and prohibitions on exclusive import licenses, whose owners have considerable power in Lebanon.[89]

As the country grapples with the effect of the neighbouring war in Syria, Lebanon's trade in food remains resilient. In 2015, the last official

and functioning border crossing between Syria and Jordan used to export products from Lebanon was closed due to the conflict in country.[90] Prior to the closure, about 20 percent of total exports and about 6 percent of total agriculture imports were estimated to flow through Syria.[91] The share of imports relying on land transport has been replaced with maritime transport, specifically through the port of Beirut.[92] As a result, the value and quantity of food supply from imports has remained relatively constant over the past several years (see Figure 7). [93]

Within Lebanon, logistical issues remain an impediment to more efficient food supply. At present Beirut's seaport and airport are the only routes for mass trade and transport of food to enter the country.[94] Yet, even before land closures the port made up 73 percent of total import capacity.[95] In 2015, the port of Beirut handled 8.2 million metric tonnes, up from 7.2 million metric tonnes in 2012.[96]

Lebanon ranks 85 out of 160 countries in The World Bank's 2014 Logistics Performance Index, not least due to the lack of rail infrastructure since the the civil war. Compared to the rest of the MENA region, the quality of roads and warehousing, as well as the operational efficiency of customs agencies and freight forwarders is relatively low.[97] The clearance and delivery of exports is half as efficient as imports, which heavily affects the profitability of local agricultural production since most exports happen via sea routes.[98] The average export cost per kilometre in Lebanon is USD 20 per kilometre for sea and airfreight compared to USD 2 per kilometre in the MENA region.[99]

In 2014, the time it took to export by land from Lebanon averaged 12 days compared to 4.2 days in the region.[100] Imports show broadly the same inefficiencies with a cost of USD 40 for

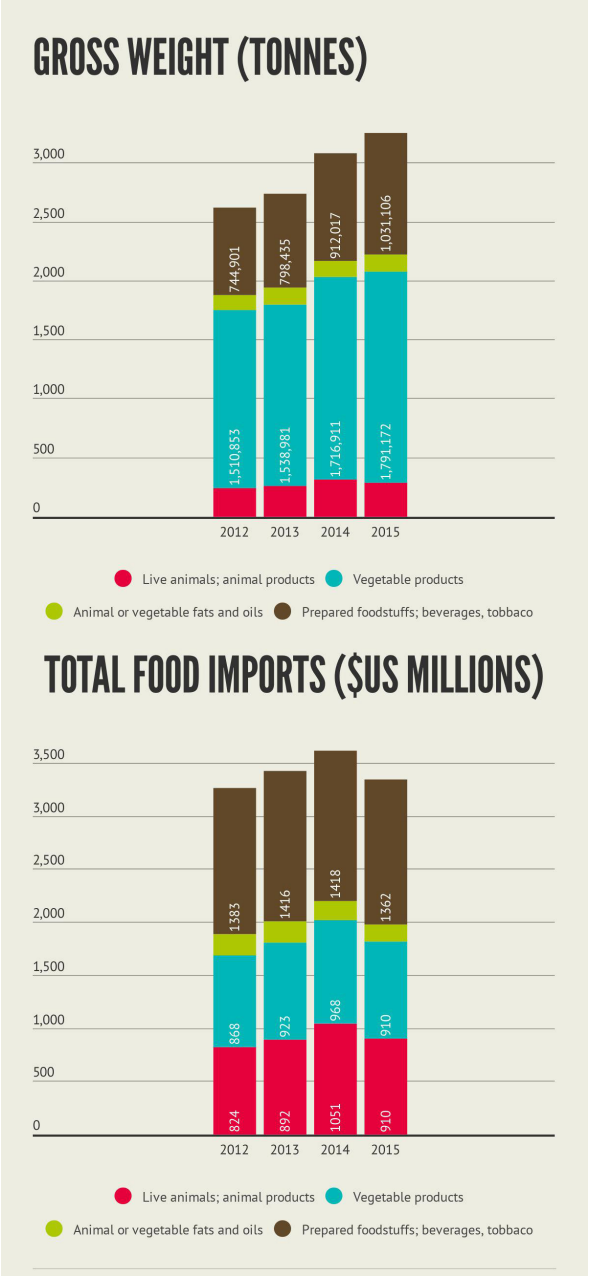


Figure 7: Total Food Imports (Source: Lebanese Customs)

sea and airfreight compared to the regional average of USD 2.90 per kilometre.[101] The number of documents required for both imports and exports in Lebanon is roughly twice as many as the rest of the region, although inspection times are shorter.[102]

There have been efforts to improve Lebanon's transport and logistic infrastructure. Since the end of the civil war, the Council for

EVEN BEFORE LAND CLOSURES THE PORT MADE UP 73 PERCENT OF TOTAL IMPORT CAPACITY.

Development and Reconstruction (CDR), a public authority under Lebanon's cabinet, has been in charge of internal logistics and transport infrastructure, though plans to build rail networks in the north of the country have not materialized.

In 1995 the Government of Lebanon commissioned the CDR to develop an urban transport plan for Greater Beirut. Some progress has been made with recent openings of the Bechara Khoury and Mathaf underpasses (Beirut), the re-opening of the bridge to Dar al Baydar and the Arab Highway on the Beirut-Damascus highway, upper and lower passages across the Chiyah Boulevard (Beirut), Chekka-Tripoli-el Bahsas expressway (North Lebanon), and completition of most of the Southern Expressway.[103] However, a planned ring road around the city has not materialized, possibly due to high costs of expropriation estimated at some USD 1.2 billion.[104] The main road transport projects launched since that time can be seen in Figure 8.

Efforts to expand capacity at Beirut's port are on hold. Plans are afoot to expand the Beirut Port by around 1.4 square kilometres, 1.2 square kilometres of which will be reclaimed from the sea.[105] However, a recent initiative to install a multi-purpose terminal for some USD 129 million, build a new quay to accommodate larger vessels and fill one of the basins has not begun because of legal disagreements between port operators and the interests of transport syndicates.[106]

Barriers to competitiveness weigh down on Lebanon's ability to bring food to markets.

MAJOR TRANSPORTATION PROJECTS IN LEBANON

- Coastal expressway project
- Beirut-Syrian border road project
- Penetrator roads for Beirut ring road project
- Urban Transport Development Project (UTDP) for Greater Beirut and Mount Lebanon rehabilitation and upgrading of Beirut roads network
- Rehabilitation project for roads in Beirut suburbs
- Rehabilitation project for network of primary and secondary roads in some regions
- Implementation of new primary and secondary roads in some regions

Figure 8: Major Transportation Projects in Lebanon (Source: CDR)

Lebanon lags behind its regional peers in a number of indicators including institutions, infrastructure, macroeconomic environment and market size and thus, ranks 113 out of 144 in the World Economic Forum's Global Competitiveness Index.[107] Among the country's key concerns are the high levels of bureaucracy, corruption and persistent government instability. [108]

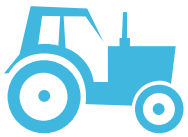
The majority of locally produced food reaches markets through small market actors who do not enjoy economies of scale. The retail supply market for agricultural products is dominated by small retailers, and is considered to be in a state of transition from traditional procurement channels towards greater market concentration among supermarket retailers providing food to consumers.[109]

This supermarket transition tends to render wholesale markets obsolete, given that large retailers introduce long-term supply contracts with specialized wholesalers to ensure reliable quality and comparable standards.[110] Supermarkets, which account for less than a third of the market, were introduced in Lebanon in the 1990s and they are generally owned by local investors.[111] However, weak state regulations coupled with political instability have kept public and private investment low, which extends the lifespan of Lebanese small-scale farmers and the economic function of the wholesalers.[112] (See Section 5 for detailed discussion of agricultural value chains.)

The potential to increase food availability through agricultural production remains significant. Around 37 percent of land in Lebanon can be cultivated and is arable.[113] Of this land, the current utilised agricultural area of Lebanon is estimated to be around 231,000 hectares, though only half of this is irrigated.[114] The northern and eastern parts of the country hold the majority of cultivated and irrigated lands, with Baalbek-Hermel and Bekaa accounting for 43 percent of total cultivated agricultural land, compared to 26 percent in Akkar and the North, and 22 percent in the South and Nabatiyeh region. In terms of irrigation infrastructure, a total of 55 percent of all irrigated lands are located in Baalbek-Hermel and Bekaa.[115]

POVERTY OF ACCESS

The ability to purchase food among large swathes of the population is hampered by rising poverty. Prior to the refugee crisis an estimated 27 percent of the Lebanese population (about one million persons) lived below the upper income poverty line (USD 3.15/day).[116,117] Among the poor, an estimated 7 percent of the country subsisted on below the extreme income poverty



THE CURRENT CULTIVATED AREA OF LEBANON IS ESTIMATED TO BE AROUND 231,000 HECTARES.

line (USD 2.40/day).[118] By 2015 the effects of the refugee crisis are estimated to have increased the number of Lebanese who fall below the upper poverty line by some 170,000 persons.[119] As expected, poverty is more prevalent in rural areas of the country such as the North (36 percent) and the Bekaa (38 percent), which are areas where many Syrians have taken refuge (See Figure 9). All in all, since the start of the Syrian conflict and refugee crisis, poverty is estimated to have risen by 4 percent to total 32 percent of all persons living in Lebanon.[120]

Access to imported food in Lebanon is affected by import procedures and food price inflation dynamics. Food price inflation follows overall inflation trends in Lebanon, which is primarily caused by internal pressure on costs such as housing and the volatility of commodity prices in markets in which Lebanon is a price taker (e.g. oil and food).[121] In addition, inflation is also affected by economic growth patterns, which have slowed since the Syrian conflict and refugee crisis,

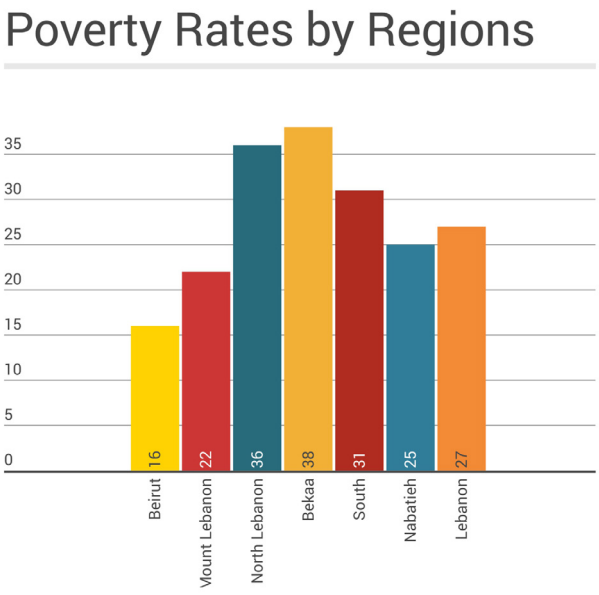


Figure 9: Poverty Rates by Region (Source: The World Bank)

and the relative strength of the US dollar in the global economy given that the currency (Lebanese pound) is pegged to the US dollar. Since Lebanon imports the bulk of its food supply, any change in the cost of imports has a direct or indirect effect on access to food. In fact, consumption of imports accounts for 50 percent of domestic consumption.[122] Indeed, during the height of the most recent food price shock in 2008 average food prices in Lebanon rose by 18.2 percent in one year (See Figure 10).[123] Falling prices from 2013 should also be viewed in light of the fact that Lebanon re-indexed its inflation rate measure, the Consumer Price Index, in December 2013, which means that inflation is not measured against previous years when prices increased more significantly.

Among Syrian and Palestinian refugees, economic access to food is significantly lower than the Lebanese. The ability of Syrian and Palestinian refugees to access food is hindered by the lack of access to employment opportunities, and the conditions of poverty, which affects 70 percent of Syrian refugees, 65 percent of Palestine refugees from Lebanon and 89 percent of Palestinian refugees from Syria.[124] Syrian and Palestine refugees—many of which benefit from cash or cash-for-food assistance—are also significantly more food insecure and/or vulnerable than their Lebanese counterparts (See Figure 23 and Figure 24).

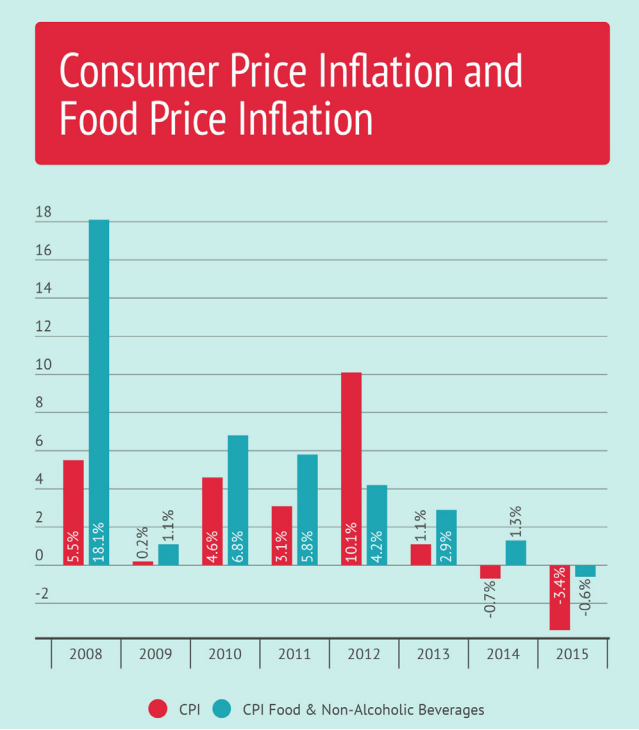


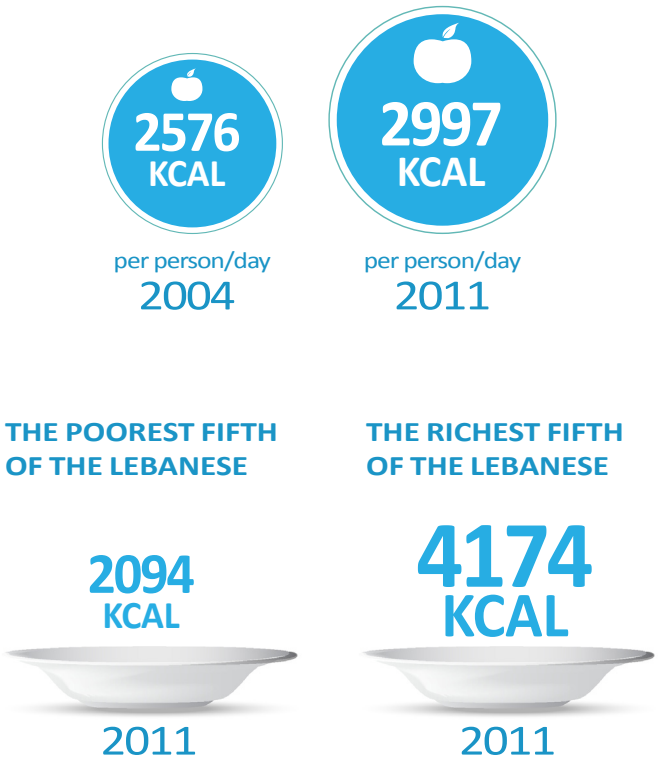
Figure 10: Consumer Price Inflation and Food Price Inflation (Source: CAS)

The ability of the poor to afford food is shrinking over time. Lebanon's only comprehensive national survey of poverty, conducted between 2004 and 2005, calculated that the amount required by individuals to purchase enough food to reach the minimum caloric intake was equivalent to around USD 562 per year.[125] Lebanon's official statistics institution (The Central Administration of Statistics or CAS) and The World Bank updated the study with a smaller sample and found that the amount of money required to attain minimum caloric needs rose by 75 percent to around USD 987 between 2004 and 2011.[126]

Both the rich and the poor are eating more, but the richest consume over twice as much as the poorest. Average caloric intake in the country has risen from 2,576 calories per person per day in 2004 to 2,997 calories per person per day in 2011.[127] However, the poorest fifth of the Lebanese population in 2011 consumed 2,094 calories per day, on average, compared to the richest fifth of the population, which consumed 4,174 calories per day.[128] Based on a variety of sources, food expenditure as a proportion of household income for Lebanese ranged from around 20 percent to 35 percent, on average.[129] Among Syrian refugees food consumption as a ratio to household expenditure rose to 74 percent (USD 196).[130]

OF BREAD AND NETS

Lebanon's government responds to food affordability by subsidising the production process of bread. Because Lebanon is vulnerable to international cereal price shocks, the government has instituted a conditional subsidy on the complementary products of wheat and bread. Since 1959 the Directorate General of Cereals and Beetroot (DGCB) at the Ministry of Economy and Trade (MoET) has subsidised wheat and sugar beets with the purpose of encouraging the production of cereals and beetroot as well as safeguard necessary quantities.[131] With the approval of the Cabinet, the directorate purchases wheat from the international market and sells it to private flour mills at subsidised prices. The DGCB also subsidises local wheat production, which consists of about 1,300 farmers producing a harder variety than imported whole wheat called durum wheat.[132,133]



Local wheat is purchased from farmers by the DGCB and sold to mills at discounted rates. The government pays wheat farmers a price per dunum, or acre of wheat farms. Subsidies on bread are linked to that of wheat. The government sets the price and weight of one bag of Lebanese bread and therefore any changes have direct impact on the poor given their high consumption of cereals.[134]

The mechanism that the government deploys to purchase wheat remains subject to the negotiations among different bodies. Whenever the price of wheat on global markets rises above a certain level, the MoET engages in negotiations with syndicates representing the flour mills as well as bakeries to agree on purchasing rates.[135] At present the ministry has set the celling price at USD 390 per metric tonne of wheat, although the MoET has intervened when prices were lower than that amount in recent years.[136] During the food price shocks of 2007/2008, the DGCB provided a direct subsidy to the flour mills, after cabinet approval, as an exceptional and temporary measure because the lag time needed to import wheat and sell it at a loss was deemed too long.[137] However, at the time the net cost of the wheat subsidy on the Lebanese Treasury did not exceed 0.01 percent of GDP.[138] In addition, price hikes witnessed in 2007/2008 allowed farmers to sell their produce at market prices while being subsidised.[139]

The benefits of the subsidy are neither pro-poor nor distributed proportionately. Due to the higher purchasing power ability and the greater presence of subsidised goods in richer households, subsidies cannot be targeted efficiently at poorer segments of society. In Lebanon, only 25 percent of the poorest 20 percent of the population (and 43 percent of the poorest 40 percent) benefit directly from the subsidy.[140] This is primarily because subsidies have a built-in regressive

effect as they benefit producers and persons who have more purchasing power, and thus can more easily afford subsidised products.[141]

The government has the power to employ price controls but rarely uses this facility. The MoET has the legal power to regulate prices in the market so they do not exceed 100 percent of cost prices, while the Minister of Economy and Trade also has the right to set marginal prices and profit percentage ceilings on all goods and services.[142] The MoET also has the legal right to ask any private sector player to reveal their profits margins to the ministry. However, these prerogatives are rarely employed.

Lebanon lacks the social safety nets that could provide a minimum social protection floor to its native population. This reality has rendered the population, especially the most vulnerable, dependent solely on income earnings and private social safety nets (particularly remittances).[143] Remittances have constituted a proportion of between 15 and 18 percent of GDP in recent years (down from over 22 percent in the early-to-mid 2000s due to the global financial crisis). The amount of remittances received reached USD 9 billion in 2014, making Lebanon the tenth largest global recipient of remittances by value that year.[144] Lebanese households receiving remittances are seen to invest them in access to social services: primarily on health related expenditure and then on education, something which highlights the crucial impact remittance income has on the level of human development in Lebanon (See Figure 11).[145]

Despite this large flow of capital into the country, remittances are not redistributed, neither in a pro-poor manner nor proportionally.[146] Only six percent of the bottom 20 percent of income earners have the option to rely on remittances as their main source of income.[147] This compares to 18 percent of the top 20 percent of income earners relying on remittances.[148] The figure for the bottom 40 percent of income earners is 19 percent with access to remittances, compared with 35 percent among the top 40 percent of income earners receiving remittances.[149]

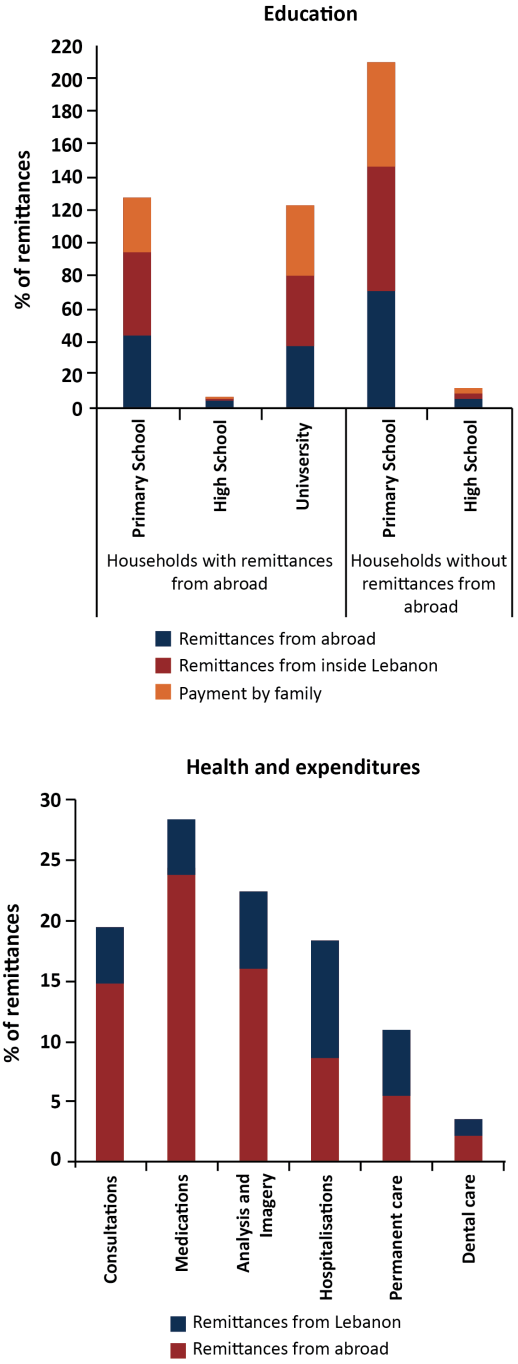


Figure 11: Expenditure of Remittances by Lebanese Households (Source: Kasparian, 2014)

The introduction of universal healthcare coverage without large out-of-pocket payments could replace some of the need for remittances. Replacing remittance-based transfers with universal healthcare is estimated to potentially decrease poverty rates among Lebanese by some 10 percent, or by some 450,000 people.[150] It is noteworthy that more than half the resident population, or around 2.25 million people in Lebanon, are not formally covered by any health insurance, whether it is public or private.[151]

Lebanon does offer a degree of healthcare coverage to its entire population. The Ministry of Public Health (MoPH) commits itself to covering 85 percent of healthcare received at private institutions (under a set total price ceiling) and 95 percent at public hospitals for all persons not covered by any scheme. [152] The MoPH also commits to cover 100 percent of healthcare costs for special hardship cases. However, the ministry's quotas commonly expire before the end of the calendar year and the bulk of its budget is spent on costly drugs, such as those used to treat cancer. [153]

The ability of the government to offer its current level of healthcare coverage is falling due to financial issues. As a result, the government has had to cancel contracts with hospitals offering relatively higher quality care due to disputes over payments, thus reducing the quality of care.[154] Even though the government stepped in to regulate prices, the drug market is characterized by oligopolistic structures and subject to lobbying pressure from large drug importers, which drive up the cost of drugs for consumers.[155] Furthermore, there are significant problems in the drug sector related to price rigging, supply manipulation (e.g. counterfeit drugs), trafficking and the government's inability to monitor drug quality.[156] As a result, Lebanon spends an average of about 7.2 percent of its GDP on healthcare. While this is similar to expenditure levels in OECD countries the quality is recognisably lower.[157]



The Ministry of Public Health (MoPH) commits itself to covering 85 percent of healthcare received at private institutions

Lebanon does possess a social development strategy but it is not fully implemented. In 2011, the Ministry of Social Affairs (MoSA) launched the National Social Development Strategy (NSDS)[158] with five general objectives to be covered in five years. The objectives are broken down according to priority interventions, which were to be overseen by an inter-ministerial committee (See Figure 12). A central element of the NSDS was to build up the capacity of the MoSA's Social Development Centres (SDCs). These centres have different capacities and are meant to extend social services to the wider public and most vulnerable.[159,160] However, since then the national unity government whose ministers oversaw the NSDS resigned and the Syrian conflict and refugee crisis began, perhaps understandably, the NSDS has not been fully implemented.

The first targeted national-level poverty programme in the country has begun to disburse assistance. The MoSA, along with the Office of the Presidency of the Council of Ministers, oversee the National Poverty Targeting Programme (NPTP) which was launched in 2011 at 98 SDCs.[161] By means of a visit from a social worker, a vulnerability assessment using a combination of qualitative and quantifiable variables is developed based on information about assets, housing conditions and the education level of household members.[162] A scoring system identifies households

NSDS GENERAL OBJECTIVES	PRIORITY INTERVENTIONS SELECTED AMONG SPECIFIC OBJECTIVES
ACHIEVE BETTER HEALTH	• Work toward ensuring coverage to all • Strengthen the regulatory role of MoPH
STRENGTHEN SOCIAL PROTECTION	• Develop a pension scheme • Address issues related to institutionalized children • Strengthen the governance and the institutional capacity of NSSF
PROVIDE QUALITY EDUCATION	• Work toward achieving free compulsory basic education for ages 6-15 • Institutionalize coordination between the Lebanese University and the labour market
IMPROVE OPPORTUNITIES FOR EQUITABLE AND SAFE EMPLOYMENT	• Encourage and enforce formalization of entreprises and workers • Strengthen labour market institutions
REVITALIZE COMMUNITIES AND ENCOURAGE DEVELOPMENT OF SOCIAL CAPITAL	• Reinforce a Lebanese identity shared by all citizens • Promote home ownership by middle and lower income households

Figure 12: General Objectives of the National Social Development Strategy (Source: Ministry of Social Affairs).

who fall beneath a score of 7,651 points, and are thus considered poor and eligible to benefit from the NPTP.[163] The total budget for the NPTP of USD 96.20 million (2014-2017) is jointly funded by The World Bank and the Government of Lebanon.[164]

Coverage of the NPTP has been scaled up to support both poor and extremely poor households. To date, it is estimated that 125,698 households (494,594 individuals) have applied to the programme.[165] Of these 105,000 households (460,000 individuals) have been considered eligible to receive health and education benefits.[166] Households deemed eligible for the programme are offered a range of benefits to address multiple needs (See Figure 13). WFP provides technical assistance to the NPTP, which allowed the programme to provide 5,076 extremely poor Lebanese households (between 27,209 to 36,000 vulnerable individuals) with e-card cash-for-food vouchers.[167,168] It is expected that sometime in 2016, pending the provision of funding, the e-card programme will be able to reach 10,000 households.[169]

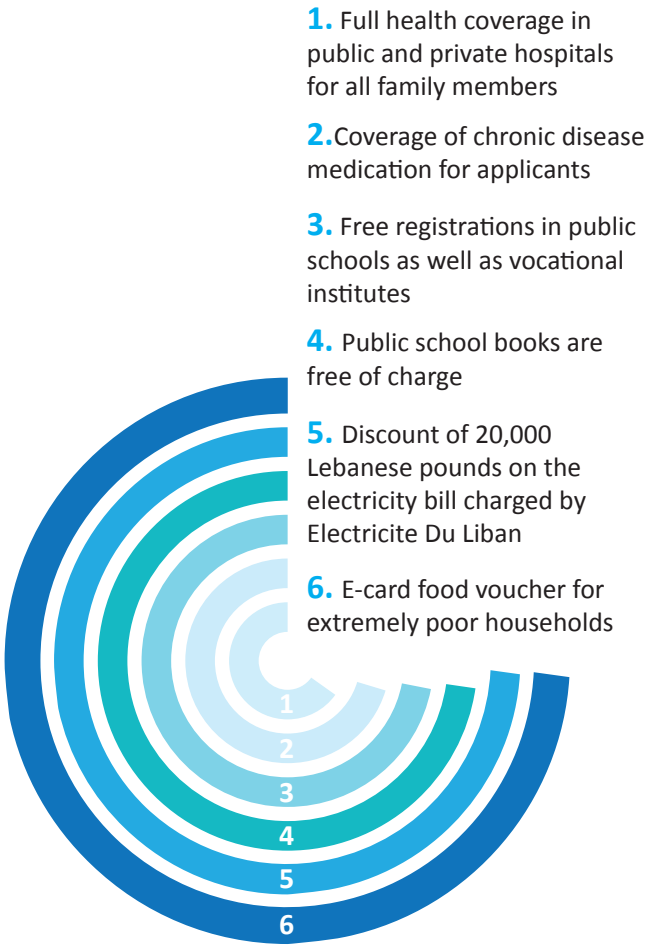


Figure 13: General Objectives of The National Social Development Strategy (Source: Ministry of Social Affairs).

While the NPTP has been upscaled in recent years, capacity of human resources remains a challenge. Outreach and targeting of poor households under the NPTP is conducted through 115 MoSA Social Development Centres.[170] Initially, the programme had contracted 370 social workers and inspectors in 2011 who were tasked with house visits, outreach and inspection.[171] Given the need to extend the programme, the number of social workers reached 700 in 2015.[172] Capacity building of social workers to ensure proper targeting and efficient allocation of funds has been identified as a crucial requirement to reach the NPTP's 2017 goals.[173]

WORKING OUT OF POVERTY

Lebanon's government does not have an official employment strategy and the country has not been able to produce enough jobs to respond to poverty. Global evidence points to wages and employment as the most effective mechanism to combat poverty.[174] Lebanon creates about 3,400 jobs per year but will need to raise that amount to 23,000 jobs per year if it is to merely maintain unemployment levels.[175] In addition, only 46 percent of the working age population are active and of those, some 50 percent are thought to work in the informal sector.[176] The country does have a National Employment Office housed in the Ministry of Labour, however the capacity of the institution is very limited.[177]

Unemployment and poverty in Lebanon is related to gender, education and employment sector. Unemployment is highly gendered with a rift between male and female employment emerging after age 34 persisting into old age (See Figure 14).[178] Education is correlated to poverty in Lebanon as the share of employment among those with tertiary education (61 percent) is significantly higher compared with those who have less than a primary education (31 percent).[179] Poverty rates in both agriculture and construction sector are recognisably higher than those among persons who work in the public sector or in services (See Figure 15). The same is true for type of contract, whereby those who work less permanently are more prone to poverty (See Figure 16). The labour markets of different economic sectors have come under additional pressure since 2011 due to the influx of refugees and high levels of informal employment.

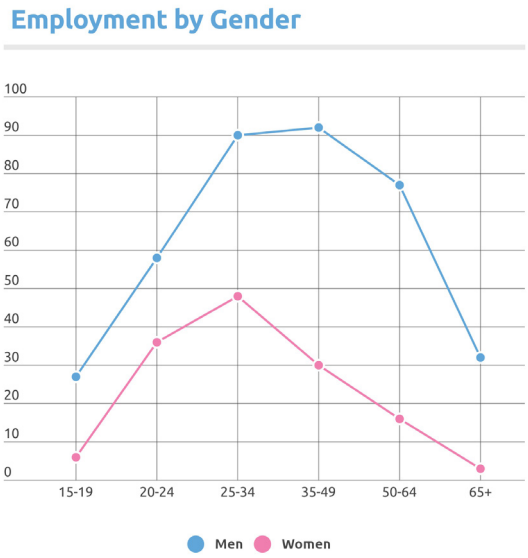


Figure 14: Employment in Lebanon by Gender (Source: CAS/ The World Bank)

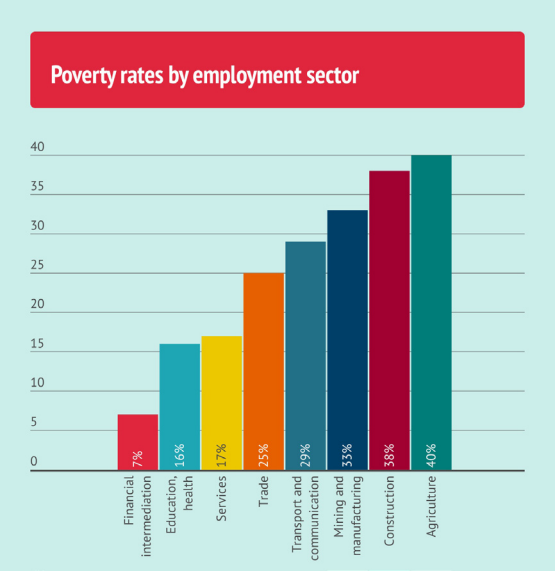


Figure 15: Poverty Rates by Type of Employment (Source: CAS/ The World Bank)

Poverty Rates by type of employment

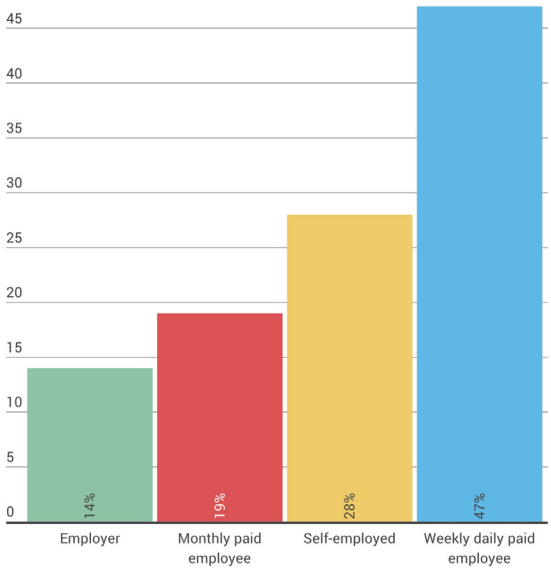


Figure 16: Poverty rates by employment sector (Source: CAS/ The World Bank)

Poor workers are highly dependent on the agriculture sector in rural areas. Despite its relatively low contribution to GDP, the agricultural sector is thought to employ some 20 to 25 percent of the working population, even if official figures (which only cover formal employment) put agriculture's share of employment at some 6 percent.[180] In some areas, such as the fertile plains of the Bekaa and Akkar, agriculture constitutes the main source of livelihoods and accounts for some 80 percent of local economic output.[181,182] Partial explanation for the lack of data on farmers and widespread informal nature of agricultural work is that agricultural workers are not covered under the labour law, which also means that they are not entitled to coverage by the National Social Security Fund (NSSF).

Syrian farmhands maintain an uncertain legal presence in the country and have almost doubled in number. For Syrian workers, which make up the bulk of farmhands in the country, regulations introduced in January 2015 require workers to obtain work permits as migrant workers, which technically means they would have to give up their status as refugees and obtain a Lebanese sponsor.[183,184] Even before the refugee crisis, migrant Syrian agricultural workers were estimated at some 260,000 labourers, a number which is believed to have risen by some 200,000.[185]



The agricultural sector is thought to employ some 20 to 25 percent of the working population

Employment issues are comparatively worse for refugees in the country. Just under half of working age Syrians have found employment in Lebanon. The agricultural and construction sectors provide 24 percent and 12 percent respectively of labour opportunities to Syrians in Lebanon.[186] Moreover, 92 percent of Syrian labourers do not engage in contracted work, and 72 percent are hired on an hourly, daily, weekly or seasonal basis.[187] The government of Lebanon has limited the sectors in which Syrian labour is permitted to agriculture, construction and the environment.[188] Palestinian refugees in Lebanon are allowed to work in more sectors of the economy than Syrians, especially since labour law reforms in 2005 and 2010. Technically they are also entitled to some social security benefits such as end-of-service indemnity and compensation for work related injuries.[189] However, the impact of these greater opportunities has been limited given the percentage of work permits held by Palestinian refugees working in Lebanon numbers in the single digits.[190] Moreover, access to syndicated professions (e.g. lawyers, doctors) remains restricted to Lebanese citizens. As a result, there has been criticism levied against NSSF contributions by Palestinians and their employers because they pay full subscription fees to the NSSF while workers receive only part of the benefits.[191]

Lebanon's labour code provides elements of basic social protection but does not cover wide swathes of the labour market. Lebanon imposes a minimum wage of USD 443 per month and entitles all contracted workers to healthcare coverage under NSSF schemes.[192] The NSSF includes some 56,000 institutions and provides benefits to around 556,000 persons while it has a potential beneficiary load of 1.3 million persons—all of which are employed in the formal sector.[193] The NSSF does not cover the self-employed and unemployed (and there is no unemployment insurance in the country). Moreover, the NSSF does not cover agricultural workers or domestic labour, which leaves out a significant portion of the workforce.[194]

CRITICALITY OF THE REFUGEE RESPONSE

By and large, the most food and nutrition insecure population in the country are refugees, be they Syrian or Palestinian. The response to the vulnerability of these population segments has been spearheaded by the international community. The food and nutrition security response is coordinated by the Food Security Sector Working Group which is lead by the MoA and works under the framework of the Lebanon Crisis Response Plan (LCRP), coordinated by the Ministry of Social Affairs (MoSA).[195]

Under the LCRP, food security makes up the largest portion of budgetary needs estimated at USD 473.5 million for 2016.[196] The plan covers three strategic priorities and aims to provide assistance to 1.5 million Syrian refugees and 1.5 million poor Lebanese (See Figure 17). In theory, this translates into an effort to shift the focus of beneficiaries from humanitarian assistance from Syrian refugees to have it spread evenly between Lebanese and Syrians.[197] However, given the differences in vulnerability among Syrians and Lebanese, the process of addressing issues such as food security has required different approaches by humanitarian actors.[198]

WFP's e-card programme has had a significantly quantifiable and qualified positive effects on food security among refugees. By and large the most direct contribution to the Syrian refugee food security comes from WFP's e-card programme, a food voucher programme which allocates USD 27 per registered refugee that can be redeemed at stores that fulfil the agencies criteria. Through the e-card programme WFP has injected over USD 600 million into the Lebanese economy and there have not been significant inflationary effects as a result.[199,200] Moreover, the WFP programme is proven to have created local jobs in excess of 1,300 jobs and added value of USD 1.51 for every dollar input in the food products sector.[201] The essential nature of the programme was demonstrated when WFP had to reduce the number of refugees it served along with the amount offered on the e-cards from USD 27 to USD 19 in 2015.[202] In June 2015, a total of 69 percent of families said they reduced the number of meals they ate each day, 58 percent limited their portion size, 13 percent withdrew their children from school and four percent sent children into child labour.[203] In response, WFP has also been working to support both Lebanese and Syrian children to attend public primary schools through a school feeding programme targeting 10,000 vulnerable Lebanese and Syrian in 13 locations.[204] The Ministry of Education and Higher Education also conducts regular monitoring of food provided to pupils in public schools across the country.

Palestinian refugees in Lebanon also receive social assistance from the UN. Palestinian refugees receive food relief in the form of cash transfers through the United Nations Relief and Works Agency for Palestine Refugees in the

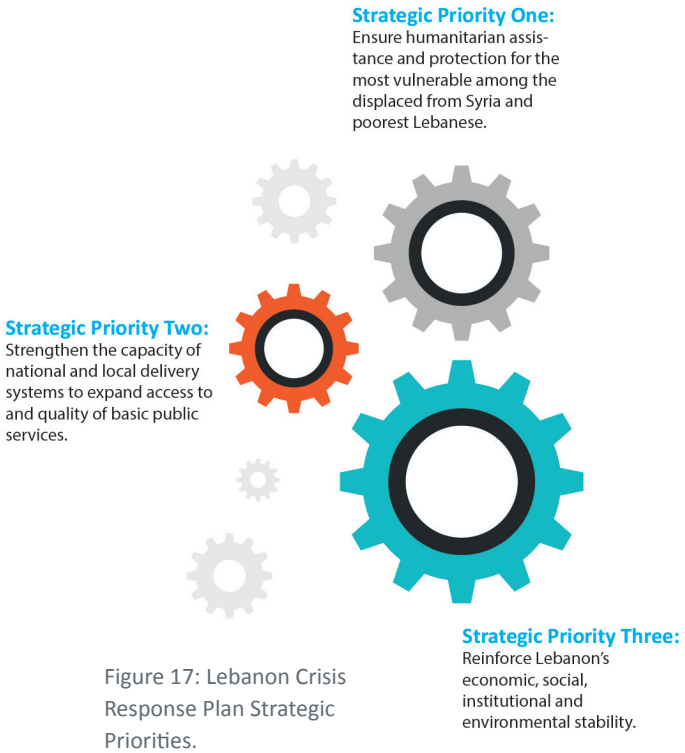


Figure 17: Lebanon Crisis Response Plan Strategic Priorities.
(Source: LCRP 2015-2016)

Near East (UNRWA) Social Safety Net Programme, which targets Palestine refugees from Lebanon.[205] Targeted Palestine refugees from Syria are entitled to a cash-for-food programmes which provides households with USD 27 per person month (along with USD 100 for basic assistance) in the form of an automatic teller machine (ATM) card redeemable at any cash point in Lebanon.[206]

Refugee and host community livelihood interventions under the Syrian refugee crisis response remain limited due to funding and implementation constraints. The livelihoods component of the LCRP is aligned with the strategies of the Government of Lebanon and focuses on capacity building for micro-, small- and medium-sized enterprises (SMEs), integrated value chains, job creation through investment in public infrastructure and environmental assets as well as improving employability and decent work.[207] However, due to limited funding and scope of livelihood interventions permitted by government policies such as restrictions on possessing fixed assets and the need to obtain permits and sponsors, its effects will likely remain limited to providing transferable skills and low-skilled jobs to refugees.

FALLOUT FROM FOOD AND NUTRITION INSECURITY

Compared to many countries around the world and in the region, average malnutrition in Lebanon does not register as high.[208] Lebanon has managed to keep undernourishment below five percent.[209] In fact, Lebanon has achieved one of the MDG 1 targets, which was to halve the proportion of people who suffer from hunger by 2015.[210] Moreover, average dietary energy supply, a measure of average supply of calories for food consumption against average dietary energy requirements, is estimated to currently stand at 135 percent.[211] However, this figure has been falling from its peak of 145 percent in the mid-to-late 1990s.[212] Furthermore, average protein supply has fallen from 94 grams/person/day in the late 1990s to 81 grams in 2011.[213]

While undernourishment is at a low level, the prevalence of food inadequacy, or the percentage of the population that is at risk of not covering the food requirements associated with normal physical activity, has been rising since around 2003 and reached an estimated high of 9.5 percent of the population during the 2012 to 2014 period. In tandem, there has been a deepening of the food deficit, which indicates how many calories would be needed to lift the undernourished from their status, everything else being constant.[214]

Wasting and underweight among resident and refugee children in Lebanon remains low while Infant and Young Child Feeding (IYCF) practices can be improved. Due to continued prevention and management of child malnutrition, rates of wasting and underweight among infants and children are low compared to many countries, even among Syrian refugees.[215] However, IYCF practices are sub-optimal among both Lebanese and refugee populations.[216,217] Lebanon does have a National Programme for

Promoting and Supporting IYCF as well as a law which regulates the marketing of IYCF products and tools (Law 47/2008), but these are not yet adequately implemented or monitored.[218] The capacity of primary and secondary healthcare providers has also been strengthened in protocols for the treatment of occurring cases of malnutrition.[219]

The Lebanese consume a Mediterranean diet, which has a relatively high component of fruits and vegetables, something that constitutes an important source of micronutrients but also carbohydrates, dairy and meat. Due to the lack of a national nutrition survey, a study on consumption patterns in Beirut provides the most representative reading of the consumption patterns of Lebanese (See Figure 18).

Although the traditional Lebanese diet has a relatively high component of fruits and vegetables, important sources of micronutrients, a nutrition transition is under way with increases in energy dense, high sugar, high fat diets. Traditional Lebanese food consumption patterns are characterised by high intakes of fruits and vegetables, legumes and fish, while Western diets are typified by greater consumption of red meat, eggs and fast food sandwiches.[220] Although these data show that high micronutrient dense foods are commonly consumed, there is evidence of a shift towards more Western-style diets, high in energy, sugar and fats.[221,222]

Nationally representative data which measures changes in obesity show that child and adult obesity levels are on the rise. Measured using Body Mass Index (BMI), values were significantly higher for all age levels and genders with the exception of children from six to nine years of age. The incidence of obesity increased from 7.3 percent in 1997 to 10.9 percent in 2009 among six to 19 year olds, and from 17.4 percent

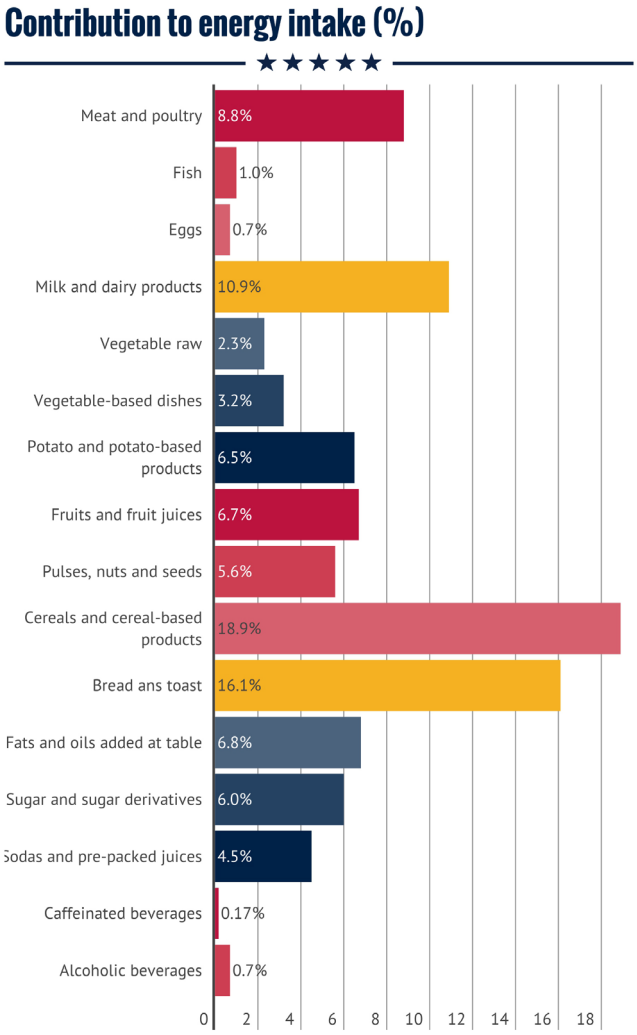


Figure 18: The Lebanese Diet by Food Group (Source: Nasreddine et al., Food consumption patterns in an adult urban population)

to 28.2 percent in adults over the same period.[223] These results also indicate that the annual rate of obesity during that period among Lebanese adults (+4.1 percent in Lebanese women and +7.1 percent in men) was higher than that of the Arabian Gulf states, where yearly increases were 1.7 percent for women and 4.1 percent for men.[224]

The risk of increasing obesity in Lebanon is real given the prevalence of overweight persons. The Lebanese are considerably at risk of obesity given that 65.4 percent of them are overweight (BMI exceeds 25).[225] Men in particular are more overweight than women with an average of 72.8 percent of men compared to 59.4 percent of women exceeding overweight BMI levels.[226] The combination of diet

and eating habits has also resulted in elevated cholesterol levels, which averages for raised cholesterol levels (190 milligrams/decilitre), at 71.9 percent of the population, and high cholesterol levels (240 milligrams/decilitre), at 25.1 percent of the population.[227]

A number of micronutrient deficiencies have also been registered in the country, which can result from either energy-high diets or undernourishment. It is thought that a quarter of Lebanese women of child-bearing age have iron deficiencies and 12.8 percent also suffer from folate and vitamin B12 deficiencies.[228] Data from 2009 also show that some 66 percent of adults consume less than the recommended dose of calcium and 19.6 percent of those adults had vitamin D deficiencies, especially among females.[229] Furthermore, Lebanese schoolchildren have also shown insufficient iodine intake levels.[230] These results indicate that micronutrient deficiencies are a result of either lack of food quantity, or changing consumption patterns among those who are not food insecure.

Rising obesity, even among the food insecure, can fuel further food insecurity through competing demands and reduced labour force participation. Although the data do not exist on Lebanese populations, there is evidence from Palestinian refugees living in Lebanon that food insecurity is associated with a higher likelihood of chronic diseases such as diabetes and hypertension.[231] It is likely that poor quality diets, and rising obesity explain associations between food insecurity and chronic illnesses. Such illness can, in turn, fuel further food insecurity by creating competing demands between healthcare expenditure (medication, consultations) and food expenditure, as well as reducing labour force participation with implications on reduced income.[232]

Poverty pockets across Lebanon display food and nutrition insecurity levels that affect almost half the local population. As no nationally representative nutritional data exists in Lebanon, researchers have had to adapt international tools and begin to apply them to different segments of the population to acquire a reading of food and nutrition security. Using the Arab Family Food Security Scale (AFFSS) and an adapted version of the Household Food Insecurity Access Scale (HIFAS) on representative samples from South Lebanon (Tyre Caza) and Palestinian refugees in the Bekaa valley, studies show that these areas witness significant levels of nutrition insecurity and produce comparable results (See Figure 19).[233,234] Households in Lebanon experiencing food insecurity have also reduced diet quality and employed a variety of negative coping strategies.[235]

Data for Lebanese citizens living in communities hosting Syrian refugees showed some exposure to food and nutrition insecurity. In order to probe the level of food security among host community residents in 2015, data showed that a total of 89 percent of Lebanese had an acceptable Food Consumption Score (FCS) while 6.9 percent had a borderline FCS and 2.4 percent has a poor FCS score.[236] Among regions in Lebanon, the Akkar governorate fares the worst (8.2 percent with a poor FCS, 12.3 borderline FCS).[237] However, the Lebanese are also at risk of food insecurity over the longer term, with almost half of those surveyed saying they were worried that food may run out over the course of the year.[238] A further 31 percent of Lebanese also stated that they had been unable to eat healthy and nutritious food (See Figure 20).[239] Again, economic access was cited as the main reason for household food insecurity. [240]

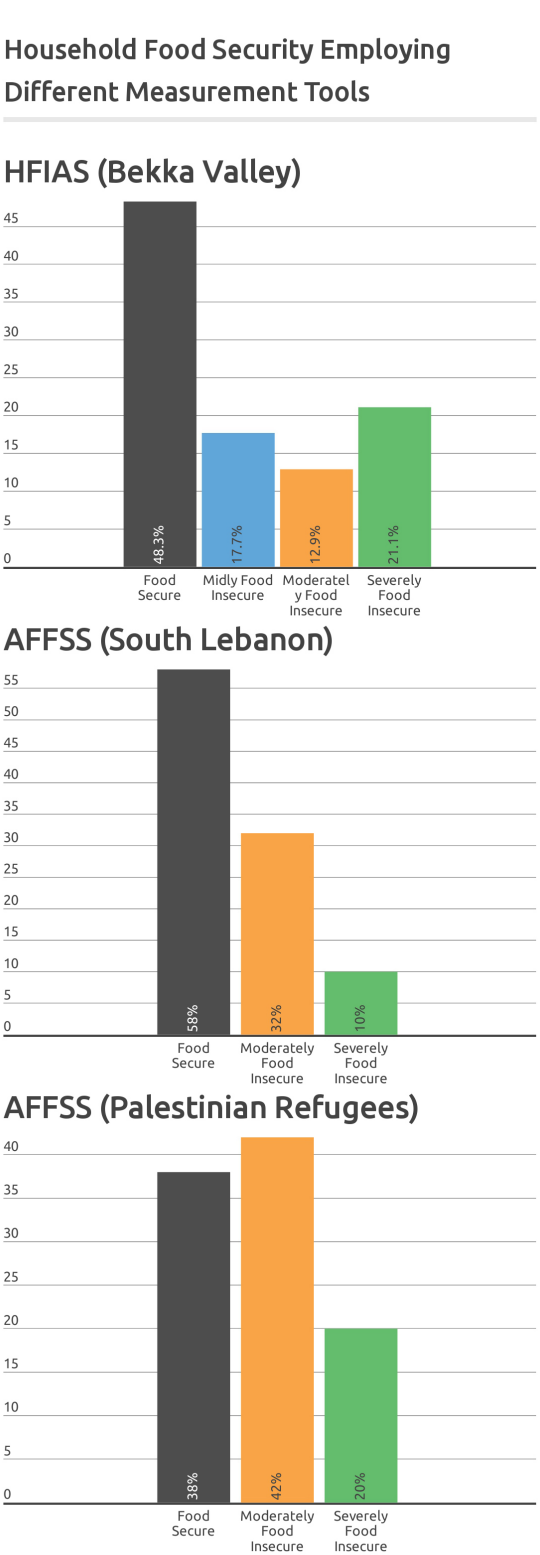


Figure 19: Household Food Security Employing Different Measurement Tools (Souce: Naja et al., 2014 and Sayhoun et al., 2014)

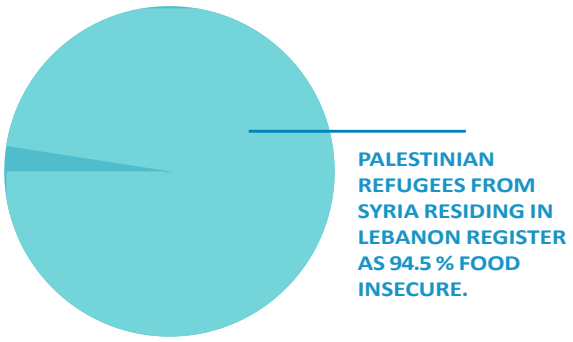
Food price shocks have been seen to create micronutrient deficiencies across the Lebanese population. The last significant food price shock between 2007 and 2009 resulted in the Lebaense experiencing a decrease in nutrition levels across eight micronutrients.[241] The level of the decrease varied from 16.3 percent for calcium to 2.8 percent for vitamin C, with higher reductions in urban areas, indicating that rural areas can perhaps react better to a dramatic rise in price levels through subsistence farming or lower cost of local produce (See Figure 21).[242]

REFUGEE FOOD SECURITY

Lebanon's refugee population registers levels of food and nutrition insecurity that are higher than the Lebanese. Data on Palestinian Refugees, reveals that while around 38 percent of Palestinian Refugees are food secure, those only include Palestinian Refugees from Lebanon.[243] Palestinian Refugees from Syria residing in Lebanon register as 94.5 percent food insecure with 63.2 percent severely food insecure and 31.3 percent moderately food insecure (See Figure 22).



Households in Lebanon experiencing food insecurity have also reduced diet quality and employed a variety of negative coping strategies.



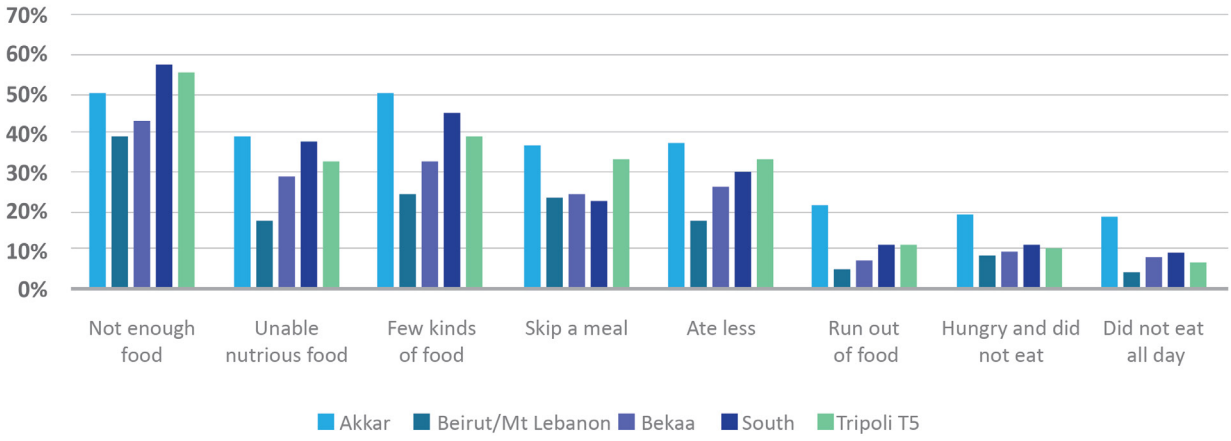


Figure 20: Coping Strategies Employed by Food Insecure Lebanese (Source: FAO/REACH)

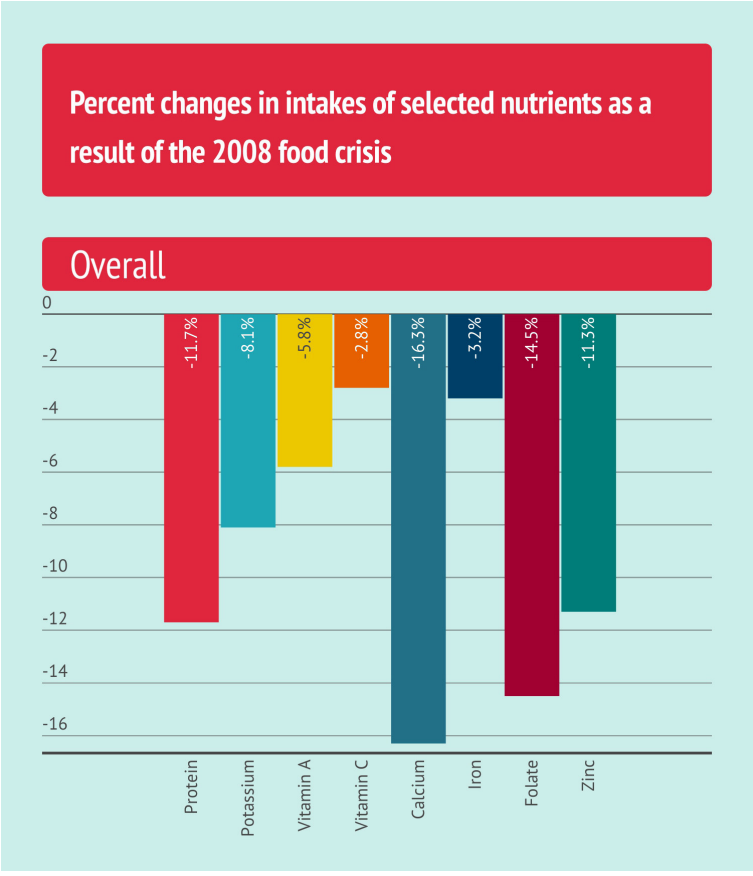


Figure 21: Percent Changes in Intakes of Selected Nutrients as a Result of the 2008 food crisis (Source: Abou Zaki et al., 2014.)

Food is by far the largest expenditure item for Syrian refugees, more than double that on rent. Food makes up 45 percent of expenditure while rent only makes up some 19 percent.[244] The regions of Akkar and Bekaa showed the highest level of food expenditure on food, with more than a quarter of households exceeding 65 percent of expenses on food (Bcharre-Batroun, Jezzine, Baabda, Keserwen and Jbeil had less than 10 percent of their populations with the same share of expenditure on food).[245] The Vulnerability Assessment of Syrian Refugees in Lebanon (VASyR) also measures a household's food consumption score (FCS), which combines measures of meal frequency, diet diversity and nutrient value. Those with unacceptable FCS have risen from 12 percent to 17 percent while those with border line FCS scores rose from 9 percent to 14 percent. Syrian refugees in Lebanon are also eating less nutritious food, such as bread, sugar, condiments and fat.[246]

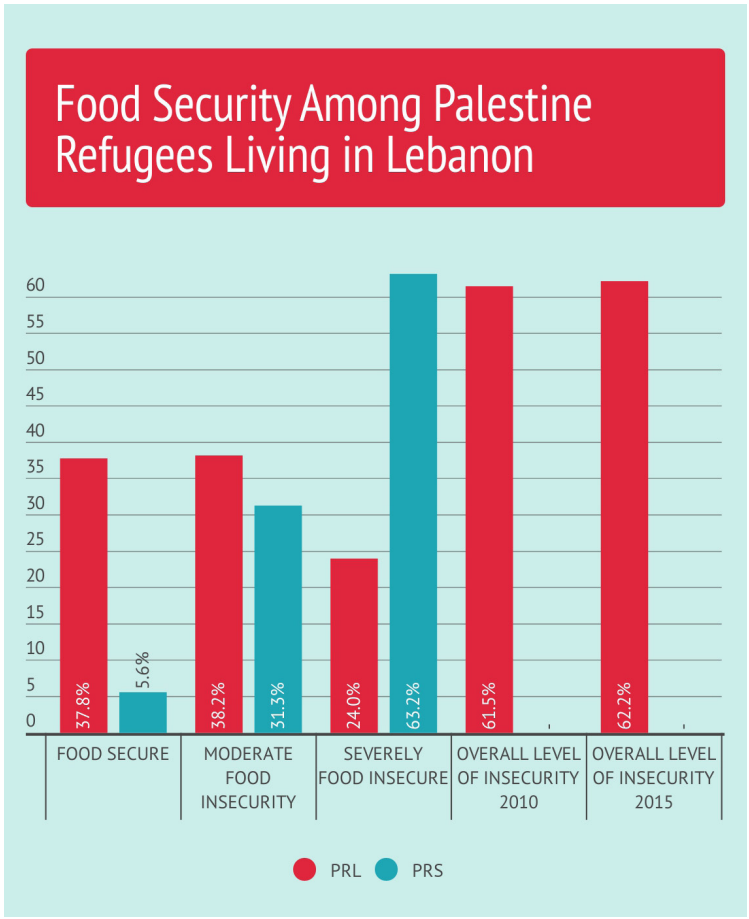


Figure 22: Food Security Among Palestine Refugees Living in Lebanon (Source: UNRWA, 2015 [unpublished])

Household food security among Syrian refugees is worsening as time passes. The 2015 Vulnerablity Assessment of Syrian Refugees in Lebanon measures household food security using a composite indicator, which combines food consumption, expenditure and negative coping strategies to classify households into four different categories of food insecurity. The results show that almost 89 percent of Syrian refugees were food insecure to some extent in 2015, mainly because of increased frequency and severity of coping strategies(See Figure 23).[247]

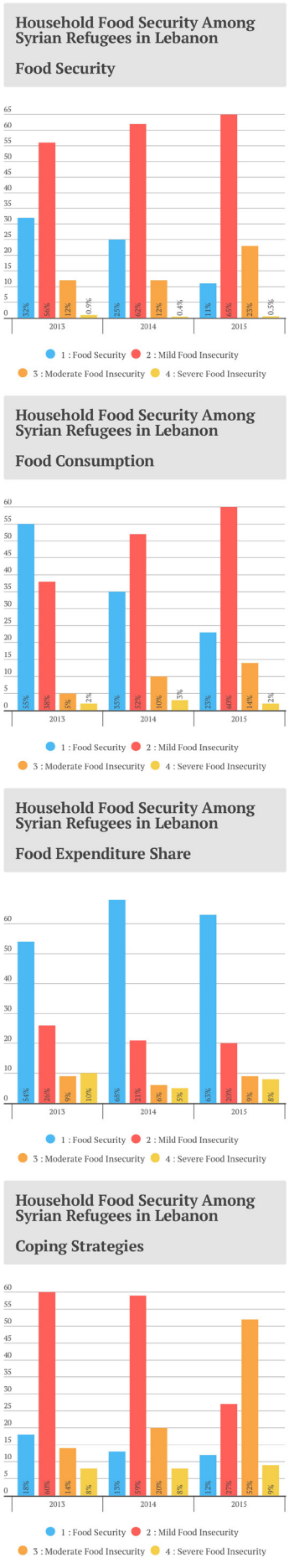


Figure 23: Household Food Security Among Syrian Refugees in Lebanon (Source: VASyR 2015)



5.STABILITY AND SUSTAINABILITY AT RISK

SECTION SUMMARY

Lebanese agriculture has the potential to greatly contribute to food and nutrition security, not just in terms of food supply and availability, but also in terms of employment for the rural poor and most vulnerable. To allow the sector to do so, Lebanon will need to invest in organising agricultural output to empower small farm holders, increase their capacity and collective organization, as well as allow them to contribute more to the agricultural value chain and gain market power. On the other side of the spectrum, established agro-businesses need to be supported in a manner which serves the same goal.

Holistically working across the value chain is the only manner in which the problems of rising production costs, oligopolistic input markets, weak irrigation networks, fragmented land holdings, foreign competition, inefficient seed use, food safety and lack of farmers' access to social safety nets can be addressed. Providing economic opportunities to the poor through the development of the agriculture sector is a social policy that can prove to be more effective and less costly over time than programmes which provide cash transfers or subsidies.

Lebanon, however, will not be able to produce these outcomes if it does not carefully consider how resource allocation affects its environment. Due to the fact that Lebanon's water endowment is expected to continue to deteriorate, not least because of climate change, a particular focus will need to be placed on water resource management. Reforming the sector and its value chain sustainably will also need to form the crux of other reforms such as land-use planning and rationalisation of agricultural investments.

ACCELERATING AN AGRICULTURAL REVIVAL

Food market trends and price projections for the next 15 years show a steady increase in many food commodity prices which can exacerbate food and nutrition insecurity. By 2030, rising demand due to population growth as well as the effects of environmental change on food supply are expected to push food commodity prices upward.[248] Even under the most optimistic scenarios where increased investment in technology and knowledge transfers double productivity rates, food prices are still projected to rise.[249] Accordingly, wheat prices in the Middle East are expected to increase by 24.8 percent by 2030. By the same token, prices of maize and processed rice are expected to climb to 29.7 percent and 15.1 percent by 2030, respectively (See Figure 24).[250]

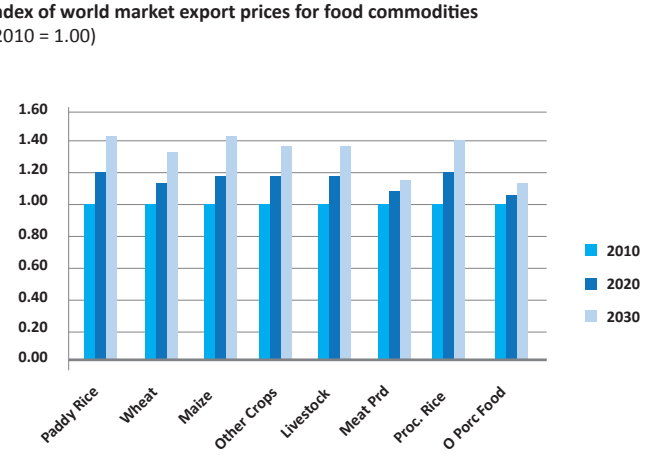


Figure 24: Global Food Price Projections (Source: Institute of Development Studies)

Lebanon can build on its agricultural plan of action to implement an integrated food and nutrition security strategy. The 2007/2008 global food price-shock exposed the extent of food and cereal import dependency in the Arab world, which imports up to 50 percent of its caloric needs

every year.[251] Following this price shock, several countries in the region opted to review their food security strategies. Jordan for example decided to implement a long-term strategic framework for food security coupled with a comprehensive assessment of food security in relevant Jordanian ministries and institute a high-level national committee on food security.[252] By contrast, Lebanon has yet to formulate a long-term multi-sector food security strategy and its response remains modest.[253]

The MoA 2015-2019 strategy formulated eight main courses of action that, if implemented, could enhance food and nutrition security and reduce vulnerability. The MoA 2015-2019 strategy identified three objectives, eight courses of action, 30 components and 104 area interventions.[254] Three specific objectives are identified as: 1) providing safe and quality food, 2) improving the contribution of agriculture to economic and social development, and 3) promoting sustainable management of natural resources.[255] As the coordinator of the Food Security Sector Working Group, the MoA is suitably positioned to implement its strategy through aligning its interventions with that of other ministries (MoSA, MoWE, MoET) and other LCRP stakeholders.[256] That being said, the ministry also suffers from various institutional obstacles such as a low budget, institutional fragmentation, and weak administrative capacity.[257]

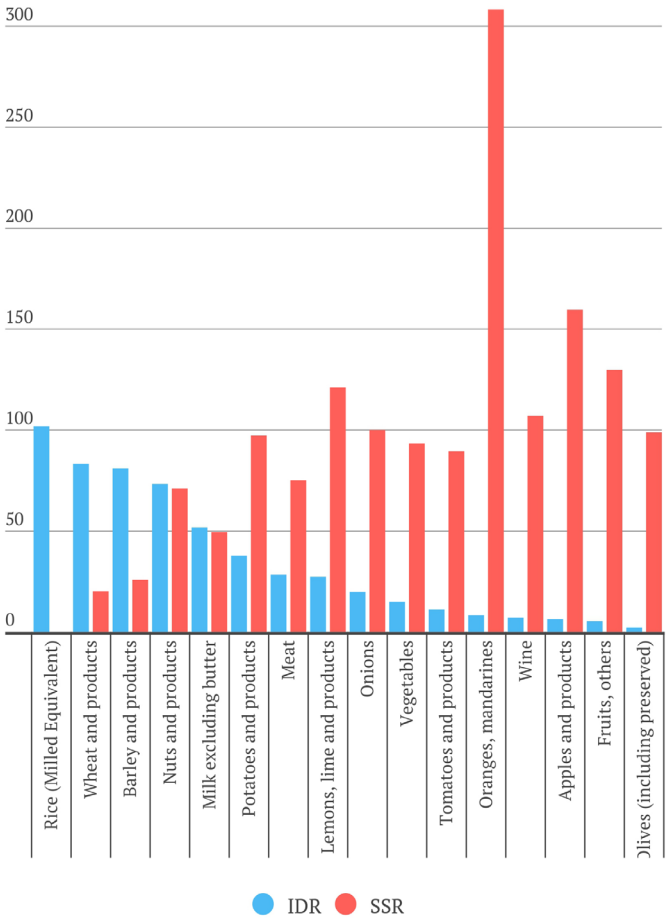
Public investment in agriculture is comparatively low, despite Lebanon's vulnerability to external price shocks. Several MENA governments have indeed started considering increasing domestic food production in order to reduce their vulnerability to international market prices and stabilize domestic food costs.[258] While such an approach incurs economic costs, and needs to be considered in accordance to each country's comparative advantages, Lebanon's investment in the agricultural sector remains lower than regional averages. The MoA's total budget allocation is around 0.5 percent of the total budget in any given year.[259] This constitutes a considerably smaller share compared to neighbouring countries where the allocation tends to exceed five percent of national budgets.[260]

Institutional fragmentation constraints policy cohesion and implementation of the MoA 2015-2019 strategy. When it comes to food and nutrition security, several governmental institutions are involved in the implementation of policy. For example, the Council for Development and Reconstruction (CDR) regularly awards infrastructure projects targeting the agricultural sector.[261] The Investment Development Authority of Lebanon (IDAL) manages the Agri-Plus programme, which benefits local producers through export subsidies and other incentives. At the same time, the MoET implements major subsidy programmes for wheat and bread production while the Minstry of Finance administers subsides for tobacco farmers.[262] Weak coordination between these institutions, such as CDR, MoA, MoW, IDAL, The Green Plan (which builds agricultural infrastructure) and MoET creates fragmentation in policies and delays in execution (For institutional arrangements see Annex C). What is more, lack of policy cohesion between trade policies and agriculture sector reforms incurs losses to the agricultural sector, which fails to live up to its full potential.[263]

The agricultural sector requires structural reforms in order to develop its legal and financial infrastructure. Lebanese farmers tend to have weak organizational capacity. Only 25 percent of farmers' cooperatives are considered active.[264] In addition, only 1.5 percent receive public extension services compared to 9 percent that receive private extension services.[265] In response, the MoA plans to lift the number of active cooperatives to 35 percent by 2019.[266] To do so, the ministry has launched an ini-

tiative to establish a unified farmers registry alongside the FAO in order to be able to facilitate farmers' access to social, health and agricultural services by the end of 2016.[267] The lack of a unified farmers' registry—a long-standing demand by farmers associations in Lebanon—is a structural weakness which impedes the sector from being organized enough to receive targeted extension services from the MoA.[268,269,270]

Self Sufficiency vs. Import Dependency



Import Dependency Ratio and Self Sufficiency Ratio was calculated according to the following formula: IDR = Imports/ production+ imports- exports * 100. SSR= Production/Production + Imports- Exports *100

Figure 25: Self Sufficiency and Import Dependency of Food Items in Lebanon (Source: FAO Stat)

The agricultural sector has come under serious strain since the onset of the Syrian conflict and refugee crisis. Syrian labour has made up the bulk of agricultural workers for the past three decades with the Syrian labour force estimated at some 260,000 farmhands before the refugee crisis.[271] Many of these workers brought their families to work with them after 2011, which, along with new workers, increased the labour supply by an additional 200,000 workers, or some 20 percent of registered refugees.[272] In turn, the labour influx has lead to a decrease in pay for agricultural work in areas such as the Bekaa and the North due to increasing competition between Lebanese and Syrian farmhands.[273] Lebanese agricultural pay has fallen in these two major rural areas from USD 23 per day to USD 16 per day.[274]At the same time, Syrian agricultural pay has also fallen from USD 2 to USD 1.3 per hour for men and from USD 1.3 to USD 1 per hour for women.[275]

Lebanon is self-sufficient in fruits and vegetables, but highly dependent on cereal imports. On aggregate, Lebanon is self-sufficient in fruits (147 percent) and nearly self-sufficient in vegetables (93 percent).[276] Some of the products with the highest self-sufficiency ratios are oranges and mandarins (308 percent), apples and related products (159 percent), lemons[277] (121 percent), grapes (117 percent), wine (107 percent), onions and olive oil (both 100 percent).[278] On the other hand, Lebanon imports around 83 percent of its total cereal consumption (See Figure 25).[279]

In the MENA region, Lebanon has comparative advantage in fruits and vegetables. In comparison to cereals and livestock, the fruits and vegetables sector have a greater opportunity to increase food and nutrition security as well as competitiveness. Although Lebanon registers slightly higher water endowments than regional averages, the country still suffers from water scarcity (See Figure 27).[280] Since cereals and livestock are water intensive agricultural

sectors with higher price volatility, it is relatively more sustainable from a resource management perspective for Lebanon to invest in increasing productivity in fruits and vegetables.[281] Moreover, competitiveness in cereal markets requires producing high volumes, which does not suit Lebanon because land is relatively scarce compared to wheat producing nations and there are fewer possibilities to achieve economies of scale.[282]

The majority of agricultural exports consist of fruits and vegetables, but volumes remain low in comparison to production and imports. Agricultural exports account for 19 percent of total exported goods.[283] In terms of fresh fruits and vegetables, potatoes are the largest export crop accounting for a 55 percent share of vegetable exports, followed by lettuce and chicory estimated at around 20 percent of vegetable exports.[284] Lebanon's main export markets are in Saudi Arabia, Syria, Iraq, Jordan, and other Gulf countries.[285]

Lebanon has a growing agro-food industry that could enhance employment and growth. The agro-food processing sector makes up a substantial share of the overall industrial production. In 2011, the agro-food processing industry contributed to 26.3 percent of total industrial value added and employed 24.9 percent of the industrial sector total workforce. [286, 287] The sector has also shown significant growth in some indicators such as export capacity with agro-food exports increasing by 38 percent in the period between 2012 and 2014.[288]

A DWINDLING RESOURCE

From a resource management perspective, the volume of water required to produce many crops in Lebanon is higher than the virtual water cost of importing. The virtual water balance, which looks at the net import of water, works in Lebanon's favour in only a select few crops such as lettuce, potatoes, oranges, apples, pears, grapes, bananas, lemons and other citrus fruits.[289]

In comparison to other neighbouring countries Lebanon has a comparatively favourable natural water endowment. Lebanon enjoys 926 cubic metres of fresh water per capita per year (m3/capita/year), which is above several regional country averages but still lower than the water scarcity line at 1,000 m^3/capita/year (See Figure 26).[290] By 2015, estimates are that projected water resources had reached 839 m^3/capita/year. [291]

Precipitation in Lebanon is not consistent throughout the year, and falls mainly during the winter season. Up to 90 percent of total precipitation falls between November and April.[292] Some regions experience zero rainfall during the rest of the year (See Figure 27).[293] The low water storage capacity exacerbates seasonal imbalances, and it is estimated that Lebanon stores only up to six percent of its total resources, a seriously low amount compared to the MENA

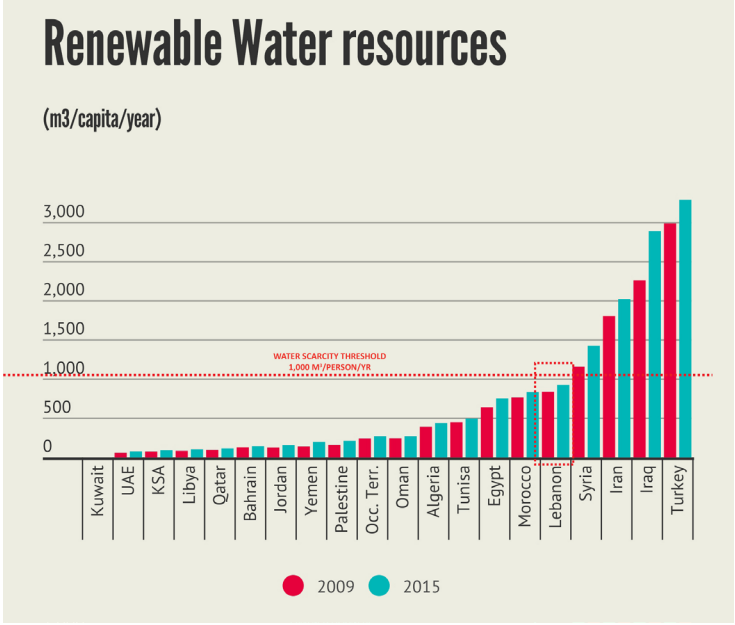


Figure 26: Renewable Water Resources in the MENA (Source: National Water Sector Strategy 2010-2020)

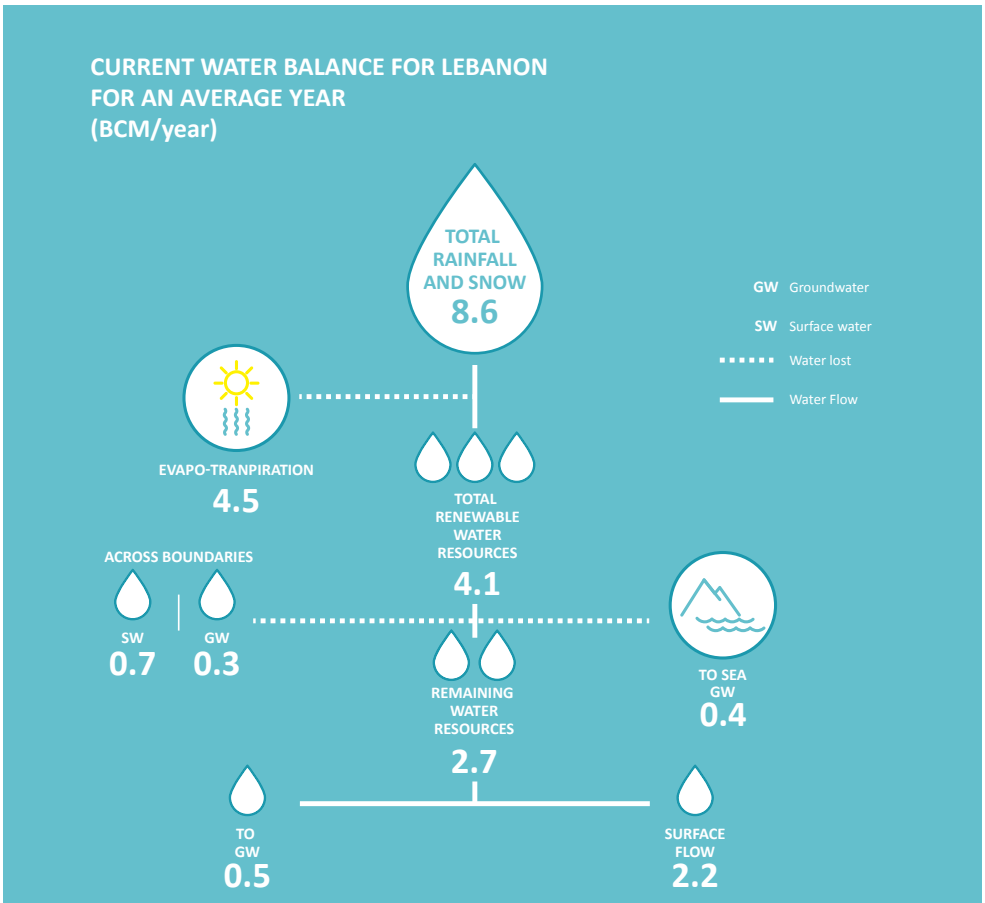


Figure 27: Renewable Water Resources Per Capita
(Source: National Water Sector Strategy 2010-2020)

average of 85 percent.[294] Climate change is expected to decrease water supply as Lebanon is projected to witness further reduction in rainfall and increased risks of droughts.[295]

Lebanon is highly dependent on underground water wells for irrigation. Lebanon's irrigation system remains traditional and comparatively inefficient flood irrigation accounts for anywhere between 50 and 70 percent of irrigation activity.[296] Lebanon uses improved irrigation techniques like sprinklers (21,000 ha) and micro-irrigation (13,000 ha), but the return (USD per drop) is considered low by international standards.[297] Usage of sprinklers and micro-irrigation is concentrated in the Bekaa central plains and the North (Qaa district) where intensive cereal production takes place.[298] Over 50 percent of irrigation water comes from underground wells, which depletes groundwater resources creating a raft of sustainability issues.[299]

Lebanon has been in the process of implementing large-scale irrigation projects since the 1950s, yet results have been limited. The Canal 800 irrigation project, which has yet to be completed, is expected to transfer around 110 million cubic meters of water from the Qaraoun Dam on the Litani River to irrigate up to 15,000 hectares of agricultural land in 98 rural villages south of the Litani River.[300] The existing Canal 900 irrigation project covers six main villages and uses a modern pressurized irrigation system and is meant to provide 20,000 ha of farmland with irrigation.[301,302] However, due to structural incapacity of the three pumping stations, only 640 ha are covered annually, well under the current demand and planned outcome levels.[303] Canal 800 has also been beset with problems related to cost, quality and quantity of water.[304] Specifically, the water used in these irrigation schemes has been seen to contain biological and chemical contamination as well as internationally unacceptable levels of heavy metals such as aluminium, barium, chromium, copper, nickel, and zinc.[305]

Lebanon adopted a National Water Sector Strategy (NWSS) in 2012. The NWSS is a comprehensive action plan that develops a coherent strategy of reform and a detailed road map for improving water provision and service delivery.[306] In terms of irrigation rehabilitation and expansion, the irrigation schemes around the Litani River basin are intended to boost agricultural irrigated lands in the South and the Bekaa.[307] The plan however has not been implemented due to issues surrounding ministerial authority over water resource management and construction.[308]

FRAGMENTED AND UNDERUTILISED

Agricultural landholdings in Lebanon tend to be small and fragmented. According to a 2010 general census of agriculture, the total number of farm holders in Lebanon is estimated at 169,512 whose average age is 52 years.[309] Some 70 percent of farmers occupy less than 1 ha on average and represent 18 percent of total utilized agricultural area (UAA).[310] What is more, 26 percent of holdings are between 1 to 6 ha and represent 40 percent of total UAA.[311] At the same time, 3.5 percent of large farmers (over 6 ha) own 40 percent of UAA in Lebanon, signifying how land ownership and access to economies of scale are skewed.[312]

Urbanization has exacerbated the decline in agricultural land use. Lebanon's rural population has declined significantly over the past decades, which has led to a decrease in the number of families relying on agro-pastoral activities for subsistence.[313] In the 1960s, the rural population represented more than half of the Lebanese population, a figure that had fallen to around 13 percent in 2008.[314] The fact that Lebanon is 75 percent mountainous increases the cost of construction and incentivizes migration to cities.[315] These factors are among the reasons that land dedicated to agriculture has declined over the past twenty years from around 18 percent of total surface area in the early 2000s to 11 percent in 2011 (See Figure 28).[316] Other factors which have precipitated agriculture's decline are the rising costs of land, urban sprawl, and land use competition, which leads to increased cost of production in comparison with neighbouring countries.[317] Scarcity of agricultural lands has also lead to a decrease in farmers income.[318]

Lebanon needs to implement its 2005 National Land Use Master Plan to increase agricultural viability. About 84 percent of land in Lebanon has not been zoned and some 50 percent has not been surveyed.[319] Within areas that have been zoned, only 10.4 percent have received the necessary approval by the cabinet. Thus, effectively, around 90 percent of Lebanon's agricultural land can become built up area as long as construction permits are obtained from relevant authorities. The National Land Use Master Plan envisions agricultural lands that should not be built up, with some exemptions for agricultural infrastructure and rural towns.[320]

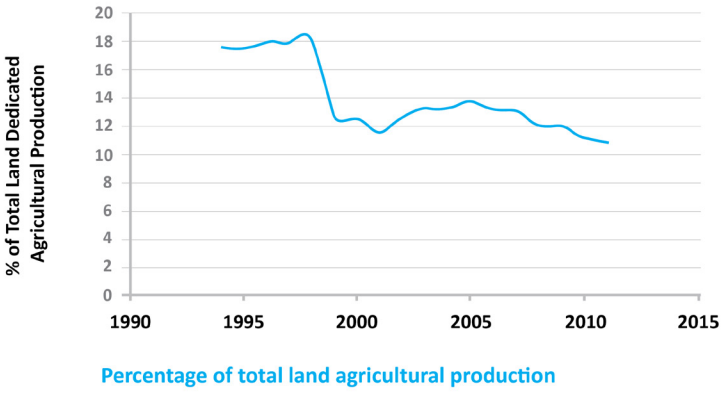


Figure 28: Percent of land dedicated to agriculture (Source: The World Bank)

Lebanon has great potential to increase seed production and reduce input prices.[321] Apart from seeds for wheat, which are produced locally through the Lebanese Agricultural Research Institute (LARI), Lebanon imports the majority of its seeds.[322] Lack of seed multiplication internally (except for wheat and some cereals) makes Lebanon dependent on foreign imports and leaves the sector subject to import price volatility.[323] Costs of some vegetable seeds such as eggplants and squash are reported to have increased more than three-fold since the Syrian conflict and refugee crisis.[324] In recent years, the MoA and the Lebanese Customs has begun requiring seed importers to comply with a set of new regulations including certificates of origin, import permits as well as phytosanitary requirements.[325] However, these regulations are not deemed sufficient to guarantee plant material authenticity, traceability and property rights.[326] Supplying seeds to farmers is generally conducted by private firms or developmental organizations with minimal state intervention or regulation.[327]

Lebanon's seed production is being regulated and has strong potential for growth. LARI, in collaboration with the International Centre for Agricultural Research in the Dry Areas (ICARDA), are responsible for development and production of specific varieties of cereals and legumes.[328] In cooperation with the Directorate General of Cereals and Beetroot (DGCB), three classes of wheat seeds are produced and disseminated to farmers.[329] In collaboration with the MoA, ICARDA also conducts regular testing for superior genotypes for two to three years in Tal Amara in the Bekaa valley.[330] Seeds from international companies are tested for adaptability to local terrain before being introduced to the local market.[331]

Regulations for seed and seedling imports are in need of improvement. Lebanon does not possess a seed law to govern internal production or seed imports.[332] Policies and regulations are consequently not unified and are implemented on an *ad hoc* basis.[333] A draft seed law was prepared in 1970 but was never passed nor implemented.[334] The MoA provides quality certificates for a limited number of nurseries producing seedlings for some fruit varieties such as citrus fruits as well as pears, apples, apricots, sweet cherries, nectarines, peaches, and plums.[335] At the same time, the MoA conducts regular sanitary inspections as part of a specific seedling production programme through LARI.[336]

CHAINS OF MARKET CONCENTRATION

The Lebanese agricultural value chain is a mix of traditional and modern procurement channels. Small producers and powerful wholesalers dominate the market, while the retail business is witnessing a slow transition towards supermarket dominance.[337] Agricultural production is dominated by traditional agricultural patterns (See Figure 29). Small production units and farmers with fragmented holdings that lack technological and capital investment sell their produce to local small retailers at wholesale points around the country known as the *hisbeh*.[338] Many agricultural products are left in the possession of wholesalers on a consignment fee, thus creating more market power for wholesalers.[339]

Internal agricultural markets favour wholesalers and put small farm holders at a disadvantage. Since the consignment system does not affect wholesaler profit margins, the system disincentives wholesalers from selling at lower prices placing upward pressure on wholesale prices and creating food waste in unsold products. In turn, with less cash at hand, farmers are less

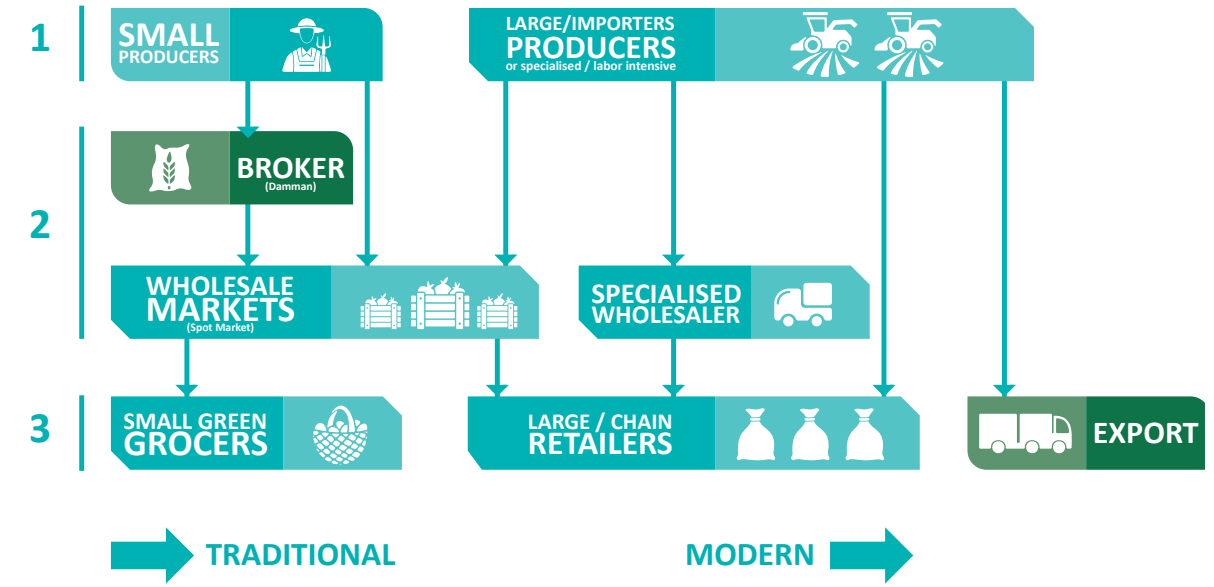


Figure 29: Agricultural Value Chain of Fresh Fruit and Vegetables in Lebanon (Source: Seyfert K., Chaaban J., Ghattas H. (2014))

likely to invest in technological and infrastructure capacities.[340] Wholesalers also have little interest in maintaining quality and tend to have little technological sophistication with regards to handling and storage.[341] Moreover, due to lack of access to retail markets, producers have little chance of developing business connections with retailers and are not compensated for merchandise loss or market fluctuations.[342] As a result rural poor incomes suffer during times of price volatility.[343]

Small farm holders also tend to have limited information about market prices. While the Beirut Chamber of Commerce, Industry and Agriculture disseminates a weekly list of wholesale prices of locally produced fresh foods via email or SMS, the impact on prices is greatly limited.[344] About a quarter of wholesalers and some 20 percent of retailers are said to be aware of the programme compared to just six percent of farmers.[345] Indeed, using calculations on costs of production from a variety of sources, farmers take about 30 percent of most retail price shares while having to incur the cost of production.[346] In oranges and mandarins, for example, the farmers' share of the final price is 30 percent to 32 percent while they must incur a 12 percent share to cover costs.[347] Farmers only make a 9 percent share of price on banana sales and even make a loss on cabbage.[348] Moreover, although farmers are exempted from taxes on earnings and holdings, they pay indirect taxes because of regressive value-added tax on inputs and some final retail food prices.

More coordination between extension services, research and policy frameworks can result in greater levels of assistance to small farm holders. The MoA public agricultural extension services have good geographical coverage to access farmers across Lebanon, especially in poor rural communities.[349] The extension service is composed of 28 agricultural centres, seven agricultural technical schools and three agricultural service centres that are mandated to deliver training and education to farmers.[350] Yet, as identified in the MoA 2015-2019 strategy, due to lack of supervision, unsuitable administrative structure, and the absence of long-term planning, extension services have been ineffective.[351]

Supplier concentration in input markets and restricted public investment increases production costs for farmers. As far as agricultural inputs are concerned, the market tends to be highly concentrated. Trade in fertilizers, seeds, herbicides and pesticides is dominated by five companies

which results in high input prices for farmers.[352] Coupled with lack of electricity, irrigation networks and public investment in agriculture, higher input prices skew the market to the benefit of more highly capitalized farmers who can afford higher input prices and operating costs. [353] Another major issue for small farm holders is limited public investment in developing irrigation systems, water storage facilities, and electricity; in effect the political economy of agricultural tends to favour larger farmers with the capacity to undertake large investments in generators, and advanced irrigation methods.[354] Under the MoAS Course of Action II aims to rectify many of these issues by improving the value chain, not least through the government plans to increase irrigated land by 25,000 hectares by 2019 through The Green Plan. [355]

CONSTRAINED RESPONSE AND CAPABILITIES

Lebanon possesses several institutions, which are tasked with agricultural research and development. The Department for Agricultural Scientific Research (DASR) was founded in 1957 under the MoA.[356] DASR was later transformed into the LARI which is a semi-autonomous institution, managed by a board of directors and affiliated to MoA.[357] Apart from LARI, Lebanon possesses several agricultural research centres in Tal Amara in the Bekaa, Abde in the North and Tyre in the South.[358] What is more, a research station for animal health and agriculture has been established in Fanar, Mount Lebanon and another station for olive and citrus foods was built in Kfarshakhna in the North.[359] Several academic institutions such as the American University of Beirut, Lebanese University, Kaslik University and Universite St. Joseph also contribute through their various faculties to agricultural research.[360] Lebanon also has a limited number of trained professionals in areas of seed processing, quality tests and field inspections.[361]

Lebanon supports agricultural development through land reclamation, agricultural roads, irrigation and rainwater reservoirs. Land reclamation projects are conducted through The Green Plan, an independent public institution. The Green Plan was established in 1963 by Decree No.13335 as a public institution under the tutelage of the Minister of Agriculture.[362] The institution is tasked with land reclamation projects, and the construction of supplemental agricultural roads and rainwater reservoirs.[363] The Green Plan reclaims an average of 5,000 square metres of land per year and constructs 20 to 30 rainwater reservoirs between 20,000 to 50,000 cubic metres in capacity.[364] Furthermore, The Green Plan encourages the adoption of modern irrigation and works on expanding irrigated lands to the measure of 300 to 500 acres annually.[365] The Green Plan also rehabilitates and/or constructs new mountain terraces in rural areas and links them with agricultural roads.[366]

Lebanon also helps agriculture and agro-food businesses through marketing tools and export subsidies. Support for agricultural exports is managed by The Investment Development Authority of Lebanon (IDAL). Farmers can enjoy support from the Agri-Plus programme, which aims to increase the volume of agricultural exports by linking export subsidies to product quality, as well as improving packaging and promotion.[367] The programme attempts to open new markets for Lebanese products abroad and had a budget of USD 25.7 million in 2014.[368] The programme contributed to a rise in agricultural exports, by 16 percent between 2012 in 2014, especially in fruits, vegetables and olive oil.[369] Though officially targeted at small farmers, studies show that export assistance ends up benefiting traders and large producers.[370]

Despite increased government subsidies, the effect of the 2015 border closures have been damaging to the agriculture and agri-food sector. The closure of the Nassib border crossing between Syria and Jordan has cut off farmers and exporters from essential markets in the Gulf Cooperation Council (GCC) countries. Agri-Plus offers an indicative view of the effects with total exports down 33 percent annually in 2015.[371] IDAL attributed the decrease directly to the Nassib border closure. In response to the closures, in 2015 Lebanon's cabinet has introduced a USD 21 million subsidy to support the difference in cost between exporting over land and sea.[372] The subsidy is managed by IDAL but, by nature, supports more established exporters due to the fact that logistical requirements to transport by sea require more institutional capacity, such as customs clearance and the usage of Roll-on/roll-off cargo ships (as opposed to container ships), not to account for issues relating to harvesting and freshness.[373]

Financing for famers is limited to a few programmes as commercial banks seem uninterested in supporting the sector. Through funding from the European Union under the Agricultural and Rural Development Programme (ARDP), Kafalat Agriculture is one of the main financial instruments used to support small-scale farmers, small and medium agricultural enterprises as well as tree plantations.[374,375] Kafalat Agriculture has a diverse portfolio and can support farmers up to a maximum of USD 320,000. The loans include grace periods extending to three years with a guaranteed interest rate of three percent.[376] The percentage of loans provided to the agriculture sector by commercial banks reaches just one percent of total loans in the country.[377] However, this figure is masked by the fact that 85 percent of loans in the economy go to individuals, of which 20 percent of loans are for housing, the only breakdown figure that is provided.[378]

CLIMATE BEARS DOWN ON AGRICULTURE

Climate change is projected to decrease precipitation and increase droughts. According to the Intergovernmental Panel on Climate Change (IPCC) 2013 report, the Mediterranean region is projected to suffer from increased frequency and intensity of droughts throughout the early part of this century.[379] Decreases in general rainfall will reduce the stability of rain-fed agricultural production and increase water demand for crop irrigation.[380] Soil degradation is projected to intensify as prolonged drought periods and fires increase the risk of desertification.[381] If the current trends continue, climate change is expected to seriously affect Lebanon's food security by reducing crop yields, agricultural productivity and economic performance.[382]

Climate change will reduce economic performance and exacerbate inequality. According to the Ministry of Environment, global emissions between 2015 and 2020 are projected to reduce Lebanon's GDP by three percent.[383] Other climate change simulations estimate the reduction in average Lebanese citizen's income by USD 336 which represents around four percent of present value per capita annual consumption by 2030.[384] What is more, the reduction in economic performance is projected to affect rural households more than urban ones.[385] Climate change is also predicted to exacerbate inequality as both rural and urban households with higher income levels experience smaller income reductions than poorer households, while regional disparities also increase.[386] Simulations of climate change show

that Nabatieh and Southern Lebanon will suffer accumulated losses in agricultural production and crop yields, which are significantly higher than in Mount Lebanon and Beirut (on average five times greater).[387]

Lebanon can still improve its early warning systems. The Lebanese agricultural sector is vulnerable to climate change, and severe weather during winter, such as hail, frost, floods and storms, which lead to losses in crop yields and livestock.[388] LARI possess an early warning system, where data from its 12 meteorological stations across Lebanon register and measure precipitation, wind speed, humidity and other climatic features.[389] The data is generally broadcasted on radio stations and TV channels across Lebanon. Recently, LARI has introduced an early warning system mobile phone application that targets farmers.[390] The app has more than 5,000 users.[391] In the absence of a risk-based national system, inspections at the border for trans-boundary pests and diseases are weak at best.[392]

EXTEND AND PROTECT

Agricultural practices are still considered conventional while post-harvesting practices require upgrading. The Lebanese agricultural sector also suffers from poor and inadequate handling, processing and storage. Cool storage facilities are exclusively used to store apples, potatoes, grapes and pears and do not meet international standards.[393] Food safety and phytosanitary control are generally weak.[394] Weed control is still mainly conducted through tillage or herbicide treatment. Cereal production tends to be mechanized in medium and large cereal exploitations, while production of vegetables and fruit trees employ intensive agricultural systems and flood and surface irrigation. [395, 396,397]

Lebanon's Ministry of Agriculture is developing regulations for Good Agricultural Practices. MoA extension services are unable to advise farmers on best agricultural practices because of lack of institutional capacity and regulatory framework.[398] However, in order to reduce pesticide residues and enhance the quality of end products, there have been pilot projects to introduce norms and standards to some sectors such as grapevines.[399] The MoA has also set down some regulations on the import of pesticides and fertilizers, including a list of prohibited molecules, regulations for bottling and labelling, and instructions on the safe use of pesticides printed on product labels.[400] The MoAS Course of Action II seeks to continue to develop Good Agricultural Practices through training of extension agents, farmers and inspectors as well as enhancement of quality certification and incentives for farmers.[401]



Food Safety in Lebanon is a major issue, which affects access and ability among consumers, and competitiveness among exporters. Food safety is regulated by a plethora of ministries and public institutions with no coherent structure or vision for an integrated framework that encompasses the farm-to-fork philosophy (See Figure 30).[402] Efficient functioning of the food safety sector is, however, vital for Lebanese agriculture exporters' ability to market in countries where stringent food safety practices are in place.[403] Even so, several international food safety standards are applied at different levels in the country including Hazard Analysis Critical Control Point and International Organization for Standardization (ISO) management standards such as ISO 22000:2005 and ISO 9001:2000 as well as local standards set by the Lebanese Standards Institution (LIBNOR), the official standards setting body that is housed at the Ministry of Industry.[404] However, lack of consistent application and rigourous residue traceability standards has prevented imported crops from being exported to markets in Europe.[405]

Lebanon has recently passed a Food Safety Law with the aim to reform the sector. The law covers all types of food and beverages and well as processed foods.[406] The law also describes requirements for the process of food safety from farms, food transport and display, to tracking and record keeping.[407] Finally, the law sets out the overall governance structure of the food safety sector under the auspices of a public multi-stakeholder body named the Food Safety Lebanese Commission.[408] However, the government has yet to appoint the members of the Commission and thus the law has not effectively been enacted.[409]



1: MoA: Ministry of Agriculture. 2: MoPH: Ministry of Public Health. 3: MoE: Ministry of Economy. 4: MoF: Ministry of Finance. 5: LAERC: Lebanese Atomic Energy Commission. 6: CNRS: National Council for Scientific Research. 7: MoT: Ministry of Tourism

Figure 30: Food Safety Stakeholders in Lebanon. (Source: El-Jardali et. al, 2014)



6. OVERARCHING RECOMMENDATIONS

Food and nutrition security situation in Lebanon today stands at a crossroads. Improving the availability, access, utilization and stabilization dimensions of food and nutrition security as well as realising SDG2 by 2030 presents Lebanon with a formidable challenge. Add to this the effects of the world's largest and most protracted refugee crisis, and the ordeal of responding to food and nutrition security becomes more pressing and essential than ever before. Because Lebanon has such well-functioning supply chains it has proved itself able to adapt to food supply requirements of its resident and refugee populations. Yet, everyone in Lebanon should consider what would transpire if a food price shock similar to that which took place in 2007/2008 were to occur with over 1.5 million more mouths to feed and hundreds of thousands of people having fallen below the poverty line since the onset of the Syrian conflict and refugee crisis.

To shield Lebanon from the adverse effects of such a price shock, it is imperative that everyone in the country work towards greater food security and nutrition outcomes which not only focus efforts on responding to the effects of the Syrian conflict and refugee crisis, but also address long-standing issues such as employment, social protection and development.

DEVELOP A KNOWLEDGE BASE FOR STRATEGIC ACTION

The first step to resolving any issue—not least food and nutrition security—is to define the problem at hand within the local context. Lebanon can no longer afford to operate its response to food and nutrition security without a clear, comprehensive, multi-stakeholder Food and Nutrition Security Strategy (FNSS). Already, there are multi-stakeholder bodies such as the Food Security Sector Working Group coordinated by the Ministry of Agriculture, but these efforts are still limited in scope and sufficient power to affect the changes required to address the situation.

What has become essential is the adoption of an integrated FNSS that addresses the four dimensions of food security as well as their linkages to poverty, agriculture, social safety nets and development. Consequently, programmes and interventions need to target the causalities of food and nutrition insecurity in a multi-level and multi-sectorial manner, as well as transition the response from a needs-based approach to rights-based one.

Lebanon has such well-functioning supply chains it has proved itself able to adapt to food supply requirements of its resident and refugee populations.

Yet, in order to best address issues of food and nutrition insecurity, Lebanon needs to have a reasonably accurate reading of its poor, its labour market, its resources and its population. In practice, that means Lebanon will need to seriously develop nationally-defined tools for measurement and evaluation of food and nutrition security outcomes that are based on the globally-recognized definition and dimensions of food security. Just as importantly, Lebanon, and donors who support the country, will also need to develop the country's statistical capacity to identify and target those affected by food and nutrition insecurity at the individual and sub-group level. A number of essential studies will need to be conducted to establish benchmarks, and then to track progress and challenges. The following list of suggested studies (Figure 31) is by no means extensive but is indicative of what is needed to develop an evidence base for action against hunger in the country.



1. NATIONAL POVERTY SURVEY
2. NATIONAL NUTRITION AND FOOD CONSUMPTION SURVEY
3. NATIONAL INCOME AND EXPENDITURE SURVEY
4. NATIONAL LABOUR FORCE AND HOUSEHOLD CONDITIONS SURVEY (INCLUDING INFORMAL LABOUR)
5. TIMELY ECONOMIC OUTPUT REPORTING (SUB-SECTOR SPECIFIC DIMENSIONS)
6. COMMERCIAL ESTABLISHMENT SURVEY (WITH COMPETITION METRICS)
7. TIMELY INDUSTRIAL SURVEY (PARTICULARLY IN THE AGRO-FOOD INDUSTRY)
8. ESTABLISHMENT OF A LEGALLY MANDATED FARMERS REGISTRY
9. WATER RESOURCE MANAGEMENT SURVEY
10. POPULATION VULNERABILITY STUDY

Figure 31: Recommended Food and Nutrition Security-Relevant Studies

INSTITUTE A SOLID SOCIAL SAFETY NET

Lebanon should work to transition its current system of social support through subsidies into targeted social programming that eventually leads to the establishment of a universal nationally-defined social protection floor. Given Lebanon's population mix between refugees and host community residents, responsibility for funding such programmes cannot fall on the government alone. While it is clear that Lebanon cannot shoulder the burden of its refugees on its own, the country will also need to commit to funding social safety nets by transitioning away from subsidies and reforming the tax code. Regressive taxes need to become the exception rather than the norm because Lebanon can ill afford to continue to place higher relative tax burdens on people with lower incomes. Instead, Lebanon needs to gradually introduce more progressive taxation and increase the tax base by fostering formalization in the labour market.

At the same time, international institutions and agencies must continue to support Lebanon to deal with their refugees, both Palestinian and Syrian, while offering technical support to Lebanon to build its social safety nets. Ultimately, working towards facilitating the end of the conflicts that sustain refugees' presence in Lebanon should underlie all efforts.

A BALANCED POLICY

An integral part of Lebanon's overarching food security strategy will be its ability to strategically manage its trade, agricultural and environmental policies. To affect policy reform, Lebanon will need to adopt a view to increase food and nutrition access and availability while also working to improve utilization and smoothen out volatility to price and supply shocks. While Lebanon cannot be self-sufficient in food and nutrition in the

foreseeable future, it certainly can become more food sovereign if mechanisms and policies related to food and nutrition security are institutionalized, applied, and monitored.[410]

Becoming more food sovereign and achieving SDG2 will entail strategic choices about which local food sectors and products offer the most sustainable and long-term food and nutrition security outcomes, while also enhancing Lebanon's ability to access affordable as well as nutritious food that Lebanon's population needs to subsist. What this also means is that the country will have to develop and implement a strategy to rationalize local production with a trade policy that is sustainable, especially with regard to supply chains, natural resources (particularly water) as well as associated monetary and opportunity costs.

A food and agriculture market where imports are constrained to a limited or exclusive number of players or one where value chains that greatly favour sellers over producers and consumers is unlikely to produce the kind of outcomes that Lebanon needs to achieve SDG2. However, a functioning market that encourages healthy competition among locally produced and imported food can.

For consumers to access food products at cheaper prices, markets need to facilitate the introduction of reforms that result in the maximum number of importers bringing in the same products, especially in input markets. Doing so will reduce market concentration, increase supply, place downward pressure on prices and facilitate more flexibility in trade with the outside world. Increasing food supply from imports will also require a revamp of Lebanon's import capacity and logistical competitiveness, given that costs of importing food are significantly higher than that of the region.

At the same time, opening up to new food importers will also need to take place in tandem with the increasing productivity and competitiveness of Lebanese agricultural products through moving value chain contributions towards producers, something which falls in line with the Ministry of Agriculture Strategy 2015-2019 (MoAS) Course of Action II.

Opening up the food market to more foreign competition without increasing the competitiveness of the local agricultural sector from the bottom-up is likely to prove detrimental to Lebanon's food and nutrition security by making the country even more food import dependent, and thus vulnerable, to food price shocks caused by import inflation. Thus, the lifting of additional trade restrictions on food and food products, specifically ascension to the WTO, must be considered in light of the local price and supply scenarios. Before that decision is made, Lebanon will need to pass a raft of draft legislation to even be eligible to join the WTO. Principal among these laws will be the draft competition law which aims to regulate markets, institute a competition authority, and prevent oligopolies as well as price fixing.

SECURING THE HOME FRONT

One of the striking paradoxes of food and nutrition security is that the food insecure first reduce their consumption of micronutrient-rich foods such as fruit and vegetables, which puts them at risk of of micronutrient deficiency as well as chronic disease, while these same products are abundant in Lebanon (See Section 5). As such, Lebanon should work on identifying and incentivizing strategic local production sectors—which are most likely those where Lebanon is already self-sufficient—and reducing vulnerabilities in foods where the country is dependent.

To assist the most vulnerable to feed themselves, officials should also consider relaxing restrictions on asset holdings that can allow refugees to engage in family farming activities and produce food to feed their households. Already, refugee response actors have begun to launch pilot projects in this vein such as community kitchens and micro-gardens.[411] However, these efforts should go further to include permissions by the government to allow refugees to construct non-permanent structures and grow micronutrient-rich fruit and vegetables as well as breed or rear poultry and livestock. By the same token, these efforts will need to be scaled up alongside inspection and monitoring regimes such as veterinary services and animal vaccination drives to prevent disease transmission. In tandem, relaxing restrictions on refugee work, particularly in agriculture, should also take place to improve food and nutrition security and support the agriculture sector.

One major option that should be seriously considered are mechanisms to enhance its import risk management and store larger quantities of import dependent products. Wheat, sugar and other import dependent products can be stored and managed through price band schemes which smoothen out shocks, even if they push up prices marginally as a trade off.[412] In addition, the establishment of a rotating grain reserve that integrates private sector involvement is also an option, given that the bulk of milling capacity in Lebanon resides in the private sector. In tandem with increasing quantities, Lebanon should also work to enhance the quality of its aging storage facilities.

Any excess supplies that result from this strategy should be used to reduce the price of cereal-based staple foods, particularly bread. Buying strategic amounts of food commodities on future markets with supply guarantees may also prove effective in estimating prices and quantities, even though it does carry inherent market pricing risks.[413] Lebanon should also work on diversifying its sources of wheat, which currently is sourced from one region, namely the Black Sea region.[414] While there is no evidence that diversifying Lebanon's procurement portfolio has a tangible effect on price risks, it can prevent Lebanon from over-reliance on one source of wheat.[415]

Better import risk management could utilize a set of methods such as updating procurement strategies, instituting future trade agreements, and pursuing more efficient tendering processes.[416] By harmonizing safety standards and phytosanitary control with international standards, Lebanon could speed up the tendering process, which has been seen to reduce the overall cost and freight charges of wheat prices. [417]

A CULTURE TO REVIVE

A country so well endowed in the region with the means to sustain life should not ignore the blessing it possesses. Indeed, the fundamental causes of agriculture's retreat will need to be addressed if Lebanon is to achieve greater food and nutrition security or SDG2. The country already has a comprehensive strategy on which to build this framework in the form of the Ministry of Agriculture Strategy 2015-2019 (MoAS). The strategy already entails eight Courses of Action which, if implemented based on national priorities, can prove essential to reaching SDG2 targets.

Without formal structures, no sector can thrive. That is why Lebanon needs to pass an existing law which formalises the country's existing farmers' registry. Once farmers are identified, it becomes possible to target them with social, health and agricultural services. At the same time, a farmer's registry bolsters phytosanitary traceability by being able to identify which farmers are engaged in un-sanitary practices. The MoA already possess the centres to provide

extension services (MoAS Course of Action IV) and plans to improve small farm holder livelihoods through access to finance (MoAS Course of Action II).

In the short term, poor small farm holders should be offered conditional cash transfers (CCT), which have been proven to have impact on poverty and achieve wider development objectives.[418] The conditions for this transfer should necessitate that small farm holders qualify for the NPTP, register with the MoA, join a cooperative as well as a future agricultural credit union (planned by the MoAS). The combination of these interventions should create momentum for greater formalisation of the sector, extension of social safety net services and greater fiscal contributions from taxes. For this CCT to be effective, small farm holders must also be able to organise and negotiate effectively to increase their market power. A review and re-issuance of the cooperatives law should be seriously considered as a first step towards facilitating this process. The law will also need to make certain to close loopholes that can politicise the establishment of agricultural cooperatives as well as legally establishing the finance criteria and funding mechanisms that are currently regulated by the MoA.

As farmers become more organized and able to access extension services, their costs of production should fall. However, a reduction of their baseline costs should also be addressed, especially in light of lower material inputs from Syria. To support lower production costs, Lebanon should increase its investment in seed multiplication projects operated by LARI, which can develop varieties adapted to the Lebanese climate that also increase yields. Once local adapted varieties are produced, LARI's existing research infrastructure should be integrated with MoA extension services in order to target farmers and increase impact.

RAIN AND SOIL

Without land, no agricultural revival can take place in Lebanon. Thus haphazard construction and lack of land use planning must cease. Lebanon has already passed a National Land Use Master Plan into regulation, but has not taken the initiative to survey and enforce zoning. Without this essential reform, no strategic decisions can be feasibly made over the long term on how to allocate land to agricultural use in order to increase production in key crops. As a result, economies of scale will likely be sacrificed to continuing environmental degradation as well as alterations to natural ecosystems and landscapes that Lebanon is famous for.

Because Lebanon is projected to witness a decrease in precipitation and increased risk of droughts, action must be taken to to minimize climate risks to agriculture. As such, Lebanon needs to institute a mutual fund for insurance against natural disasters as a preventative measure (MoAS Course of Action V). The fund should be used to counter volatility in production as well as protect small farmers from severe weather fluctuations and natural disasters.

Without water, there can also be no agriculture, especially as Lebanon's water resources dwindle. Like the MoAS, the country has already drafted a National Water Sector Strategy (NWSS) and needs to work diligently towards its implementation to realise many SDGs by 2030. Delays in implementing the necessary legal and institutional reforms envisaged under Law No. 221 of 2000 need to be addressed by redoubling efforts to create institutional certainty and coordinate implementation amongst relevant actors.[419] Specifically, coordination between Ministry of Energy and Water and the CDR should be enhanced to move beyond institutional bottlenecks and political bickering.

The manner in which water is used to grow crops will also need to be completely revamped and reorganized according to the NWSS in order to achieve SDG2 targets and maintain sustainable use of Lebanon's water resources. Instead of only adopting decades-old strategies as the standard bearers for irrigation projects, more focus needs to be placed on integrating localised solutions and management with overall strategies through, among other water conservation strategies, formal Water Association Boards which reflect the existing informal arrangements that are already in place.

Usage of clean irrigation water will also need to be the starting point for a complete overhaul of the food safety sector in Lebanon. The institution of the farm-to-fork principle will be essential towards ensuring that local agricultural products can be safely consumed as well as marketed at home and aboard to add value across the agricultural value chain. The urgency of this matter is reflected in the issuance of a relatively new food safety law and the MoAS's first Course of Action. Yet, without ardent implementation of the law, these much needed reforms are at risk of remaining ink on paper.

SAFE AND EMPLOYED

Market and agricultural reforms are essential to bring down food prices, increase food supply and provide greater economic access, but these can only go so far in producing food and nutrition security outcomes. In parallel, governmental and non-governmental actors need to focus on providing the most vulnerable with the means to purchase food and self subsist. In line with the Government of Lebanon's policy, a balance should be struck between food and nutrition security interventions that target Lebanese citizens and refugees. At the same time, interventions for refugees will need to be targeted towards which type of refugee is receiving assistance, be they Palestine refugees from Syria or Lebanon or Syrian refugees.

Because evidence shows that refugees are, by a significant degree, the most food and nutrition insecure, the interventions that target them will need to be more heavily focused on alleviating that insecurity. At the same time, the Lebanese also require interventions that take into account their right to food and nutrition security as well as thriving livelihoods and social mobility.

International organizations working on the Syrian refugee response should continue to branch out from their humanitarian objectives in order to achieve wider development outcomes for Lebanon, the Lebanese and everyone who lives in the country—particularly with regard to food and nutrition security. As essential food security programmes are replicated by government actors (specifically the National Poverty Targeting Programme), these programmes also need to integrate elements which bolster local economies and the market power of smaller producers.

One of the most essential institutional initiatives to provide food and nutrition security to all people in Lebanon is, and will remain, a deep reform of the social protection regime. Existing institutions such as the NSSF and MoPH health facilities obviously need to be bolstered. However, more immediately the relatively nascent National Poverty Targeting Programme needs to be continually supported and upgraded. Indeed indications are that the political will to do so is growing and this should continue over the short- and medium-terms.[420] However, NPTP means testing must be strengthened in order to reduce exclusion and inclusion errors which can reach up to 70 and 36 percent, respectively.[421] Adopting a longer-term

view, benefits offered under the NPTP should be streamlined into a unified benefits system, which provides a nationally defined social protection floor to cover all Lebanese citizens. That said, any unified benefit package should contain a built-in element which directly relates to food and nutrition security.

On a more macro level, it is recommended that employment opportunities form the core of Lebanon's food and nutrition security programmes, both those which target residents and refugees. To do so, Lebanon will need to institute Active Labour Market Programmes, which address the existing skills mismatches between the employment demands of the market and education outcomes. Programmes that focus on those who are least employed, namely women and the youth, are recommended. Also, the coverage under the current labour law should be expanded in order to extend existing social safety nets, increase labour market formalization and, in turn, raise tax revenue to fund that process.

The LCRP already provides the framework to mitigate the negative employment effects of the Syrian conflict and refugee crisis on Lebanon. In its first year, among other achievements, 970,000 vulnerable Lebanese, Syrian and Palestine refugees have received food assistance, 10,000 individuals have been enrolled in rapid income generating activities and 164 new micro, small and medium enterprise/cooperatives have been established.[422] While these achievements are commendable, the magnitude of the Syrian refugee crisis necessitates that the international donor community place more focus on these type of interventions, particularly with regard to transferable skills which refugees can employ when they return to their home countries. Again, a complementary gesture by Lebanon to gradually relax restrictions on refugee labour in selected sectors is advisable to support employment that produces food and nutrition security for refugees.

Already, community service projects are improving host communities in the country and local authorities are embracive of the idea of these activities being targeted at local infrastructure projects.[423] Indeed, under the LCRP nearly 200 municipalities have received capacity building and human resources support through some 156 community and municipal projects aimed at reducing pressure on public resources and job competition.[424] Building on these successes, both governmental and non-governmental actors need to prioritise their responses based on their mandates and feed into the development and funding of rapid-income generating activities that target food and nutrition security outcomes as well as win-win situations for Lebanese and refugee labour in a complementary fashion.

An effective way to create these win-win outcomes would be to implement programmes which increase fruit and vegetable production through Lebanese agricultural cooperatives whose constituents are small farm holders. These cooperatives could also employ Syrian farmhands, and facilitate direct access to market through stores which participate in cash-for-food programmes.

A focus on combating micronutrient deficiencies is essential, in addition to a heightened emphasis on combating obesity as consumption transitions from the traditional Lebanese/Mediterranean diet into one that is rich in sugar, fats, and processed foods. What this will also require is a focus on healthy lifestyles and interventions, which target awareness raising on the effects of obesity and widespread unhealthy weight gain among the population.

Through programmes such as school meals, food consumption patterns can be veered in a

direction that positively affect nutritional outcomes. However, these results will be limited if healthy lifestyles and eating practices are not fully integrated into Lebanese education curricula (for both Lebanese and Syrian children) and extended to parents so they also contribute to nutritional outcomes and prevent chronic diseases.

Focusing on child nutrition will also need to incorporate actions to ensure children receive adequate nutrition and monitoring during the first 1,000 days of life. The work being conducted to implement the National Programme for Promoting and Supporting Infant and Young Child Feeding, and a law that regulates the marketing of infant and young child feeding products and tools (Law 47/2008) needs to be supported to promote optimal infant feeding practices. This should be implemented and monitored in an integrated manner which targets continued prevention of child malnutrition, and focuses on the first 1,000 days of life. Furthermore, the institutionalisation of acute malnutrition case management into the health care system is positive and capacity to deal with incident cases of under-nutrition needs to be maintained.

The Ministry of Public Health's Non-communicable Diseases Prevention and Control Plan (2016-2020) already includes elements to strengthen institutional capacity, develop prevention standards, research and monitor outcomes as well as impelement of key interventions such as the Healthy Schools and Healthy Cities initiative.[425] Ensuring equitable access to these preventive and curative services will be essential to protect the food insecure from falling into vicious cycles of chronic disease, deepening poverty and further exacerbation of food insecurity.

SUCCESS OVER INTERESTS

Food and nutrition knows no colour or creed, and neither should any considerations to provide these basic human rights. For all its generosity in hosting over 25 percent of its population as refugees, Lebanon deserves to achieve the SDG goals and abolish hunger once and for all. But the country will not be able to do so without the participation and inclusion of all parties concerned, be they government, private sector or civil society. To a large extent, all of these actors have developed the frameworks, platforms and strategies required to achieve SDG2, if implemented.



Lebanon is past the point where not taking action is an option and the potential for Lebanon to achieve SDG2 is there, as are many of the plans, strategies and resources. All that remains is the political will to put aside considerations that have long hindered the ability of Lebanon's people to achieve the food and nutrition security they deserve.


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7. ANNEX A: METHODOLOGY

RESEARCH OBJECTIVES

In line with the targets of Sustainable Development Goal 2 (SDG2), as well as support to the Government of Lebanon and WFP/ESCWA partner efforts to eliminate food insecurity and malnutrition in the country, this Strategic Review of food and nutrition security in Lebanon was conducted.

The purpose of the research is to meet five key objectives:

- To establish a joint, comprehensive analysis of Lebanon's food and nutrition security situation within the pillars of the Zero Hunger Challenge and targets of Sustainable Development Goal two;
- To determine the progress that policies and programmes aimed at improving food and nutrition security have made for women, men, girls and boys and identify gaps in the response, the available resources and the institutional capacity;
- To provide a generalised overview of potential resources related to the food and nutrition security sector;
- To discuss and prioritize actions by government and other stakeholders that will be required to meet response gaps and accelerate progress toward zero hunger, and, if possible, provide an overview as to how such actions could be implemented and funded, including through the private sector and civil society;
- To identify food and nutrition security goals or targets that are implied or established in national plans or agreed upon in regional frameworks to facilitate progress toward zero hunger.

RESEARCH QUESTIONS

The research responds to four main research questions:

1. What are the main trends and problems facing food and nutrition security in Lebanon?

2. What are the main national strategies, players, beneficiaries and programmatic plans to deal with food and nutrition security in Lebanon?

3. What are the main institutional and policy gaps that hinder Lebanon from achieving food and nutrition security by 2030?

4. What are the main institutional and policy programmes which stakeholders agree can assist Lebanon to achieve food and nutrition security by 2030?

This review builds upon an action-oriented empirical research methodology specifically oriented to analyse institutional gaps in the context of sustainable development goals by 2030, specifically SDG 2.[426]

THE RESEARCH METHODOLOGY INCLUDES

A desk/literature review of developmental, academic and journalistic literature that frames food and nutrition security in the context of Lebanese national development plans, capacities, and the SDGs.

A total of 30 in-depth interviews with local experts, government officials, UN staff members, INGO representatives, institutional donors and relevant stakeholders identified in consultation with WFP/ESCWA and the project's technical advisor. (See Annex D for a list of organizations which contributed to the key informant interviews and validation workshops.)

Two focus group discussions (FGDs) with government officials, INGOs, development experts, Food Security Sector Working Group members.

TIMELINE

Analysis, research, report compilation and a validation workshop took place over a period of six weeks starting on March 2, 2016 to April 15. Activities commenced with a preliminary literature review of all relevant background and project documentation, in addition to documents from similar projects relevant to the SDGs in general and SDG2 in particular which aims to "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture".[427]

SDG2 BENCHMARKING

Accordingly, SDG2 targets acted as the benchmark against which to measure national progress and developmental plans. This benchmark facilitated the design of research tools, which probed for how Lebanon and WFP can most feasibly work towards reaching the five targets laid out in SDG2. The research team then transformed the five targets associated with SDG2 into research questionnaires, which served as a template to conduct key informant interviews (KIIs) as well as focus group discussions (FGDs).

On this basis, an analysis framework was developed to undertake a situational analysis of food security, followed by an analysis of response and gaps. The intention was to analyse how the present situation deviates from SDG global benchmark as well as how local context can be assessed in order to ascertain what the most feasible and actionable course of action to be taken during the 2017-2020 period by both Lebanon and WFP. The analysis identified the most relevant indicators and the gaps that require most pressing need to alter policy and programme priorities in order to realise SDG2.

DATA COLLECTION

Primary data was collected by a research team made up of two researchers with extensive experience conducting similar research activities in Lebanon and across the Middle East. Qualitative data was acquired through interviews and analysed according to grounded theory method, also known as Glaser-Strauss method.[428] Theory was developed by triangulating responses from key informant interviews with evidence from literature.

Following the period of primary data collection, the data was cleaned and analysed in a rapid manner, which accommodates the limited timeframe of this research. Throughout the research, anonymity was granted to respondents by default in order to illicit more candid responses.

SAMPLING STRATEGY

Key informant interviews (KIIs) were selected in a non-random purposive manner and while KIIs adopted a snowball sampling method, in order to sufficiently adapt KII data to the local context.

8. ANNEX B: SELECTED FOOD AND NUTRITION SECURITY FUNDING IN LEBANON

GRANT RECIPIENT	FUNDING TYPE	SECTOR	AMOUNT	GRANTOR	PERIOD OF COVERAGE
Ministry of Agriculture - ARDP	Grant		14 million Euros	European Neighbour-hood and Partnership Instrument (ENPI)	2011-2019
• Small-scale farming (host) communities in areas most affected by the influx of Syrian refugees. • Lebanese returnees and Syrian refugees with no significant income opportu-nities, seeking employment in North and Bekaa Regions. • Resource-poor Syrian herders struggling to save minimum assets. • Public sector and govern-mental entities having to address the impact of the Syria crisis in the related agricultural and rural setting.	Grant		57,190,000 USD	FAO	2014-2018
UNDP	Grant		39,632,218 USD	UN Multi Donor Trust Fund	2006-- [rotating]
FAO	Grant		9,559,406 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNIDO	Grant		4,359,100 USD	UN Multi Donor Trust Fund	2006-- [rotating]
ILO	Grant		3,777,968 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNRWA	Grant		1,675,226 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNFPA	Grant		1,467,833 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNICEF	Grant		967,739 USD	UN Multi Donor Trust Fund	2006-- [rotating]

GRANT RECIPIENT	FUNDING TYPE	SECTOR	AMOUNT	GRANTOR	PERIOD OF COVERAGE
UNHABITAT	Grant		953,404 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNESCO	Grant		937,287 USD	UN Multi Donor Trust Fund	2006-- [rotating]
UNDP and World Bank poverty and food security infrastructure projects (WB: Greater Beirut Water Supply Project, Canal 800 and 900 Irrigation schemes, UNDP: Host community support, National Poverty Targeting Programme)					
Greater Beirut Water Supply Augmentation Project-Bisri Dam	Loan	Water Availability	474,000,000 USD	The World Bank	2014-2024
Council for Development and Reconstruction-Greater Beirut Water Supply Augmentation Project-Bisri Dam	Loan	Water Availability	128,000,000 USD	Islamic Development Bank	2014-2024
Greater Beirut Water Supply Augmentation Project	Government Expenditure	Water Availability	15,000,000 USD	Government of Lebanon	2014-2024
Council for Development and Reconstruction-Ghadir Wastewater treatment plant	Loan	Waste water management	87,500,000 USD	Islamic Development Bank	2001-ongoing
Council for Development and Reconstruction-Jabal Amel	Loan	Potable water supply and sustinability	61,000,000 USD	Islamic Development Bank	2005-ongoing
Lebanon Host Communities Support Project (LHSP)	Grant	Water management	325,000 USD	UNDP	2012-2017
Lebanon Host Communities Support Project (LHSP)	Grant	Water management	7,110,825 USD	UNCHR	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	1,229,012 USD	Denmark	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	1,122,783 USD	EU	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	12391573 USD	Germany	2012-2017
Lebanon Host Communities Support Project (LHSP)	Grant	Water management	5,531,469 USD	LRF	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	1,300,000 USD	Japan	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	8,159,557 USD	DFID	2012-2017
Lebanon Host Communities Support Project (LHSP)	Government Expenditure	Water management	1,861,196 USD	Ecuador, Italy, Monaco, US, VALDESE	2012-2017
GoL-Emergency National Poverty Targeting Programme	Grant	Food assistance	8,200,000 USD	The World Bank	2014-2017
GoL-Emergency National Poverty Targeting Programme	Grant	Food assistance	3,000,000 USD	UNHCR	2014-2017

GRANT RECIPIENT	FUNDING TYPE	SECTOR	AMOUNT	GRANTOR	PERIOD OF COVERAGE
IDAL projects	Government Expenditure. Provision of subsidies and tax exemptions	Food Sector Development and Investment	25,700,000 USD (2014)	Government of Lebanon	2011 - Ongoing project
IDAL project-Subsidies of Maritime export of agricultural produce and industrial goods	Subsidy	Food sector Development	21,000,000 USD	Government of Lebanon	2015-ongoing
USAID					
WFP	Grant	Food Asssistance	65,000,000 USD	USAID	2015-ongoing
Lebanon Industry Value Chain Development (LIVCD)	Grant	Food Resilience	41,700,000 USD	USAID	2015-2019
Municipalities of Lebanon	Grant	Agro-processing, irrigation, access to potable water	25,900,000 USD	USAID	2012-2017
Outreach, trainings, and integrated river basin management capacity building culminate to support a longer-term projected outcome of improved water services and reliable efficient access for citizens USAID's efforts in water resources management focus on sustaining watersheds and aquatic ecosystem services as the foundation for sustainable development New and rehabilitated water and wastewater facilities alleviate pollution of water sources by treating pollutants that may enter the water. These facilities are constructed with easy-to-maintain technologies to ensure consistent management and operation	Loans	Water Supply and Sanitation	16,400,000 USD	USAID	2014-ongoing
Lebanon Water Project	Grant	Potable Water Supply and Wastewater	65,000,000 USD	USAID	2016-2021
Government of Lebanon	Loan	Water infrastructure development	19,900,000 USD	Kuwait Fund for Arab Economic Development	2015-2020

• Surveillance and management of fruit flies in Lebanon • Strengthening the Coordination of the National Afforestation and Reforestation Programme in Lebanon • Technical assistance for the strengthening of the Food system of Quinua in Algeria, Egypt, Iraq, Iran, Lebanon, Mauritania, Sudan, and Yemen • Strengthening of Food Security Information and Early Warning Systems for Effective Resilience-based Response in Countries Affected by the Protracted Syrian Crisis. • Capacity Building for Food Loss Reduction in Middle East • Emergency assistance to vulnerable Lebanese farmers affected by the Syria crisis and to displaced Syrians to enhance their food security • Increase the resilience of the small scale family farming in Lebanon through the establishment of semi-intensive egg Production units and the initiation of an electronic agriculture inputs delivery system. • Improving the nutrition of Syrian refugees and host communities through garden walls • Establishment of an inclusive food security information network to support emergency food security and livelihood support interventions in countries affected by the Syria Crisis • Scientific and Institutional Cooperation to Support Responsible Fisheries in the Eastern Mediterranean (EastMed) • Scientific and Institutional Cooperation to Support Responsible Fisheries in the Eastern Mediterranean (EastMed) • Coping with Water Scarcity (The Role of Agriculture): Phase III - Strengthening national capacities • Support to the MoA in strengthening and modernizing the Agricultural Statistics System • Enhance the livelihood and food security of vulnerable Lebanese women through improving their dairy production practices and supporting their dairy processing activities • Assessment of the Integrated Water Cycle Management in Lebanon	Grant	Food Assistance, Development, Resilience	14,611,049 USD	FAO	2009 - 2017
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	225,672,000 USD	Arab Fund for Economic and Social Development	

GRANT RECIPIENT	FUNDING TYPE	SECTOR	AMOUNT	GRANTOR	PERIOD OF COVERAGE
LCRP	Grant/ Government expenditure	Food Assistance, Development, Resilience	234,000,000 USD	AVSI, DCA - Saida, DRC, FAO, UNICEF, RI, MoSA, WVI, CLMC, ACF, OXFAM, CONCERN, NPA, Dorcas, SCI, PU-AMI, UNRWA, WFP, Solidarités, ACTED, IRW, CCP JAPAN, MoA, SHEILD, MSD, ADRA	2015
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	146,866,000 USD	Kuwait Fund for Arab Economic Development	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	98,227,800 USD	International Bank for Reconstruction and Development (WB)	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	41,335,800 USD	European Union	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	37,240,900 USD	International Fund for Agricultural Development	
Council for Development and Reconstruction		Agriculture and Irrigation	26,000,000 USD	Loi Programme	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	15,000,000 USD	United States of America	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	13,400,000 USD	OPEC Fund for International Development	

GRANT RECIPIENT	FUNDING TYPE	SECTOR	AMOUNT	GRANTOR	PERIOD OF COVERAGE
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	12,287,200 USD	UN Secretariat (including country pledges) + Agencies	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	11,553,060 USD	Italy	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	9,094,000 USD	International Fund for Agricultural Development	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	6,000,000 USD	United States of America	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	5,553,570 USD	People's Republic of China	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	3,130,000 USD	Kuwait	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	2,865,670 USD	Arab Fund for Economic and Social Development	
Council for Development and Reconstruction	Loan	Agriculture and Irrigation	2,346,690 USD	French Protocol	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	1,985,151 USD	French Protocol	
Council for Development and Reconstruction	Grant	Agriculture and Irrigation	1,946,130 USD	Conseil Regional d'Ile de France	

9. ANNEX C: INSTITUTIONAL ARRANGEMENTS

This section outlines the various public bodies in Lebanon which are directly involved in management and policy setting of food and nutrition security in the country. The list below is meant to be indicative rather than extensive.

1- MINISTRIES:

A. MINISTRY OF AGRICULTURE-MoA

The Ministry of Agriculture is responsible for agricultural policy in Lebanon. The ministry contains two General Directorates, the General Directorate of Cooperatives and the General Directorate of Agriculture. Four important directorates tasked with animal, plant, and natural resources preservation and enhancement fall under the General Directorate of Agriculture and are mentioned below.

- **The General Directorate of Cooperatives**

The first regulating law targeting cooperatives was first passed in 1964. The law stipulated that cooperatives should to be monitored by Cooperative Authority in MoA. In 1973, a General Directorate for Cooperatives was created under the Ministry of Housing and Cooperatives. In 2000 the General Directorate was again placed under the Ministry of Agriculture. The directorate is tasked with monitoring and regulating cooperatives, as well as setting finance criteria and funding mechanisms.

- **Directorate of Animal Resources.**

The directorate is responsible for monitoring animal health and ensuring sanitary requirements are followed. The directorate gives approval for import and export of animal feed, chicken and milk. It is also responsible for conducting quarantine, sanitary certificates of imported meat.

- **Directorate of Plant Resources.**

The Directorate is responsible for pest control, supporting nurseries, import and export monitoring, issuing sanitary certificates for foodstuffs, plant protection and controlling the import of pesticides and fertilizers. What is more, the directorate is tasked with ensuring proper agricultural storage and packaging.

- **Directorate of Natural Resources and Rural Development.**

The authority of marine fishing and hunting controls various elements related to giving permits and licences for marine fishing and hunting. In addition the forestation and investment department is responsible for protection of forests, agricultural lands, and fruit trees through appropriate licencing and regulation. What is more, the directorate is tasked with increasing irrigation in rural areas.

- **Directorate of Research and Coordination.**

Through its various departments, the directorate is responsible for managing extension services, education and coaching, access to timely data and documentation of the various statistics and agricultural information. In addition, the directorate is tasked with training personnel and building overall technical capacity of departments.

B. MINISTRY OF ECONOMY AND TRADE - MoET

The Ministry of Economy and Trade is involved in food and nutrition security through two channels:

- **Directorate General of Cereals and Beetroot (DGCB)**

The DGCB is mandated with the management of subsidized wheat and sugar beets with the purpose to encourage the production of cereals and beetroot as well as safeguard necessary quantities. With the approval of cabinet, the directorate purchases wheat from the international market and sells it to private flour mills at subsidised prices. Subsidies on Beetroot have been phased out.

- **The Consumer Protection Directorate (CPD)**

a. The CPD is part of the MoET's Directorate General of Economy and Trade and is tasked with safeguarding the interests of Lebanese consumers through undertaking routine inspections of trade premises, investigating consumer complaints and working with other agencies. The CPD investigates food safety issues, misleading advertisements, counterfeit goods and quality of goods. The directorate reports directly to the Minister of Economics and Trade.

C. MINISTRY OF FINANCE - MoF

The Ministry of Finance is involved in the food and nutrition security through three channels:

- **Regie Libanaise des Tabaces et Tombaces:**

The Regie is a private company monopoly which report to Ministry of Finance. The Ministry of Finance issues a price support program that is paid directly to tobacco farmers from the import taxes it receives from the Regie.

- **Credit Interest Rates**

The Ministry of Finance subsidizes interest rates given to the agricultural sectors through the Banque du Liban, Lebanon's central bank, making the interest rates of agricultural loans theoretically zero.

- **Directorate General of Customs**

The Directorate General of Customs is responsible for border control and measuring imports and exports. Phytosanitary testing of foodstuffs, quality control, implementation of tariffs, food safety standards and efficiency of logistics are all areas covered by the Directorate of Customs in coordination with the Ministry of Agriculture.

D. MINISTRY OF SOCIAL AFFAIRS - MoSA.

The Ministry of Social Affairs is involved in food and nutrition security through its three main channels:

- **Directorate General of Social Development:**

The directorate works through various sub-authorities on rural development, vocational training, marketing local produce and boosting volunteerism.

- **Directorate General of Social Services:**

The directorate is tasked with provision of social services to delinquents, poor families, elderly and handicapped.

- **The National Poverty Targeting Programme:**

The National Poverty Targeting Programme is managed by the MoSA along with international agencies and donors. The programme employs social workers to conduct means-testing on households who apply for assistance and provides a basket of assistance to households who qualify.

E. MINISTRY OF PUBLIC WORKS AND TRANSPORT - MoPWT

The Ministry of Public Works and Transport shares part of the responsibility in implementing

the 2005 National Land Use Master Plan. MoPWT is involved in food and nutrition security through:

• **Directorate General of Urban Planning (DGUP):**

The DGUP is under the authority of the MoPWT and is tasked with developing urban regulations and coordinating urban planning activities. The DGUP is also responsible for preparation of urban master plans and their implementation with other governmental institutions.

F. MINISTRY OF ENVIRONMENT - MoEV.

The MoEv is responsible for determining the environmental conditions for zoning classification, land use, designating protected areas, and environmental protection for beaches, rivers, valleys and natural resources. w

G. MINISTRY OF ENERGY AND WATER - MoEW.

The Ministry of Energy and Water is responsible to protect water resources from pollution and waste, provide drinking water to targeted populations as well as support to irrigation projects. The MoEW has already released its National Water Sector Strategy (2010-2020), which still requires implementation. The MoEW contains the following directorates to implement its policies:

• **General Directorate of Hydraulic and Electric Resources:**

Which is responsible for irrigation projects, water supply networks, underground water replenishment and strategic planning for water sector.

• **General Directorate of Exploitation:**

Which is responsible for water and electricity tutelage, sanitation and queries.

H. MINISTRY OF PUBLIC HEALTH- MoPH.

The MoPH contributes to food and nutrition security through its two directorates:

• **General Directorate of Preventative Health:**

The Directorate is responsible for disease prevention and manages quarantine sections at the main ports (Ports of Saida, Beirut, and Tripoli and in addition to the two airports in Beirut and Qlayat).

• **General Directorate of Medical Care:**

Which responsible for health coverage for employees and citizens at large. The directorate cooperates with the NPTP and covers up to 80 percent of medical costs for the most vulnerable.

2- PUBLIC INSTITUTIONS:

A. THE GREEN PLAN.

The Green Plan was established on July 10, 1962 as an independent public institution that reports to the Council of Ministers. The institution was initially tasked with conducting land reclamation projects in Mount Lebanon, but expanded to other areas over time. The Green Plan is an integral part of agricultural policy and has the ability to implement irrigation projects, agricultural roads and rainwater reservoirs. While the Green Plan receives its money through the Ministry of Agriculture, The Green Plan operates a work and action plan independent from that of the MoA.

B. INVESTMENT DEVELOPMENT AUTHORITY OF LEBANON-IDAL.

IDAL is the national investment promotion agency, which aims to promote Lebanon as an investment destination and works at attracting and retaining foreign capital. The agency was established in 1994 by decree, enjoys financial and administrative autonomy and reports directly to the President of the Council of Ministers. IDAL also works on enhancing investment conditions in several key sectors such as Agriculture, Agro-Industry, Tourism, Communication and Media. At the same time, IDAL actively promotes Lebanese exports especially agricultural and agro-industrial products. IDAL's Agriplus program helps agricultural and agro-food producers to market their produce in foreign markets.

C. LEBANESE STANDARDS INSTITUTE (LIBNOR).

LIBNOR is a public institution that reports to the Ministry of Industry. LIBNOR was established in 1962 by law and was given the right to prepare, publish and amend national standards as well as grant the Lebanese Conformity Mark NL. LIBNOR is also a member of the International Organization for Standardization (ISO), the Arab Industrial Development and Mining Organization (AIDMO), and many such standards organizations. Technical committees operating under LIBNOR are tasked with setting quality standards such as conventions, symbols and dimensions. In addition, the committeees also conduct appropriate testing and analysis, including codes of practice for professional work.

D. LEBANESE AGRICULTURAL RESEARCH INSTITUTE - LARI.

LARI is an autonomous public institution that was formally established in 1964, under the direct supervision of the Minister of Agriculture. LARI possesses eight research stations across Lebanon equipped with agricultural and scientific laboratories. Through its laboratories, LARI conducts regular testing for food quality and safety such as chemical residual and phytosanitary analysis of imports and exports. Through its 12 meteorological stations, LARI has developed an early warning system for farmers. LARI also has several diverse projects dedicated to seed multiplication, animal health and seed preservation and protection.

E. NATIONAL AUTHORITY OF THE LITANI RIVER - LRA.

The Litani River Authority was established in 1954 by law and is considered an autonomous public institution under the tutelage of the Ministry of Energy and Water. Initially tasked with implementing irrigation projects around Litani river, LRA's mandate expanded with time to include establishing electrical substations and distribution lines in all of Lebanon in addition to the management and exploitation of irrigation water in central and northern Bekaa (e.g. Yammouneh, Wadi Massa-Yafoufa).

F. NATIONAL EMPLOYMENT OFFICE - NEO.

Established under legislative decree 77/80, the NEO is an independent public institution headed by the Minister of Labour. In addition to helping job seekers through the Employment Bureau, NEO is tasked with matching skills of entrant

labour force and market needs through accelerated vocational training. NEO also assists persons with disabilities through targeted programs aimed at enhancing their employability.

G. NATIONAL SOCIAL SECURITY FUND - NSSF.

NSSF is an independent public institution, which operates under the authority of the Ministry of Labour. Established by decree in 1963, the NSSF provides national insurance coverage to employees from the private and public sectors. Coverage includes health, maternity benefits, family allowance and end of service indemnities. The NSSF is formed of three governing bodies, the Board, the General Directorate, and the Technical Committee. The General Directorate acts as an executive branch, while the Technical Committee, a semi-independent body acts as a financial internal audit for the fund. Companies are required to contribute to the NSSF Fund and cover all of their employees. Penalties on lack of compliance and/or late payments are enforced.

H. COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION - CDR.

The CDR is an autonomous public institution with comprehensive jurisdiction that is held accountable by the Council of Ministers through the Prime Minister. The CDR was formally established on 31 January 1977 by decree and was tasked with accelerating the public construction process. Due to its ability sidestep administrative routines and bureaucracy, the government transferred several post-war projects to CDR. The CDR is now responsible for the majority of major projects for reconstruction and development and coordinates with several ministries in sector-based projects such as water, electricity, waste management, agriculture and transport.

I. PUBLIC AUTHORITY FOR CONSUMER MARKETS- PACM.

The PACM was founded by decree law in 1996 and operates under the authority of the Council of Ministers. There is no regulatory decree that defines the various functions and administrative structure of the PACM. However, PACM's mandate includes opening popular markets across Lebanon. PACM rents out slots to merchants for a symbolic rate that covers cost of utilities and security.

10. ANNEX D: INTERVIEW AND VALIDATION WORKSHOP PARTICPANTS

UNITED NATIONS

ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

FOOD AND AGRICULTURE ORGANIZATION

INTERNATIONAL LABOUR ORGANIZATION

THE WORLD BANK

UNITED NATIONS DEVELOPMENT PROGRAMME

UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES

THE UNITED NATIONS CHILDREN'S FUND

UNITED NATIONS

THE UNITED NATIONS RELIEF AND WORKS AGENCY

WORLD FOOD PROGRAMME

ACADEMIA

AMERICAN UNIVERSITY OF BEIRUT

LONDON SCHOOL OF ECONOMICS

UNIVERSITY OF LONDON

UNIVERSITY OF MONTPELLIER

GOVERNMENT OF LEBANON

MINISTRY OF AGRICULTURE

MINISTRY OF ECONOMY AND TRADE

MINISTRY OF EDUCATION AND HIGHER EDUCATION

MINISTRY OF SOCIAL AFFAIRS

EMBASSIES/DONORS

DELEGATION OF THE EUROPEAN UNION

EMBASSY OF CANADA

EMBASSY OF FRANCE

EMBASSY OF GERMANY

EMBASSY OF ITALY

EMBASSY OF SAUDI ARABIA

EMBASSY OF THE NETHERLANDS

EUROPEAN COMMISSION HUMANITARIAN OFFICE

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

NGOS/INGOS

ACTION AGAINST HUNGER

GREEN LINE ASSOCIATION

INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS

INTERNATIONAL RESCUE COMMITTEE

INTERSOS

MERCY CORPS

PREMIERE URGENCE DE SOIN INTERNATIONALE

THE LEBANON HUMANITARIAN INGO FORUM

TRADE UNIONS

LEBANESE FARMERS ASSOCIATION

REFERENCES

1 Transforming our world: the 2030 Agenda for Sustainable Development. (2016). Retrieved from https://sustainabledevelopment.un.org/post2015/transformingourworld

2 Abla Z., Karaki A., Dimachkieh Sweidan N. (2014). Council for Development and Reconstruction. Lebanon Millennium Development Goals Report 2013-2014. Retrieved from http://www.lb.undp.org/content/lebanon/en/home/library/mdg/lebanon-mdg-report-2013-2014/

3 Ibid.

4 Ibid.

5 Ibid.

6 Ibid.

7 Ibid.

8 Ibid.

9 SD 2: End Hunger, achieves food security and improved nutrition, and promotes sustainable agriculture. (2016). Retrieved from https://sustainabledevelopment.un.org/?page=view&nr=164&type=230&menu=2059

10 MDG1: Eradicate extreme poverty and hunger. (2015) Available at: http://www.un.org/millenniumgoals/poverty.shtml

11 Zero Hunger Challenge. Transforming our food systems to transform our world. Retrieved from http://www.un.org/en/zerohunger/#&panel1-1

12 Food and Agriculture Organization Of The United Nations Statistics Division. (2015). Suite of Food Security Indicators. Retrieved from http://faostat3.fao.org/browse/D/FS/E

13 UN Sustainable development. (2016). Division for Sustainable Development. Retrieved from https://sustainabledevelopment.un.org/about

14 International monetary fund. (July 2015). 2015 Article IV consultation—Press release; Staff report; and statement by the executive director for Lebanon No.15/190. Retrieved from http://www.imf.org/external/pubs/ft/scr/2015/cr15190.pdf

15 Central Administration For Statistics And The World Bank. (December 8 2015). Snapshot of Poverty and Labor Market outcomes in Lebanon based on Household Budget Survey 2011/2012. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Snapshot%20of%20Poverty%20and%20Labor%20Market%20in%20Lebanon.pdf

16 World Development Indicators. (2015). The World Bank, [Database file]. Last updated 12/16/2015

17 UNRWA. (2015). Profiling the vulnerability of Palestine refugees from Syria living in Lebanon. Retrieved from http://www.unrwa.org/sites/default/files/final2_6_october_final_version-_profiling_the_vulnerability_of_prs_in_lebanon_-_assesment.pdf

18 United Nations High Commissioner for Refugees. (2016). Retrieved from http://www.unhcr.fr/cgi-bin/texis/vtx/home

19 Presidency of the Council of Ministers Central Administration of Statistics & Unicef, (2009). The multiple indicator cluster survey 2009 third session. Final report. Retrieved from http://cas.gov.lb/index.php/demographic-and-social-en

20 UNHCR. (March 2015). Refugees from Syria in Lebanon. Retrieved from https://data.unhcr.org/syrianrefugees/download.php?id=8649

21 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

22 United Nations Human Settlements Programme (October 2011). Lebanon Urban Profile a desk review report. Retrieved from http://unhabitat.org/lebanon-urban-profile-a-desk-review-report-october-2011/

23 Central Administration of Statistics (2007). The National Survey of Household Living conditions 2007. Retrieved from http://www.cas.gov.lb/index.php/all-publications-en#households-living-conditions-survey-2007

24 UNHCR. (29 February 2016). Interagency Information Sharing Portal. Syrian Regional Refugee Response. Retrieved from http://data.unhcr.org/syrianrefugees/country.php?id=122

25 Central Administration of Statistics.(December 2014). Lebanese national accounts 2004-2013. Retrieved from http://cas.gov.lb/images/PDFs/National%20Accounts/Lebanon_National_Accounts_2012_2013_Comments_&_tables.pdf

26 Republic of Lebanon Ministry of finance. (April 2 2014). Lebanon Country profile 2014. Retrieved from http://www.finance.gov.lb/en-US/finance/ReportsPublications/DocumentsAndReportsIssuedByMOF/Documents/Sovereign%20and%20Invensment%20Reports/Country%20Profile/Lebanon%20Country%20Profile%202013.pdf

27 Ibid.

28 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

29 World Bank Development Indicators [Database]. Retrieved from http://data.worldbank.org/data-catalog/world-development-indicators

30 Najwa Yaacoub, Lara Badre. (2011, October 1). The labour market in Lebanon, Statistics in focus (SIF), central administration of statistics, Lebanon, issue number 1. Retrieved from http://www.cas.gov.lb/images/pdfs/sif/cas_labour_market_in_lebanon_sif1.pdf

31 Consultation and Research Institute. (2003). Competition in the Lebanese Economy: A Background Report for a Competition Law for Lebanon. Retrieved from:http://www.economy.gov.lb/public/uploads/files/7390_7419_1422.pdf

32 Ibid.

33 Ibid.

34 Banque Du Liban. [Database] Retrieved from: http://www.bdl.gov.lb/webroot/statistics/

35 Ibid.

36 Najwa Yaacoub, Lara Badre (October 1 2011). The labour market in Lebanon, Statistics in focus (SIF), central administration of statistics, Lebanon, issue number 1.Retrieved from http://www.cas.gov.lb/images/pdfs/sif/cas_labour_market_in_lebanon_sif1.pdf

37 Massimiliano Cali, Wissam Harake, Fadi Hassan, Clemens Struck. (April 2015). The impact of the Syrian conflict on Lebanese trade. The World bank, Middle East and North Africa Region. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/04/28/090224b082e14021/1_0/Rendered/PDF/The0impact0of00ct0on0Lebanese0trade.pdf

38 Mariusz Jarmuzek, Najla Nakhle and Francisco Parodi (July 2014). The impact of the Syrian conflict on Lebanon. International Monetary fund country report No. 14/238. Retrieved from https://www.imf.org/external/pubs/ft/scr/2014/cr14238.pdf

39 World development indicators.(2015). The World Bank, [Database file]. Last updated 12/16/2015

40 The World Bank. (2013). Lebanon - Economic and social impact assessment of the Syrian conflict. Washington DC ; The World Bank. http://documents.worldbank.org/curated/en/2013/09/18292074/lebanon-economic-social-impact-assessment-syrian-conflict

41 Ibid.

42 Mariusz Jarmuzek, Najla Nakhle and Francisco Parodi (July 2014). The impact of the Syrian conflict on Lebanon. International Monetary fund country report No. 14/238. Retrieved from https://www.imf.org/external/pubs/ft/scr/2014/cr14238.pdf

43 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

44 Diego F.Angel-Urdinola, Kimie Tanabe (January 2012). Micro-Determinants of Informal Employment in the Middle East and North Africa Region, Social Protection & Labor. The World Bank No.1201. Retrieved from http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/1201.pdf

45 Rossis, Nicholas, Michael (2011). The informal economy in Lebanon: Dangers and benefits Durham theses, Durhum University. Available at Durham E-these. Retrieved from http://etheses.dur.ac.uk/733/

46 Ms.Sawsan Masri, Ms.Iliia Srour (2014). Assessment of the impact of Syrian refugees in Lebanon and their employment profile. International Labour Organization regional office for Arab states. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_240134.pdf

47 Co-hosts Declaration of the Supporting Syrian and the Rregion Conference (2016), London. Retrieved from: https://www.supportingsyria2016.com/news/co-hosts-declaration-of-the-supporting-syria-and-the-region-conference-london-2016/

48 Laithy H., Abu-Ismail K. et al. (January 2008). Poverty, Growth and Income Distribution In Lebanon. Country Study Published by International Poverty Centre number 13. Retrieved from: http://www.ipc-undp.org/pub/IPCCountryStudy13.pdf

49 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

50 Laithy H., Abu-Ismail K. et al. (January 2008). Poverty, Growth and Income Distribution In Lebanon. Country Study Published by International Poverty Centre number 13. Retrieved from http://www.ipc-undp.org/pub/IPCCountryStudy13.pdf

51 Government of Lebanon and the United Nations. (15 December 2015). Lebanese Crisis Response Plan. Retrieved from http://www.un.org.lb/library/assets/engbrochshortversion-065508.pdf

52 2015 UNRWA-AUB socio-economic survey (unpublished)

53 Ibid.

54 Laithy H., Abu-Ismail K. et al. (January 2008). Poverty, Growth and Income Distribution In Lebanon. Country Study Published by International Poverty Centre number 13. Retrieved from: http://www.ipc-undp.org/pub/IPCCountryStudy13.pdf

55 Ibid.

56 Ibid.

57 Phelps, G & Steve Crabtree Gallup, Worldwide Median Household Income. (16 December 2011). Available at: http://www.gallup.com/poll/166211/worldwide-median-household-income-000.aspx

58 On a scale of 0 to 100 where 0 represents complete wealth equality and 100 complete inequality.

59 Credit Suisse Research Institute and the world's foremost experts. (October 2015). Global wealth Datababook 2015. Retrieved from http://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid=C26E3824-E868-56E0-CCA04D4BB9B9ADD5

60 Ibid.

61 International Monetary Fund. (July 2015). 2015 Article IV consultation—Press release; Staff report; and statement by the executive director for Lebanon No.15/190. Retrieved from http://www.imf.org/external/pubs/ft/scr/2015/cr15190.pdf

62 United Nations Development Program. (2014). Public Finance Annual Review. Republic of Lebanon Ministry of finance. Retrieved from http://www.finance.gov.lb/en-US/finance/ReportsPublications/DocumentsAndReportsIssuedByMOF/Documents/Public%20Finance%20Reports/Annual/QIV%202014%20-%20FINAL.pdf

63 Ibid. Social services cover basic social services of health, education, transfers to the National Social Security Fund (NSSF), retirement and end-of-service indemnities, and other areas of intervention where the Government provides social allowances.

64 WTO Reference Centres. (16 June 2015). WTO opens new reference center in Lebanon. Available at: https://www.wto.org/english/news_e/news15_e/refc_16jun15_e.htm

65 Ibid.

66 WITS, The World Bank. Trade summary/At a glance. Retrieved from http://wits.worldbank.org/

67 Author's calculations based on Lebanese customs data.

68 World Data Bank, World Development Indicators, 2014. Retrieved from http://databank.worldbank.org/data/reports.aspx?source=2&country=LBN&series=&period=#selectedDimension_DBList

69 United Nations Food and agriculture organization. (2011). Agriculture statistics [Database file]. Retrieved from http://faostat3.fao.org/home/E

70 Author's calculations using the import and self-sufficiency ratios as well as data from FAO Stat.

71 Ibid.

72 Nasreddine et al.(2006). Food consumption patterns in an adult urban population in Beirut, Lebanon. Public Health Nutrition 9(2), 194-203. Retrieved from https://www.google.com/url?q=https%3A%2F%2Fwww.dropbox.com%2Fs%2F0s4a6lm37fw6cwd%2FNasred-

dine%2520Food%2520Consumption%2520Patterns.pdf%3Fdl%3D0&sa=D&sntz=1&usg=AFQjCNEpmsFw8aMsjZ3Li-0uPYOOAfMlKQ

73 The World Bank. (2003). Policy Note on Irrigation Sector Stability. Retrieved from: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2005/04/11/000011823_20050411134452/Rendered/PDF/287660LE0white1icy0P07975201public1.pdf. Due to the lack of reliable data other sources have estimated the figure as low as around 9 percent. See United Nations Development Programme (1997). A Profile of Sustainable Human Development in Lebanon. Retrieved from: http://www.undp.org.lb/programme/governance/advocacy/nhdr/nhdr97/

74 IDAL(2010). Agriculture Fact Book. Available at:http://www.databank.com.lb/docs/Agriculture%20fact%20book.pdf

75 World Data Bank. World Development Indicators. (2014). Available at: http://databank.worldbank.org/data/reports.aspx?source=2&country=LBN&series=&period=#selectedDimension_DBList

76 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

77 Ibid.

78 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb

79 Ministry of agriculture (November 2014). Ministry of agriculture Strategy 2015-2019. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

80 Ibid.

81 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb Author's calculations based on FAO Stat and Lebanese customs data.

82 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb

83 FAO Stat [Database] Retrieved from http://faostat3.fao.org/download/Q/QV/E

84 Ibid.

85 Republic Of Lebanon Ministry Of Economy And Trade. (2016). International Agreements. Retrieved from http://www.economy.gov.lb/index.php/subCatInfo/2/26/9/5

86 Republic Of Lebanon Ministry Of Economy And Trade. (2016). List of Bilateral Agreements. Retrieved from http://www.economy.gov.lb/?/subSubcatInfo/2/92

87 The World Trade Organization. (2 December 2005). Accession of the Lebanese Republic, Factual Summary of Points Raides Revision 1. Retrieved from http://www.economy.gov.lb/public/uploads/files/7573_5923_1446.pdf

88 Republic Of Lebanon Ministry Of Economy. Lebanon's WTO Accession in Brief. Retrieve from http://www.economy.gov.lb/public/uploads/files/7258_4520_6365.pdf

89 The World Trade Organization (WTO). (1994). WTO Analytical Index: Gatt 1994, General Agreement on Tariffs and trade 1994. Retrieved from https://www.wto.org/english/res_e/booksp_e/analytic_index_e/gatt1994_05_e.htm

90 Nicolas Lupo Sonnabend. (16 August 2015). Lebanon grapples with "export deadlock" amid Syrian war. Business & Economy, Leanon, War&Conflict Aljazeera, Agriculture, Syria. Retrieved from http://www.aljazeera.com/news/2015/07/lebanon-grapples-export-deadlock-syrian-war-150726134525737.html

91 Ibid.

92 Ibid.

93 Republic of Lebanon Ministry of Finance. (December 2015). Trade Brief, The international Trade Monthly Bulletin. Retrieved from http://www.finance.gov.lb/en-US/finance/EconomicDataStatistics/Documents/Trade%20Brief/2015/Trade%20December%202015.pdf

94 Land routes through the occupied Palestinian territory have been closed since 1948.

95 Republic of Lebanon Ministry of Finance. (January 24 2014). Monthly Import and Export from Year 2008 until 31/12/2013. Retrieved from www.customs.gov.lb

96 Gestion de l'exploitation du Port de Beirut. Port de Beirut [figures]. Retrieved from http://www.portdebeyrouth.com/index.php/en/members-area/detailed-statistics``

97 The World Bank IBRD-IDA. (2014). Logistics Performance Index. Domestic LPI, Environment and Institutions: Lebanon 2014. Retrieved from http://lpi.worldbank.org/domestic/environment_institutions/2014/C/LBN/R/MNA/I/UMC#chartarea

98 Ibid.

99 Ibid.

100 Ibid.

101 Ibid.

102 Ibid.

103 Republic of Lebanon, Council for Development and Reconstruction. (2014). Urban Transportation. Retrieved from http://www.cdr.gov.lb/eng/progress_reports/pr102014/Eroad.pdf

104 Brophy Z.(April 15 2013). Buses brought to die. Why Lebanon's 250 new buses will not solve traffic crisis. Executive Magazine, Economics & Policy. Retrieved from http://www.executive-magazine.com/economics-policy/lebanon-buses-transportation

105 Ace and Rambol. (19 December 2013). Danish companies expand the port of Beirut. Ramboll group. Retrieved from http://www.ramboll.com/media/rgr/port-of-beirut

106 Jeremy Arbid. (July 23 2015). Church and state, the growing battle over the port of Beirut's future. Executive Magazine, Economics & Policy. Retrieved from http://www.executive-magazine.com/economics-policy/church-and-state

107 The World Economic Forum. (2014). The Global Competitiveness Report 2014-2015, Lebanon section 2.1 Country economy profiles p. 244 and 245. Retrieved from http://reports.weforum.org/global-competitiveness-report-2014-2015/

108 Ibid.

109 Karin Seyfert, Jad Chaaban and Hala Ghattas (2014). Food security and the supermarket transition in the Middle East, two case studies. Retrieved from http://www.opml.co.uk/publications/food-security-and-supermarket-transition-middle-east-two-case-studies

110 Ibid.

111 Ibid., p 187

112 Ibid., p 187

113 Lebanese Republic Ministry of Agriculture and the United Nation Food and Agriculture Organization. (February 2012). Projet "Observatoire Libanais de développement Agricole, résultats globaux du module de base du recensement de l'agriculture 2010. Retrieved from http://www.agriculture.gov.lb/html/RESULTATS_RECENCEMENT_AGRICULTURE_2010/RAPPORT_RESULTATS_GLOBAUX_DU_RECENCEMENT_2010.pdf

114 Ibid.

115 Lebansese republic Ministry of Agriculture and the United Nation Food and Agriculture organization. (February 2012). Projet "Observatoire Libanais de développement Agricole, résultats globaux du module de base du recensement de l'agriculture 2010. Retrieved from http://www.agriculture.gov.lb/html/RESULTATS_RECENCEMENT_AGRICULTURE_2010/RAPPORT_RESULTATS_GLOBAUX_DU_RECENCEMENT_2010.pdf

116 Laithy H., Abu-Ismail K. et al, January 2008. Poverty, Growth and Income Distribution In Lebanon. Country Study Published by International Poverty Centre number 13. Retrieved from http://www.ipc-undp.org/pub/IPCCountryStudy13.pdf

117 Central Administration of Statistics and World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

118 Laithy H., Abu-Ismail K. et al. (January 2008). Poverty, Growth and Income Distribution In Lebanon. Country Study Published by International Poverty Centre number 13. Retrieved from http://www.ipc-undp.org/pub/IPCCountryStudy13.pdf

119 The World Bank. (2013). Lebanon - Economic and social impact assessment of the Syrian conflict. Washington DC ; The World Bank. http://documents.worldbank.org/curated/en/2013/09/18292074/lebanon-economic-social-impact-assessment-syrian-conflict

120 International monetary fund. (July 2015). 2015 Article IV consultation—Press release; Staff report; and statement by the executive director for Lebanon No.15/190. Retrieved from http://www.imf.org/external/pubs/ft/scr/2015/cr15190.pdf

121 Blom Invest Bank. (2014). Agro-Industry in Lebanon: Looming Potential Restrained by Numerous Deficiencies.

122 The World Bank, Middle East and North Africa Region. (May 2011). Regional Economic update, MENA Facing Challenges and Opportunities. Retrieved from http://siteresources.worldbank.org/MENAEXT/Resources/EDP_MNA_2011.pdf`

123 International Monetary Fund World Economic Outlook Database. (April 2015). The inflation rate is measured using the Consumer Price Index, which began to be collected on a regular basis in January 2008.

124 Government of Lebanon and the United Nations. (15 December 2015). Lebanon crisis response plan 2015-16. Retrieved from http://www.un.org.lb/library/assets/engbrochshortversion-065508.pdf

125 Central Administration of Statistics. Consumer Price Index-CPI. Retrieved from http://www.cas.gov.lb/index.php/economic-statistics-en/cpi-en#cpiresults

126 Central Administration Of Statistics And The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

127 Ibid.

128 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

129 35 percent figure from CAS/UNDP 2005 and 25 percent is OCHA/REACH

130 UNHCR, WFP and Unicef, 2015. Vulnerability assessment of Syrian refugees in Lebanon 2015 Report. Retrieved from https://data.unhcr.org/syrianrefugees/download.php?id=10006

131 Decree 143/59. Legally the directorate can collect revenues from a number of sources including international grants (subject to cabinet approval) and tariff duties. Which since 1995, have become the purview Lebanese Customs, which falls under the Ministry of Finance.

132 The percentage of durum wheat used in traditional Lebanese bread is around 20%

133 Ibid., p6

134 Abou Zaki R. (April 24 2012). Lebanon: Give us this Day less of Our Daily Bread. Alakhbar English. Retrieved from http://english.al-akhbar.com/node/6548

135 Government Official. (March 2016). Key Informant Interview.

136 Ibid.

137 Republic of Lebanon, Ministry of Finance. (October 2012). Wheat and Bread Subsidies 2007-2011. Retrieved from http://www.finance.gov.lb/en-US/finance/ReportsPublications/DocumentsAndReportsIssuedByMOF/Documents/Thematic%20Reports/Thematic%20Report%20Wheat%20subsidy%20Final%202.pdf

138 Ibid.

139 Ibid.

140 Carlo Sdralevich etal. (2014). Subsidy Reform in the Middle East and North Africa, Recent Progress and Challenges Ahead. International Monetary Fund. Retrieved from http://webcache.googleusercontent.com/search?q=cache:IsUW2gejrLAJ:www.imf.org/external/pubs/ft/dp/2014/1403mcd.pdf+&cd=1&hl=en&ct=clnk&gl=lb

141 Ibid.

142 Law No. 73 of 1983, Articles 6, 7 and 9.

143 Eric Le Borgne and Thomas J.Jacobs. Lebanon Promoting Poverty Reduction and Shared Prosperity, Systematic Country diagnostic. The World Bank Group 103201. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/03/09/090224b08416f27b/1_0/Rendered/PDF/Lebanon000Prom0c0country0diagnostic.pdf

144 World Bank Development Indicators. (April 13, 2015). Remittances growth to slow sharply in 2015, as Europe and Russia stay weak; pick up expected next year. Retrieved from http://www.worldbank.org/en/news/press-release/2015/04/13/remittances-growth-to-slow-sharply-in-2015-as-europe-and-russia-stay-weak-pick-up-expected-next-year

145 Kasparian, Choghig. (2014). "Emigrants". University Saint-Joseph, Beirut.

146 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

147 Ibid.

148 Ibid.

149 Central Administration of Statistics and The World Bank. (December 8 2015). Measuring poverty in Lebanon using 2011 HBS, technical report. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Measuring%20poverty%20in%20Lebanon%20using%202011%20HBS_technical%20report.pdf

150 Ibid.

151 Ammar W. (January 2009).Health Beyond Politics.WHO,MPH,ISBN 978-9953-515-489, Beirut.

152 Ammar, W. (2012), Ministry of Public Health. Health Reform In Lebanon,Key Achievements at a glance. Retrieved from http://www.moph.gov.lb/media/documents/dg08014.pdf.

153 Brophy Z. (April 3 2012). Healthcare's disease. Executive Magazine, Economics & Policy. Retrieved from http://www.executive-magazine.com/economics-policy/healthcares-disease

154 The Daily Star Lebanon. (February 21 2015). Lebanon health minister terminates contract with major hospital. Retrieved from http://www.dailystar.com.lb/News/Lebanon-News/2015/Feb-20/288182-lebanon-health-minister-terminates-contract-with-major-hospital.ashx

155 Republic of Lebanon Ministry of Social Affairs. (2011). The National Social Development Strategy of Lebanon. Retrieved from http://www.databank.com.lb/docs/National%20Social%20Development%20Strategy%202011.pdf

156 Republic of Lebanon Ministry of Social Affairs. (2011). The National Social Development Strategy of Lebanon. Retrieved from http://www.databank.com.lb/docs/National%20Social%20Development%20Strategy%202011.pdf

157 World Health Organization. Global Health Expenditure Database. Retrieved from http://apps.who.int/nha/database

158 As of to date, the Government of Lebanon is currently in the process of preparing a new National Sustainable Development Strategy to become a policy framework from 2016 onwards.

159 World Health Organization Global Health Expenditure Database. Retrieved from http://apps.who.int/nha/database

160 See List of SDCs

161 Republic of Lebanon Ministry of Social Affairs. National Poverty Targeting Program NPTP. Retrieved from http://www.emigrants.gov.lb/enmosa13.pdf

162 Ibid.

163 Key informant, government official.

164 The World Bank. (30 December 2015). Implementation Status & Results Report. Emergency Nat'l Poverty Targeting Proj (P149242). Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/MNA/2015/12/30/090224b084000486/1_0/Rendered/PDF/Lebanon000Emer0Report000Sequence003.pdf

165 Republic of Lebanon Ministry of Social Affairs. National Poverty Targeting Program NPTP. Retrieved from http://www.emigrants.gov.lb/en-mosa13.pdf

166 Ibid.

167 Ibid.

168 Ibid.

169 Ibid.

170 Ibid.

171 Ibid.

172 Government Official. (March 2016). Key Informant Interview..

173 Government Official. (March 2016). Key Informant Interview.

174 Gabriela Inchauste, João Pedro Azevedo et al. (November 2012). Poverty Reduction And Economic Management (Prem) Network. When Job Earnings Are behind Poverty Reduction. Number 97. Retrieved from http://siteresources.worldbank.org/EXTPREMNET/Resources/EP97.pdf

175 David Robalino and Haneed Sayed. (December 2012). Republic of Lebanon Good Jobs Needed. The Role of Macro, investment, Education, labor and Social Protection Policies ("Miles") A Multi-Year Technical Cooperation Program. Report No. 7600B-LB. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/03/20/000425962_20130320133437/Rendered/PDF/760080ESW0GRAY0C0Disclosed030200130.pdf

176 Ibid.

177 Ibid.

178 Central Administration for Statistics and The World Bank. (December 8 2015). Snapshot of Poverty and Labor Market outcomes in Lebanon based on Household Budget Survey 2011/2012. Retrieved from http://www.cas.gov.lb/images/Excel/Poverty/Snapshot%20of%20Poverty%20and%20Labor%20Market%20in%20Lebanon.pdf

179 Ibid.

180 Ibid. WB sector note, CAS Labor. The 20-25 percent figure includes full-time and part-time workers, including seasonal family labor. However, statistics on the portion of the population involved in agriculture vary widely because of different interpretations of "sector involvement" and discrepancies in estimates of migrant workers.

181 IFAD. (2008), Lebanon: Hilly Areas Sustainable Agriculture Development Project Formulation. Republic of Lebanon. Retrieved from https://www.ifad.org/documents/10180/e579e2f4-cec1-471a-b19c-3bbf8887c082

182 UNDP. (2008). Analysis of the Agricultural sector in Southern Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf

183 Government Official. (March 2016). Key Informant Interview.

184 Human Rights Watch. (January 12 2016). Lebanon: Residency rules Put Syrians at risk. Retrieved from https://www.hrw.org/news/2016/01/12/lebanon-residency-rules-put-syrians-risk

185 International Labour Organization. (2013). Assessment of the Impact of Syrian Refugees in Lebanon and Their Employment Profile. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_240134.pdf

186 Ibid.

187 Ibid.

188 Republic of Lebanon Ministry of Labor. (2015). Decision No.218/1 regarding business, professions, crafts and jobs confined solely to Lebanese citizens.

189 International Labour Organization. (2012). Palestinian Employment in Lebanon Facts and Challenges Labour Force Survey Among Palestinian Refugees Living in camps and Gatherings In Lebanon. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_236502.pdf

190 Ibid.

191 Ibid.

192 The World Bank Group. (2015). Labor Market Regulation in Lebanon. Doing Business Measuring Business Regulations. Retrieved from http://www.doingbusiness.org/data/exploreeconomies/lebanon/labor-market-regulation

193 The World Bank. (2015), Emergency Nat'l Poverty Targeting Proj (P149242).

194 International Labour Organization. Labour Inspection Country Profile: Lebanon. Retrieved from http://www.ilo.org/labadmin/info/WCMS_150914/lang--en/index.htm

195 Government of Lebanon and the United Nations. (15 December 2014). Lebanon Crisis Response Plan 2015-16. Retrieved from http://data.unhcr.org/syrianrefugees/download.php?id=7723

196 Ibid.

197 Ibid.

198 Academic. (March 2016). Key Informant Interview.

199 WFP Lebanon. (March 2016). WFP Lebanon Situation Report #11. Retrieved from https://data.unhcr.org/syrianrefugees/download.php

200 WFP. (2014). Economic Impact Study: Direct And Indirect Effects of the WFP Value-Based Food Voucher Programme In Lebanon. Retrieved from http://documents.wfp.org/stellent/groups/public/documents/ena/wfp267746.pdf

201 Ibid.

202 WFP. (June 2015). Impacts of e-card ration reductions on Syrian Refugees in Lebanon. Retrieved from http://reliefweb.int/sites/reliefweb.int/files/resources/WFPImpactsofe-cardrationreductionsonSyrianrefugeesinLebanon_June2015%20%281%29.pdf

203 Ibid.

204 WFP. (2016). WFP Launches School Meals Programme To Support Both Lebanese And Syrian Children. Retrived from http://www.wfp.org/news/news-release/wfp-launches-school-meals-programme-support-both-lebanese-and-syrian-children

205 UNRWA. What we do. Social Safety Net Programme. Retrieved from http://www.unrwa.org/what-we-do/social-safety-net-programme

206 UNRWA and WFP. (March 2014). Needs Assessment for Palestine Refugees From Syria. Retrieved from https://data.unhcr.org/syrianrefugees/download.php?id=6331

207 Government of Lebanon and the United Nations. (15 December 2014). Lebanon crisis response plan 2015-16. Retrieved from http://data.unhcr.org/syrianrefugees/download.php?id=7723

208 Food And Agriculture Organization of the United Nations. (2015). The State of Food Insecurity in the World 2015. The FAO Hunger Map 2015. Retrieved from http://www.fao.org/hunger/en/

209 FAO, IFAD and WFP. (2015). The State of Food Insecurity in the World 2015. Meeting the 2015 international hunger targets: taking stock of uneven progress. Rome FAO. Retrieved from http://www.fao.org/3/a-i4646e.pdf

210 Ibid.

211 FAO STAT. (2011). Excluding wine. Food Balance Sheet 2011 [Database file].

212 Ibid.

213 Ibid.

214 Ibid.

215 Rizkallah N (2015). UNICEF experiences of the nutrition response in Lebanon. Field Exchange 48, November 2014. p32. www.ennonline.net/fex/48/unicef

216 Presidency of the Council of Ministers Central Administration of Statistics & Unicef, (2009). The multiple indicator cluster survey 2009 third session. Final report. Retrieved from http://cas.gov.lb/index.php/demographic-and-social-en

217 UNICEF (2014). Nutrition Assessment Report for Syrian Refugees in Lebanon.

218 Akik C, Ghattas H, El-Jardali F (2015). K2P Briefing Note: Protecting breastfeeding in Lebanon. Knowledge to Policy (K2P) Center. Beirut, Lebanon.

219 Shaker Berbari L, Ousta D and Asfahani F (2015). Institutionalising acute malnutrition treatment in Lebanon. Field Exchange 48, November 2014. p17. www.ennonline.net/fex/48/institutionalising

220 Naja F., Hwalla N., Fossion T. et al. (April 4 2014). Validity and Reliability of the Arabic Version of the Household Food Insecurity Access Scale In Rural Lebanon. Public Health Nutrition 18(2), 251-258. Retrieved from http://journals.cambridge.org/download.php?file=%2FPHN%2FPHN18_02%2FS1368980014000317a.pdf&code=58b04eb8346247ce559d97c60a9e146d

221 Ibid.

222 Nasreddine L, Naja FA Sibai AM, Helou K, Adra N, Hwalla N. (2014). Trends in nutritional intakes and nutrition-related cardiovascular disease risk factors in Lebanon: the need for immediate action. The Lebanese Medical Journal. 62 (2):83-91

223 Nasreddine et al. (2012). Trends in overweight and obesity in Lebanon: evidence from two rational cross-sectional surveys (1997 and 2009). BMC Public Health 2012, 12:798.

224 Ibid.

225 Sibai, A. & Hawalla. (June 2010). WHO steps chronic Disease Risk Factor Surveillance: Data book for Lebanon, 2009. American University of Beirut, 2010. Retrieved from http://www.who.int/chp/steps/2008_STEPS_Lebanon.pdf

226 Ibid.

227 Ibid.

228 Al Khatib L., Obeid O. et al. (2006). Folate deficiency is associated with nutritional anaemia in Lebanese women of childbearing age. Public Health Nutrition 9(7),921-927. Retrieved from http://journals.cambridge.org/download.php?file=%2FPHN%2FPHN9_07%2FS1368980006001509a.pdf&code=2d36302da690c14b9ea5704c1f57a0b3

229 Sibai A. et al. (October 2009). Non-communicable Diseases and Behavioral Risk Factor Survey. American University of Beirut Faculty of Agricultural and Food Sciences Department of Nutrition. Retrieved from http://www.moph.gov.lb/Publications/Documents/final%20report%20abla%20sibai%20NCD%2009%20dat.pdf

230 Franklin, B. (2012), Exploring Mediators of Food Insecurity and Obesity: A Review of Recent Literature. Springer Link. Retrieved from: http://link.springer.com/article/10.1007/s10900-011-9420-4

231 American University of Beirut & UNRWA (2015). Socioeconomic Survey of Palestine Refugees in Lebanon.

232 Seligman, H. K., & Schillinger, D. (2010). Hunger and socioeconomic disparities in chronic disease. New England Journal of Medicine, 363(1), 6-9.

233 Naja F., Hwalla N., Fossion T. et al. (April 4 2014). Validity and Reliability of the Arabic Version of the Household Food Insecurity Access Scale In Rural Lebanon. Public Health Nutrition 18(2), 251-258. Retrieved from http://journals.cambridge.org/download.php?file=%2FPHN%2FPHN18_02%2FS1368980014000317a.pdf&code=58b04eb8346247ce559d97c60a9e146d

234 Ahyoun N., Nord M. et al. (March 5 2014). Development and Validation of an Arab Family Food Security Scale. The journal of Nutrition Community and International Nutrition. Retrieved from http://jn.nutrition.org/content/early/2014/03/05/jn.113.187112.full.pdf+html

235 Sahyoun et al. (2014). Development and Validation of an Arab Family Food Security Scale. Journal of Nutrition. & Ghattas H, Sassine AJ, Seyfert K, Nord M, Sahyoun NR (2015) Prevalence and Correlates of Food Insecurity among Palestinian Refugees in Lebanon: Data from a Household Survey. & Ghattas et al. (2013). Household Food Security Is Associated with Agricultural Livelihoods and Diet Quality in a Marginalized Community of Rural Bedouins in Lebanon.

236 Souhad Abou Ziki etal. (2014). The impact of food price increases on nutrient intake in Lebanon. Retrieved from http://agrifoodecon.springeropen.com/articles/10.1186/s40100-014-0003-4. The Food Consumption Score is a composite indicator which considers diet diversity, frequency of consumption and nutrient value of the food groups consumed over the course of a week

237 Ibid.

238 Ibid.

239 Ibid.

240 Ibid.

241 Ibid.

242 Ibid.

243 Naja et al. and Sayhoun et al. (2014). op. cit.

244 UNHCR, WFP and Unicef. (2015). Vulnerability assessment of Syrian refugees in Lebanon 2015 Report. Retrieved from https://data.unhcr.org/syrianrefugees/download.php?id=10006

245 Ibid.

246 Ibid.

247 Ibid.

248 Willenblockel, D., Exploring Food Price Scenarios Towards 2030 with a Global Multi-Region Model (June 2011), Institute of Development Studies at the University of Sussex, UK. Available at: https://www.oxfam.org/sites/www.oxfam.org/files/rr-exploring-food-price-scenarios-010611-en.pdf

249 Ibid.

250 Ibid.

251 Georgetown University Scholl of Foreign Service in Qatar, Center For International And Regional Studies. Food Security and Food Sovereignty in The Middle East. Summary Report No.6. page 6, Retrieved from https://repository.library.georgetown.edu/bitstream/handle/10822/558539/CIRSSummaryReport6FoodSecurity2012.pdf?sequence=5

252 Jane Harrigan. (2014) An economic Analysis of National Food Sovereignty Policies in the Middle East. The Case of Lebanon And Jordan. Retrieved from http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199361786.001.0001/acprof-9780199361786-chapter-3

253 Ibid.

254 Ministry of Agriculture. (November 2014). Ministry of agriculture Strategy 2015-2019, page 8. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

255 Ibid.

256 Georgetown University Scholl of Foreign Service in Qatar, Center For International And Regional Studies. Food Security and Food Sovereignty in The Middle East. Summary Report No.6. Retrieved from https://repository.library.georgetown.edu/bitstream/handle/10822/558539/CIRSSummaryReport6FoodSecurity2012.pdf?sequence=5

257 The World Bank. (January 2010). Lebanon Agriculture sector note: Aligning Public Expenditures with Comparative Advantage, page 14. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/24/000333038_20120524024616/Rendered/PDF/687920ESW0P0980201200Lebanon0Ag0PER.pdf

258 Ibid.

259 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 12. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

260 Ibid.

261 Ibid.

262 Ibid.

263 Ibid.

264 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 71. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

265 Lebanese Republic Ministry of Agriculture and the United Nation Food and Agriculture Organization. (February 2012). Projet "Observatoire Libanais de développement Agricole, résultats globaux du module de base du recensement de l'agriculture 2010. Retrieved from http://www.agriculture.gov.lb/html/RESULTATS_RECENCEMENT_AGRICULTURE_2010/RAPPORT_RESULTATS_GLOBAUX_DU_RECENCEMENT_2010.pdf

266 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 71. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

267 Malta News Agency. (February 20 2016). Lebanon, Creation Registry for Farmers by FAO. Retrieved from http://www.maltanewsagency.com/2016/02/lebanon-creation-registry-for-farmers-by-fao/

268 Trade Union Leader. (March 2016). Key Informant Interview.

269 Government Official. (March 2016). Key Informant Interview.

270 Trade Union Leader. (March 2016). Key Informant Interview.

271 FAO. Lebanon, FAO Plan of Action for Resilient Livelihoods 2014-2018. Retrieved from http://www.fao.org/fileadmin/user_upload/rne/docs/Lebanon-Plan.pdf

272 FAO. Lebanon, FAO Plan of Action for Resilient Livelihoods 2014-2018. Retrieved from http://www.fao.org/fileadmin/user_upload/rne/docs/Lebanon-Plan.pdf

273 Save the Children & Oxfam. (April 2013). Emergency Market Mapping and Analysis (EMMA) of the Agricultural Labor Market System in North and Bekaa, Lebanon. Retrieved from http://www.unhcr.org/519b3ba79.pdf

274 Ibid.

275 Ibid.

276 FAO STAT. (2011). Excluding wine. Food Balance Sheet 2011 [Database file]. Import Dependency Ratio and Self Sufficiency Ratio was calculated according to the following formula: IDR = Imports/production+ imports- exports * 100. SSR= Production/Production + Imports- Exports *100

277 FAO STAT. (2011). Including Limes and other products. Food Balance Sheet 2011. [Database file].

278 Ibid.

279 The World Bank. (January 2010). Lebanon Agriculture sector note: Aligning Public Expenditures with Comparative Advantage. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/24/000333038_20120524024616/Rendered/PDF/687920ESW0P0980201200Lebanon0Ag0PER.pdf

280 Ministry of Energy and Water. (27 December 2010). National Water Sector Strategy 2010-2020. Available at: http://www.databank.com.lb/docs/National%20Water%20Sector%20Strategy%202010-2020.pdf

281 The World Bank. (January 2010). Lebanon Agriculture sector note: Aligning Public Expenditures with Comparative Advantage. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/24/000333038_20120524024616/Rendered/PDF/687920ESW0P0980201200Lebanon0Ag0PER.pdf

282 The World Bank. (January 2010). Lebanon Agriculture sector note: Aligning Public Expenditures with Comparative Advantage. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/24/000333038_20120524024616/Rendered/PDF/687920ESW0P0980201200Lebanon0Ag0PER.pdf

283 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf.

284 Bankmed – Market & Economic Research Division. (November 2014). Analysis of Lebanon's Food Market. Special Report p.16. Retrieved from http://www.bankmed.com.lb/BOMedia/subservices/categories/News/20150515163654463.pdf

285 Bankmed – Market & Economic Research Division. (November 2014). Analysis of Lebanon's Food Market. Special Report p.18. Retrieved from http://www.bankmed.com.lb/BOMedia/subservices/categories/News/20150515163654463.pdf

286 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Page 20 Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb

287 Ministry of Industry. (2010). The Lebanese Industrial Sector, facts and findings-2007. Retrieved from: http://www.industry.gov.lb/Arabic/Arabic/Documents/ت اس ار دل ا%20او ال ص ار ادت/Study%202007.pdf

288 Investment Development Authority of Lebanon. (2016). Sectors In Focus - Agro Industry. Retrieved from http://investinlebanon.gov.lb/en/sectors_in_focus/agro_industry

289 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb

290 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

291 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

292 MOE, LEDO. Lebanon State of Environment Report Chap.8 water, p. 110. Retrieved from http://www.moe.gov.lb/ledo/soer2001pdf/chpt8_wat.pdf

293 Ibid.

294 The World Bank. (April 19 2012). Lebanon Country Water Sector Assistance Strategy 2012-2016. Report No.68313-LB. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/08/01/000333038_20120801010054/Rendered/PDF/683130ESW0P1220C0disclosed070300120.pdf

295 Ibid.

296 The World Bank. (January 2010). Lebanon Agriculture sector note: Aligning Public Expenditures with Comparative Advantage. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/05/24/000333038_20120524024616/Rendered/PDF/687920ESW0P0980201200Lebanon0Ag0PER.pdf

297 The World Bank. (April 19 2012). Lebanon Country Water Sector Assistance Strategy 2012-2016. Report No.68313-LB. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/08/01/000333038_20120801010054/Rendered/PDF/683130ESW0P1220C0disclosed070300120.pdf

298 Amery H. (2001). Irrigation Planning in Lebanon: Challenges and Opportunities. Retrieved from http://www.databank.com.lb/docs/Irrigation%20Planning%20in%20Lebanon.pdf

299 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

300 ECODIT-Led Consortium. (19 May 2015). Strategic Environmental Assessment For The New Water Sector Strategy For Lebanon. Deliverable 4. Final Sea Report. Retrieved from http://www.moe.gov.lb/getattachment/5ac7c2d8-4a3a-4460-a6c8-daa8acd42f1b/STRATEGIC-ENVIRONMENTAL-ASSESSMENT-FOR-THE-NEW-WAT.aspx

301 USAID Lebanon. (March 2012). Litani River Basin Management Support Program. Assessment For The Management of Three Irrigation Systems On The Upper Litani River Basin. p viii. Retrieved from http://www.litani.gov.lb/wp/wp-content/uploads/LRBMS/026-LRBMS-WATER%20POLLUTION%20AWARENESS%20CAMPAIGN.pdf

302 Ibid.

303 Ibid.

304 Halabi S. (December 12 2011).The Beirut Water Project Gets Green light Despite Warnings. Retrieved from http://english.al-akhbar.com/node/2396

305 United States Agency for International Development. (2010). Litani River Basin Management Support Programme Water Quality Survey – Dry Season. Volume I – Main Report.

306 ECODIT-Led Consortium. (19 May 2015). Strategic Environmental Assessment For The New Water Sector Strategy For Lebanon. Deliverable 4. Final Sea Report. Retrieved from http://www.moe.gov.lb/getattachment/5ac7c2d8-4a3a-4460-a6c8-daa8acd42f1b/STRATEGIC-ENVIRONMENTAL-ASSESSMENT-FOR-THE-NEW-WAT.aspx

307 Ibid.

308 Ibid.

309 Ibid.

310 Ministry of Industry. (2010). The Lebanese Industrial Sector, facts and findings-2007. Retrieved from: http://www.industry.gov.lb/Arabic/Arabic/Documents/تاراداصلاو%20تاساردلا/Study%202007.pdf

311 Ibid.

312 Ibid.

313 Asmar F. (2011). Country Pasture/Forage Resource Profiles, Lebanon. Retrieved from http://www.fao.org/ag/agp/agpc/doc/counprof/lebanon/lebanon.html

314 Riachi R., Chaaban J. (June 20 2012). The Agricultural Sector in Lebanon: Economical Features and Challenges. Report. Retrieved from http://webcache.googleusercontent.com/search?q=cache:b9h5Qpz4T2UJ:www.aub.edu.lb/units/ibsar/programs/fhrl/Documents/food_and_health_booklet.pdf+&cd=1&hl=fr&ct=clnk&gl=lb

315 UNDP, MOE, ECODIT. (2011). State of Environmental Report. Retrieved from http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf

316 American University of Beirut. (April 2014). Impact of Population Growth and Climate Change on Water Scarcity, Agricultural Output and Food Security, 20140407_IPG_CC_Report. Retrieved from https://www.aub.edu.lb/ifi/public_policy/climate_change/Documents/20140407_IPG_CC_Report_summary.pdf

317 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 23. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf:

318 Ibid.

319 Ibid.

320 DAR, IAURIF. (December 2005). National Physical Master Plan Of The Lebanese Territory. Final Report. L0215-RPT-13 REV 0. Retrieved from http://www.cdr.gov.lb/study/sdatl/English/NPMPLT.PDF

321 Government Official. (March 2016). Key Informant Interview.

322 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

323 Ibid.

324 FAO. Lebanon, FAO Plan of Action for Resilient Livelihoods 2014-2018. Retrieved from http://www.fao.org/fileadmin/user_upload/rne/docs/Lebanon-Plan.pdf

325 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

326 Ibid.

327 Hassan Machlab. (2001). Focus on Seed Programs, The Lebanon Seed Industry. Retrieved from https://apps.icarda.org/wsInternet/wsInternet.asmx/DownloadFileToLocal?filePath=Research_publications_archive/Seed_systems/Seed_Focus/FOCUS-Lebanon.pdf&fileName=FOCUS-Lebanon.pdf

328 Ibid.

329 Ibid.

330 Ibid.

331 Ibid.

332 Ibid.

333 Ibid.

334 Ibid.

335 Ibid.

336 Ibid.

337 Seyfert K., Chaaban J., Ghattas H. (November 2014). Food security and the supermarket transition in the Middle East, two case studies. Retrieved from http://www.opml.co.uk/publications/food-security-and-supermarket-transition-middle-east-two-case-studies

338 Ibid.

339 Ibid.

340 Ibid.

341 Ibid.

342 Ibid.

343 Ibid.

344 Ibid.

345 Ibid.

346 Ibid.

347 Ibid.

348 Ibid.

349 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 28. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

350 Ibid.

351 Ibid.

352 Karin Seyfert, Jad Chaaban and Hala Ghattas. (November 2014). Food security and the supermarket transition in the Middle East, two case studies, p.218. Retrieved from http://www.opml.co.uk/publications/food-security-and-supermarket-transition-middle-east-two-case-studies

353 Ibid.

354 Ibid.

355 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 33. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

356 Ibid.

357 Hassan Machlab (2001). Focus on Seed Programs, The Lebanon Seed Industry. ICARDA Website. Retrieved from https://apps.icarda.org/wsInternet/wsInternet.asmx/DownloadFileToLocal?filePath=Research_publications_archive/Seed_systems/Seed_Focus/FOCUS-Lebanon.pdf&fileName=FOCUS-Lebanon.pdf

358 Ibid.

359 Ibid.

360 Ibid.

361 Ibid.

362 Ministry of Agriculture. (2014). The Green plan, Social links. Retrieved from http://www.greenplan.gov.lb/ar-gp/

363 Ibid.

364 Ibid.

365 Ibid.

366 Lebanese Republic Ministry of Information. (December 2014). Green Project for preparation of development projects and agricultural Abou Zeid: to provide guides and marketing services to farmers. Retrieved from http://nna-leb.gov.lb/ar/show-report/562/nna-leb.gov.lb/ar

367 Agri Plus Program, Annual Report. (2014). Retrieved from https://www.investinlebanon.gov.lb/content/uploads/SideBlock/140611053527460~Agro%20Food%20Fact%20Sheet%20-%202014.pdf

368 Ibid.

369 Ibid.

370 Karin Seyfert, Jad Chaaban and Hala Ghattas. (November 2014) Food security and the supermarket transition in the Middle East, two case studies, p.218. Retrieved from http://www.opml.co.uk/publications/food-security-and-supermarket-transition-middle-east-two-case-studies

371 Republic of Lebanon, IDAL. Last accessed April 6, 2016. Retrieved from https://investinlebanon.gov.lb/en/export/agriculture/reports

372 Zawya. (13 August 2015). Lebanon: Government Approves $21 Million Support for Sea Exports. Retrieved from https://www.zawya.com/story/Lebanon_approves_USD21m_support_for_sea_exports-DS13082015_dsart*310872/

373 AJ Nicolas Lupo Sonnabend. (16 August 2015). Lebanon grapples with "export deadlock" amid Syrian war. Business & Economy, Leanon, War&Conflict Aljazeera, Agriculture, Syria. Retrieved from http://www.aljazeera.com/news/2015/07/lebanon-grapples-export-deadlock-syrian-war-150726134525737.html

374 Republic of Lebanon, Kafalat. Retrieved from http://kafalat.com.lb/kafalat-agriculture

375 Ibid.

376 Banque du Liban, third quarter business survey, 2015.

377 Ibid.

378 Ibid.

379 Sari Kovats etal. (2012). Intergovernmental Panel on Climate Change Assessment Report, p. 8. Retrieved from https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/drafts/fd/WGIIAR5-Chap23_FGDall.pdf

380 Ibid.

381 Ibid.

382 United Nations Development Programme. (2015). Economic Costs to Lebanon from Climate Change. p ii. Retrieved from http://climatechange.moe.gov.lb/viewfile.aspx?id=228

383 Ibid.

384 Nadim Farjallah etal. (2014). Climate Change in Lebanon: Higher-order Regional Impacts from Agriculture, American University of Beirut, p 10. Retrieved from https://www.aub.edu.lb/ifi/publications/Documents/working_papers/20140722_Higher_order_CC.pdf

385 Ibid.

386 Ibid.

387 Ibid. p14.

388 Ibid.

389 Republic of Lebanon, Lebanese Agricultural Research Institute Website. (March 2016). Retrieved from www.lari.gov.lb

390 Ibid.

391 LARI app, Google apps, last accessed 1 April, 2016.

392 Food and Agriculture Organization of the United Nations. (2014). . Lebanon, FAO Plan of Action for Resilient Livelihoods 2014-2018. Retrieved from http://www.fao.org/fileadmin/user_upload/rne/docs/Lebanon-Plan.pdf

393 Ibid.

394 Ibid.

395 Ibid.

396 Ibid.

397 Ibid.

398 Government Official. (March 2016). Key Informant Interview.

399 MOE, UNEP, GEF. (2012). Lebanon Technology Needs Assessment report for Climate Change. Beirut, Lebanon, p.160. Retrieved from http://www.undp.org.lb/communication/publications/downloads/TNA_Book.pdf

400 Ibid.

401 Ministry of Agriculture. (November 2014). Ministry of Agriculture Strategy 2015-2019, page 33. Retrieved from http://www.agriculture.gov.lb/Arabic/NewsEvents/Documents/MoA%20Strategy%202015-19%20-%20English-for%20printing.pdf

402 Fadi El Jardali etal. (November 2014). Protecting Consumers in Lebanon: The Need for Effective Food Safety System, American University of Beirut. Retrieved from https://www.aub.edu.lb/k2p/products/Documents/K2P%20BN%20Food%20Safety%20English.pdf.

403 Ibid.

404 Ibid.

405 International Donor. (March 2016). Key Informant Interview.

406 Food Safety Law Draft. (November 2015). Law No 48. Retrieved from: https://www.lp.gov.lb/admin/uploads/files/19-%20%D8%B3%D9%84%D8%A7%D9%85%D8%A9%20%D8%A7%D9%84%D8%BA%D8%B0%D8%A7%D8%A1(2).docx.

407 Ibid.

408 Ibid.

409 Daily Star ambitious law passed.

410 Food sovereignty is often nationally defined but customarily refers to the ability of local communities to have control over the manner in which food is produced, traded and consumed.

411 Food and Agriculture Organization (2016), Food Security Sector Micro-gardens technical WG & Community kitchen technical WG (presentation). Retrieved from http://data.unhcr.org/syrianrefugees/working_group.php?Page=Country&LocationId=122&Id=48

412 Wright, B.Cafiero, C.CAFIERO.(2015).The World Bank Retrieved from www.siteresources.worldbank.org

413 Ibid.

414 The World Bank. (2012). The Grain Chain: Food Security and Managing Wheat Imports in Arab Countries. Retrieved from http://www.fao.org/fileadmin/templates/tci/pdf/MENA-WB-The_Grain_Chain__ENG_.pdf

415 Ibid.

416 Ibid.

417 Ibid.

418 The World Bank. (2015). Literature on Conditional Cash Transfers. Retrieved from http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALPROTECTION/EXTSAFETYNETSANDTRANSFERS/0,,contentMDK:20615138~menuPK:282766~pagePK:148956~piPK:216618~theSitePK:282761,00.html

419 The World Bank. (April 19 2012). Lebanon Country Water Sector Assistance Strategy 2012-2016. Report No.68313-LB. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2012/08/01/000333038_20120801010054/Rendered/PDF/683130ESW0P1220C0disclosed070300120.pdf

420 Habib, O. (2016). Hariri pushes campaign to combat poverty. The Daily Star. Retrieved from http://www.dailystar.com.lb/News/Lebanon-News/2016/Apr-06/345885-hariri-pushes-campaign-to-combat-poverty.ashx

421 Government of Australia. (2011). Targeting the Poorest: An assessment of the proxy means test methodology. Retrieved from http://www.unicef.org/socialpolicy/files/targeting-poorest.pdf

422 Government of Lebanon and the United Nations. (15 December 2015). Lebanon crisis response plan 2015-16. Retrieved from http://www.un.org.lb/library/assets/engbrochshortversion-065508.pdf

423 Ghanem N. (2016), Local governance under pressure. Research on social stability in T5 area, North Lebanon, Menapolis and Oxfam Italia. Retrieved from https://data.unhcr.org/syrianrefugees/download.php?id=10573.

424 Government of Lebanon and the United Nations. (15 December 2014). Lebanon crisis response plan 2015-16. Retrieved from http://data.unhcr.org/syrianrefugees/download.php?id=7723

425 Ministry of Public Health. (2016). Non Communicable Diseases Prevention and Control plan Lebanon (2016-2020). Retrived from: http://www.moph.gov.lb/Publications/Documents/NCD-PCP2016.pdf

426 UN Sustainable development. (2015). Division for Sustainable Development. Retrieved from https://sustainabledevelopment.un.org/about

427 UN Sustainable Development (2015). Goal 2 End Hunger, achieve food security ad improved nutrition and promote sustainable agriculture. Retrieved from https://sustainabledevelopment.un.org/sdg2

428 Grounded theory (GT) is a systematic methodology in the social sciences involving the construction of theory from collected data in a reverse fashion from positivist social science research. Grounded theory combines diverse traditions in sociology, positivism and symbolic interactionism.