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Organization of the  
United Nations



World Food Programme

# SPECIAL REPORT

## FAO/WFP CROP AND FOOD SECURITY ASSESSMENT MISSION TO THE SYRIAN ARAB REPUBLIC

14 November 2016



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*Cover page photographs by: A. Costantino, S. Goodbody and Y. Jasem.*

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### Acronyms and Abbreviations

<b>AEZ</b>	Agro-Ecological Zone
<b>ASI(S)</b>	Agricultural Stress Index (System)
<b>bbl/d</b>	Barrels per day
<b>CFSAM</b>	Crop and Food Security Assessment Mission
<b>CPI</b>	Consumer Price Index
<b>d</b>	Day
<b>DTM</b>	Displacement Tracking Mechanism
<b>EIU</b>	Economist Intelligence Unit
<b>ESCWA</b>	Economic and Social Commission for Western Asia
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FAOSTAT</b>	Data programme of FAO Statistics Division
<b>FCS</b>	Food Consumption Score
<b>FSATWG</b>	Food Security Analysis Technical Working Group
<b>FMD</b>	Foot-and-mouth disease
<b>GDP</b>	Gross Domestic Product
<b>GPA</b>	General Poultry Association
<b>GOSM</b>	General Organisation for Seed Multiplication
<b>ha</b>	Hectare
<b>HOBOOB</b>	General Establishment for Cereal Trade and Processing
<b>IDP</b>	Internally Displaced Person
<b>IFRC</b>	International Federation of Red Cross and Red Crescent Societies
<b>IS</b>	Islamic State
<b>kg</b>	Kilogramme
<b>l</b>	Litre
<b>LSD</b>	Lumpy Skin Disease
<b>MAAR</b>	Ministry of Agriculture and Agrarian Reform
<b>mm</b>	Millimetre
<b>MWR</b>	Ministry of Water Resources
<b>mVAM</b>	mobile Vulnerability Analysis and Mapping
<b>NAPC</b>	National Agricultural Policy Centre
<b>NDVI</b>	Normalized Difference Vegetation Index
<b>NGO</b>	Non-Government Organization
<b>NPK</b>	Nitrogen, Phosphorus, Potassium
<b>OCHA</b>	Office for the Coordination of Humanitarian Affairs
<b>PPR</b>	Peste des petits ruminants
<b>REACH</b>	Renewed Efforts Against Child Hunger and undernutrition
<b>RFSAN</b>	Regional Food Security Analysis Network
<b>SRP</b>	Strategic Response Plan
<b>SYP</b>	Syrian Pound
<b>t</b>	Tonne
<b>UN</b>	United Nations
<b>UNHCR</b>	UN High Commissioner for Refugees
<b>USD</b>	US dollar
<b>WFP</b>	World Food Programme

### Highlights

- The economic situation in the Syrian Arab Republic further deteriorated over the past 12 months. Gross Domestic Product, which contracted by 5.3 percent in 2015, is forecast to further decline by 3.3 percent in 2016. Inflation in 2015 surged to about 38 percent reflecting general shortages and cuts in the subsidies of fuel and some food products. The Syrian Pound continued to depreciate: between January and mid-August 2016, the value of the Syrian Pound declined from 395 to 530 per USD.
- The area planted with cereals in the 2015/16 cropping season is the smallest on record: an estimated 900 000 hectares were planted with wheat compared to 1.5 million hectares planted before the crisis.
- Wheat production is estimated at 1.5 million tonnes, 55 percent less than the pre-conflict average of 3.4 million tonnes (2007-2011). Production of barley, a more resistant crop under adverse weather and input conditions reached 877 000 tonnes, above the average of the last ten years.
- Precipitation during the cropping season was inconsistent across the country: while the main growing area of Hasakeh in the east of the country received above average rainfall, Aleppo, Idlib and Homs governorates received below average precipitation and large patches of cropland were affected by drought. The damage to irrigation infrastructures amplified the impact of the erratic rainfall on crop conditions and performance.
- In addition, agricultural production continued to be seriously hampered by insecurity that constrained access to fields; destruction, damage, lack of maintenance and spare parts for irrigation infrastructures and machinery; and expensive and insufficiently available inputs including fuel, seeds, and fertilizers. However, vast differences exist among the governorates, indicating possible opportunities to intensify crop support in areas relatively accessible.
- There is an estimated shortfall of about 838 000 tonnes in the country's national wheat requirement of 3.854 million tonnes taking into account commercial imports.
- The livestock sector, once important in the Syrian Arab Republic's domestic economy and in its external trade, has suffered very substantially since 2011 with reductions in terms of herd and flock numbers of over 30 percent for cattle and over 40 percent for sheep and goats, while poultry, the usual main and most affordable source of protein of animal origin, has shrunk by 60 percent mostly due to unavailability of poultry feed at affordable cost.
- Pasture availability and access have been affected by the lack of precipitation and widespread insecurity. Livestock feed has become increasingly expensive, particularly in the areas with high concentration of internally displaced persons who moved with their herds.
- The country's veterinary service is rapidly running out of veterinary vaccines and routine drugs, with the number of unreliable veterinary drugs sold on the open market increasing during the last year.
- No major plant or animal disease outbreaks were reported in the neighbouring region despite limited plant protection products available in the markets and disruptions in veterinary services.
- Transportation bottlenecks and fragmented markets prevail. Producers, transporters and traders are facing extremely high transaction costs and security risks. The flows of wheat surpluses from the north east to the food deficit areas of the west did not increase compared to last year. Unsold wheat stocks are accumulating in the north east, while the west largely relies on imports.
- After a sustained increasing trend which started in early 2015, prices of wheat flour declined in several key markets by 12-15 percent in June 2016 due to newly harvested crops or food assistance airdrops in some besieged areas that increased supplies and also a temporary stabilization of exchange rate and general inflation. However, wheat prices in June were still between 40 and 50 percent higher than 12 months earlier.
- As a result of the reduction in livestock numbers, prices of livestock increased sharply. Prices of cattle, sheep, goats and chicken approximately doubled between 2015 and 2016 in markets located in both government controlled and rebel controlled areas.
- Over the last 12 months, prices of agricultural and livestock products increased, but as the upward pressure of tight supplies was partly offset by the low purchasing power, which depressed demand, prices of final products increased at slower rates compared to prices of productive inputs, which soared due to the economic sanctions, market disruptions and the declining value of the Syrian Pound. As a result, farmers have incurred heavy losses.
- The resilience of farmers has been heavily compromised after five years of conflict and fighting, and many may abandon food production, with potential grave consequences on the food availability at national level and on the food security of farming households and beyond. As a result, an urgent and strong support to farmers through the provision of critical inputs and the rehabilitation of irrigation infrastructures is required.

- Public sector, private business and industries have been severely disrupted, failing to provide livelihoods for the population in the Syrian Arab Republic. Facing the reduction or loss of direct income, households have resorted to other sources like remittances, borrowing money from families and friends: nearly one-third of the households is estimated to be indebted, mostly to buy food.
- Almost half of the Syrian households are resorting to severe, often irreversible coping strategies including selling productive assets. A higher prevalence of severe livelihood coping strategies was observed in the areas that have been directly affected by the conflict, including Idleb, Quneitra, Dara'a, Aleppo, Hasakeh, Sweida, Hama and Rural Damascus governorates.
- As of June 2016, 9.4 million Syrians were estimated to be in need of food assistance, up 8 percent from September 2015. The rate of increase in needs is most notable in Quneitra, Dara'a, Damascus, Idleb and Aleppo governorates, which have experienced new displacement and worsening food access conditions.
- As of August, food insecurity conditions were especially acute for an estimated 592 000 people living in 18 besieged and hard to reach areas, where food supplies are extremely limited, and where the population largely relies on food assistance. Lifesaving assistance should continue to target these communities.

## INTRODUCTION

A joint FAO/WFP Crop and Food Security Mission (CFSAM) visited the Syrian Arab Republic between 15 June and 1 July 2016 to estimate crop production and assess the overall food security situation.

On arrival in the Syrian Arab Republic, the international members of the CFSAM team spent six days in Damascus prior to going to the field. During this period, they had an initial inter-agency meeting (FAO and WFP) to discuss the strategy and itinerary for the CFSAM. Meetings were then held with the Ministry of Agricultural and Agrarian Reform (MAAR), the Ministry of Water Resources, the Ministry of the Environment, the General Organization of Trade and Processing of Cereals (HOBBOB), the General Organization of Feed, and the General Organization of Seed Multiplication, in order to get an overview of the agricultural situation in the country for 2015/16.

Movement of the international team members outside Damascus was severely restricted this year by the Ministry of Foreign Affairs for security reasons. Consequently, the international team members were able to visit only two of the country's 14 governorates - Homs and Tartous. Hasakeh Governorate, which produces between 40 and 50 percent of the Syrian Arab Republic's wheat, and which was visited by the full CFSAM team in 2015, was this year deemed to be unsafe because of recent armed conflict and the potential of a sudden resumption of violence. However, all the governorates (except Raqqqa), which the international team members were unable to visit, were covered by extensive questionnaires and interviews carried out by MAAR staff seconded to FAO. These staff received three days of training in agricultural data collection in April 2015 and further training in May 2016 on the specific questionnaire used in the present CFSAM.

In the governorates, where possible, the international and/or national teams held meetings with relevant governorate directorates. They also interviewed traders to gauge the amount of agricultural produce coming to market compared with previous years, and carried out market surveys to get an idea of price trends. In the field they interviewed farmers to understand the circumstances surrounding crop production this year and to obtain an estimate of yield. They also observed and inspected crops, carrying out a limited number of crop-cuttings of cereals. In addition, the core CFSAM team, which included the international members of the Mission, met and interviewed a group of farmers and livestock owners from Hama Governorate while the team was in Tartous. Unstructured farmer interviews covered, *inter alia*, the topics of seed and fertilizer availability and cost; irrigation; labour availability and cost; access to mechanization; the cost and availability of fuel; market access; and grain storage.

On its return from the field to Damascus, the Mission met Agricultural Directors, farmers and livestock owners from Rural Damascus, Quneitra and Sweida and discussed its impressions with the technical departments of MAAR (see Assessment Methodology section). Prior to departure from the Syrian Arab Republic, the Mission briefed the Minister of Agriculture and the Deputy Ministers on its findings.

## ASSESSMENT METHODOLOGY

To ensure a neutral and independent assessment of crop production and food security situation, information provided by Government institutions was, according to CFSAM standard procedures, triangulated and cross-checked with direct observation and information gathered by the Mission during field visits, third party

information<sup>1</sup>, satellite imagery<sup>2</sup>, rainfall records, 219 group discussions, and 1 248 questionnaires administered by national staff in all governorates except Raqqa, which at the time of the Mission remained under IS control. The responses were collated and analysed first by FAO and WFP staff in Damascus and later by the international team members. The focus-group discussions and the household questionnaires are presented in Annexes 1 and 2, respectively. A further brief agricultural checklist (Annex 3) was sent out with the teams with the objective of obtaining a rapid overview of the general state of agriculture and yield and production estimates of the main crops in each governorate. Short synopses were received while the international team members were still in the country. Tabulated results of the household questionnaires are summarized in Annex 4.

Yield estimates deriving from crop-cuttings during field visits (security permitting) were used to supplement data and information from other sources. Crop-cutting using quadrats is a reliable means of estimating the average yield of a crop field as long as it is carried out in a statistically valid way shortly before harvest. This entails sampling a number of sites within a field, weighing the sampled grain and adjusting the result for grain moisture content. The procedure takes a little time and is highly visible. Under the current conditions of insecurity, however, the estimation of crop yield by crop-cutting is a practical option in only a very limited number of locations in the Syrian Arab Republic. A crop-cutting exercise that covers very few (possibly unrepresentative) fields can, when extrapolated, give an erroneous result with a spurious impression of accuracy. The CFSAM team therefore decided to rely more on experienced field observation and rapid crop inspection where possible. Cereal crop inspection included an assessment of plant population, the number of tillers, the number of grains per panicle, the size of grain, the level of pest or disease damage (if any), the level of weed infestation, and the extent of productivity variation within the field. Combined with crop inspections at a few sites, experienced field observation was considered to provide an acceptably reliable estimate of crop yield under the prevailing difficult circumstances.

A further complication in this year's CFSAM was the fact that the start of the Mission was delayed, which meant that by the time the various teams went to the field a substantial amount of cereal had already been harvested and was therefore unavailable for inspection in the field as a standing crop.

Given the short duration of its Mission, the assessment of crop areas is always problematic for a CFSAM. On this occasion the areas provided by MAAR were taken as a baseline and these were critically assessed in light of information provided by farmers, satellite imagery and rainfall records, and the relative availability and cost of labour, farm machinery and fuel. Account was also taken of the amount of seed that was made available to farmers by the Government at planting time as well as the average seed rates used by farmers; this, however, can only be regarded as a rough indicator as many farmers use seed that they have retained from the previous year's harvest or seed that they have been given by neighbours or purchased in the market. Taking all these factors into consideration, the team arrived at figures that it considered the most representative of the actual situation with regard to crop area in each governorate.

On their return to Damascus, the core CFSAM team members held a meeting with the technical directors of MAAR in which they discussed the area, yield and production figures prepared by MAAR and compared them with their own impressions gained during their field visits and the figures emanating from the governorate checklist synopses. These discussions resulted in clarification of certain points and the adjustment of figures that the team considered to be over- or under-estimates.

With regard to livestock the team discussed the current situation with Government livestock breeders and veterinarians. Account was taken of the number of vaccinations administered during the last twelve months and of the prevailing market prices of livestock and livestock products such as meat, milk and eggs. In the field, livestock owners were interviewed, both informally and using the Mission's questionnaires, and, where possible, animals were assessed for their condition.

The food security section of this report largely relies on secondary sources that include field assessments and monitoring surveys carried out in 2015 and 2016. That information was verified through field visits by the Mission and by a primary data collection exercise implemented by MAAR enumerators in July and August 2016.

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<sup>1</sup> Information collected and analysed included farm input costs, farm gate and retail prices of agricultural commodities, and the amount of grain sold by farmers to HOBBOB. The Mission had access to a pre-CFSAM report carried out by MAAR's National Agriculture Policy Centre finalised in June 2016 and entitled "Assessment of the Current Agricultural Season 2015/16" (unpublished).

<sup>2</sup> In particular NDVI and soil-moisture stress indices.

Because household information from the CFSAM primary data pertains to households in farming communities located in accessible areas, it is not necessarily reflective of the countrywide situation. It was therefore decided to also consider secondary data from WFP and partners, which cover accessible, hard-to-reach and besieged areas.

The CFSAM relies on secondary data provided by the Food Sector. Secondary data include the findings of the Food Security Assessment, collected in May-June 2015 and released in October 2015, on a sample of over 20 000 households, which is representative at the sub-district level. Trend data for beneficiaries of WFP food assistance, captured through quarterly surveys that began in early 2014 have been analysed. Data from WFP's monitoring surveys conducted in July and August 2016 have also been used to capture trends in household food consumption and coping strategies. In addition, the findings from qualitative Rapid Assessment Missions conducted during convoys to besieged or hard-to-reach areas have been used to inform the CFSAM report. Secondary data also include the WFP and REACH food price databases, which feature monthly food commodity price series dating back to 2014. Wage rates for unskilled labour are also available from WFP in 34 markets across the country.

In all cases, the data coverage of food security conditions in the most insecure locations is limited and the confidence of our estimates is low. Where possible, confidence intervals are shown.

## **BACKGROUND AND SOCIO-ECONOMIC CONTEXT**

### **General**

Conflict in the Syrian Arab Republic, now in its sixth year, is not showing any signs of attenuation, deepening the already grim outlook for the economic and social development of the country.

The human toll has been mounting. Since 2011 there has been a massive and continuing exodus of Syrians, mostly to neighbouring countries, seeking to escape the conflict. By the end of September 2016, UNHCR reported 115 000 Syrian refugees in Egypt, 225 000 in Iraq, 656 000 in Jordan, 1.03 million in Lebanon and 2.73 million in Turkey, bringing the total to almost 4.8 million. This figure includes only registered refugees; others who left the country and are now living abroad and supporting themselves financially are not included. Estimates of deaths as a result of the conflict vary: the United Nations Envoy to the Syrian Arab Republic estimates that some 400 000 have died in the country. Within the country there has been massive population displacement with people fleeing conflict zones and seeking refuge in more secure areas. As of August 2016, OCHA reports that there were 6.1 million people displaced by the conflict in the country, and that 900 000 people had been displaced over the preceding six months alone<sup>3</sup>, particularly in the north and south of the country. Many of the internally displaced have been repeatedly displaced.

Under normal circumstances, and using the country's pre-crisis population growth rate, the Syrian Arab Republic's population by 2016 would have been expected to exceed 23 million; however, with out-migration and conflict-related deaths over the last five years, the UN estimates this figure to be about 18.5 million<sup>4</sup> although unofficial figures do not exceed 16.6 million. Around 58 percent of the Syrian population resides in cities, with the urban population growing between 2010 and 2015 at 1.4 percent annually. About 13.5 million people (more than two-thirds of the country's current population, including IDPs) are in need of assistance in terms of either food, shelter or healthcare, with caseloads increasing. (This is discussed in detail in Household Food Security Situation below.)

The economic situation in the country further deteriorated over the past 12 months. GDP in 2015 contracted by 5.3 percent, and an additional contraction by 3.3 percent is forecast in 2016. Inflation in 2015 surged to about 38 percent reflecting general shortages and cuts in fuel and some food subsidies. The unemployment rate is estimated at about 50 percent (although precise statistics are missing), up from about 10 percent at the beginning of the conflict. The Syrian Pound continued to depreciate in 2016: between January and mid-August, the value of the Syrian Pound declined from 395 to 530 per USD. In 2011 SYP 1 000 would buy USD 20.6. Now it buys (at the official exchange rate) only USD 1.9. Unofficially it buys even less.

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<sup>3</sup> OCHA (2016) situation report 12. Syria. <http://reliefweb.int/report/syrian-arab-republic/syria-crisis-bi-weekly-situation-report-no12-2-september-2016-enar>

<sup>4</sup> <http://data.un.org/CountryProfile.aspx?crName=Syrian%20Arab%20Republic>

The country's Inflation rate peaked at 120 percent in the third quarter of 2013, in part reflecting a slight and temporary easing of the rate of depreciation of the Syrian Pound. Last official inflation figures released by the Central Bureau of Statistics in February 2016 indicate total inflation at 44 percent on a year-on-year basis, and food and non-alcoholic beverages inflation at 57 percent<sup>5</sup>.

Immediately prior to the crisis, the Syrian Arab Republic used to produce about 380 000 barrels of crude oil and condensates per day, down from a peak of almost 600 000 (bbl/d) in the mid-1990s (US Energy Information Administration), and oil sales generated some 25 percent of the Syrian Arab Republic's total revenue (EIU). Production slumped dramatically in 2011 and by 2013 was down to less than 50 000 bbl/d. Before the conflict, oil exports provided up to 30 percent of the Government's fiscal revenue. Conflict and sanctions virtually stopped oil exports (apart from some smuggled fuel out of IS- and Kurdish-held areas) although the country's two refineries are still processing 75 000 (bbl/d) of crude oil (EIU). However, sanctions prohibit imports of spare parts, constraining economic activity. According to the EIU, the only main revenue source to have been sustained since 2011 is the state's income from the country's two mobile-phone companies. The Syrian Arab Republic, therefore, relies heavily on external financial support (largely from the Islamic Republic of Iran and the Russian Federation), as well as assistance from humanitarian agencies.

Businesses have recently begun to adjust to the realities of the ongoing crisis. Industrial and trading activity seems to have moved and is now concentrated in the relatively safe Government-controlled coastal strip of the country, including an expanded industrial zone outside Tartous. Many livestock farmers have also moved to safer areas with their animals. However, not having other employment alternatives, crop farmers remain farming on their fields.

Responding to changing economic realities, the Government has taken steps to further liberalise the economy. In 2013 import tariffs were eliminated on 17 basic commodities including sugar, rice, tea, wheat, soy, vegetable ghee and barley. In the same year the Government also allowed fuel imports by private business. Both measures were designed to limit price increases of basic foodstuffs and help stabilise prices for consumers. In 2016, the Government issued a law completely liberalising investment in the public sector by local and foreign private investors partnering with the Syrian Arab Republic public sector bodies.<sup>6</sup>

## **Agriculture**

Prior to the beginning of the current crisis in 2011, agriculture played a very important part in the Syrian Arab Republic's economy. In 2010, agriculture contributed 18 percent to its GDP and 23 percent of exports. It involved 17 percent of its labour force in production. Some 46 percent of Syrians (10 million, including children and others not actually working in agriculture) were rural dwellers and, of those, about 80 percent were sustained by income from agricultural work. Currently, as other real economic sectors have drastically contracted due to the crisis, MAAR estimates that the share of agriculture in the country GDP reach 60 percent (non-published source).

The country is divided into the following five Agro-Ecological Zones (AEZs) based on the level of annual precipitation received, as shown in Figure 1:

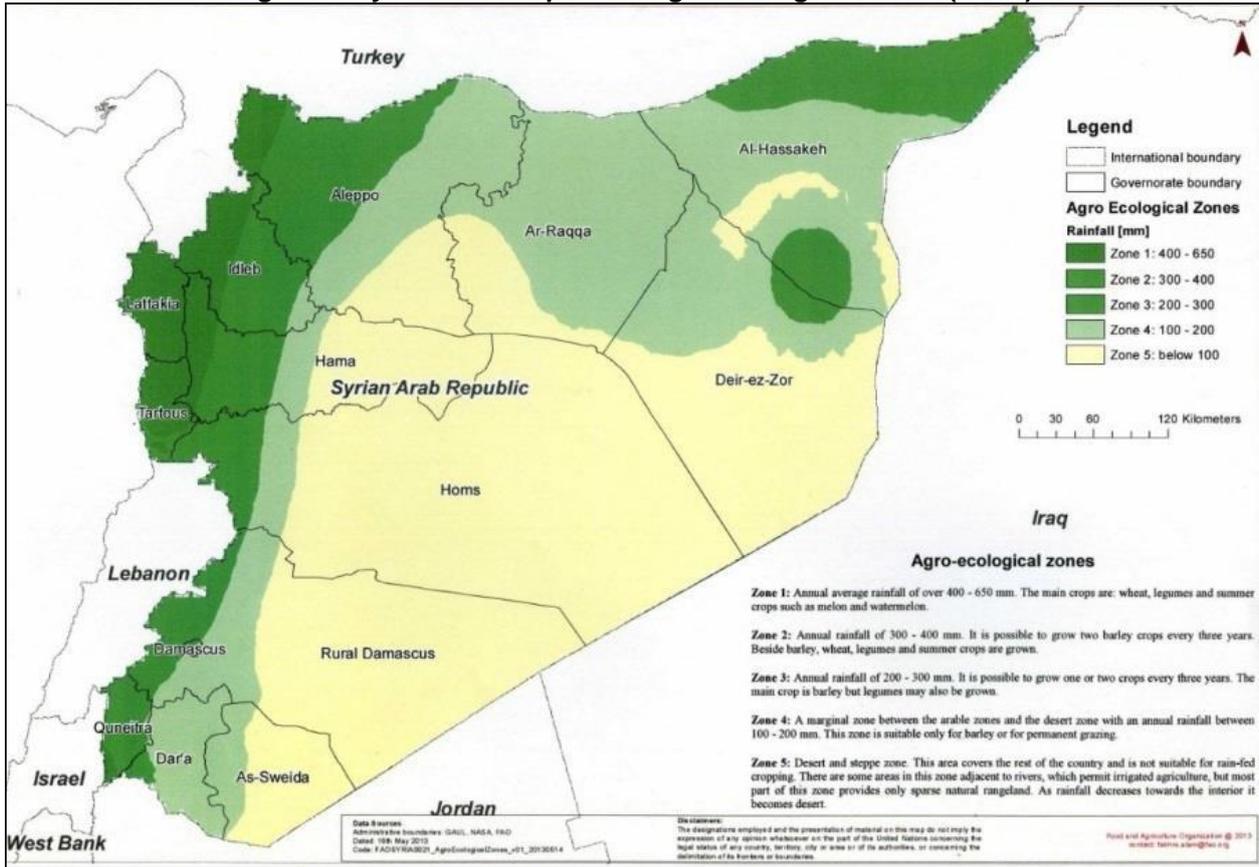
- Zone I covers some 2.7 million hectares and has an average annual rainfall of 400-650 mm.
- Zone II covers about 2.5 million hectares and has an average annual rainfall of 300-400 mm.
- Zone III covers about 1.3 million hectares and has an average annual rainfall of approximately 200-300 mm.
- Zone IV is agriculturally marginal, with a total area of around 1.8 million hectares and an average annual rainfall of 100-200 mm.
- Zone V is the *Badia* or steppe; it has a total area of approximately 8.3 million hectares and an average annual rainfall of less than 100 mm.

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<sup>5</sup> <http://www.cbssyr.sy/CPI/cpi-month02-2016.htm>

<sup>6</sup> RFSAN (2016).

Figure 1: Syrian Arab Republic - Agro-Ecological Zones (AEZs)



Source: FAO.

Before 2011, approximately 1.5 million hectares of agricultural land were normally irrigated, of which 550 000 hectares were accounted for by state-administered irrigation schemes. Permanent crops (olives, fruit trees etc.) accounted for about 5.7 percent of the country's agricultural land.

From the 1960s until the mid-2000s the state also played a vital role in the production of strategic crops such as wheat, sugar beet, cotton and tobacco, and livestock products, including milk, meat, poultry and eggs, these being produced on a small number of large state-owned and state-run farms. (This production role should not be confused with the State's involvement in the management of irrigation schemes for private producers.) Over the years, however, the state withdrew gradually from its productive role, as is shown in Table 1. The Table also suggests that the proportion of state farmland actually cultivated, which was already less than half by 1970, also declined during the 30-year period 1970-2000. By 2004/05, the state had relinquished its management of most of its farms and had allocated parcels of ex-state-farm land to the workers for their use according to a set of social and technical criteria. However, the legal title to the land of the ex-state farms remains with the state.

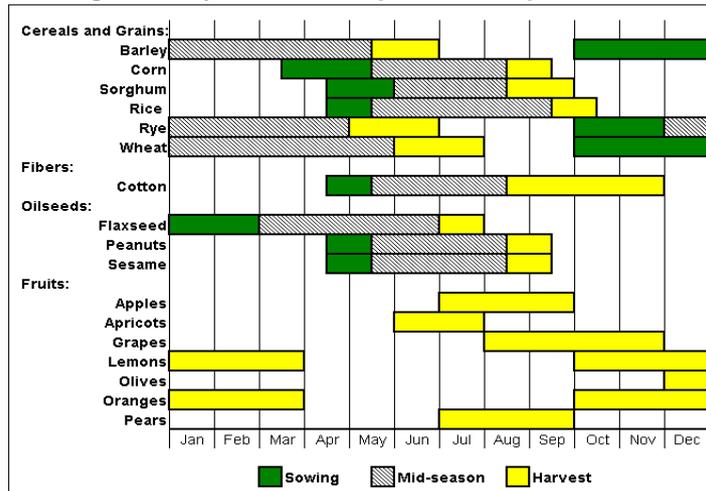
Table 1: Syrian Arab Republic - Land under state farms, 1970 and 2000 (hectares)

Year	Total	Cultivated
1970	138 000	64 132
2000	68 146	21 011

Source: Syrian Agriculture at the Crossroads FAO Agricultural Policy and Economic Development Series No. 8, 2003.

Prior to 2011, the Syrian Arab Republic was a significant exporter of agricultural produce, including cotton, sugar, tomatoes, potatoes, oranges, apples, olive oil, sheep, cattle, poultry meat and hens' eggs. In 2010, for instance, the Syrian Arab Republic exported 627 000 tonnes of tomatoes, more than 100 000 tonnes of potatoes, and more than 150 000 tonnes of refined sugar. Figure 2 shows the calendar for the Syrian Arab Republic's main crops. Animal production used to contribute about 35-40 percent to the country's total agricultural production and provide about 20 percent employment in rural areas. Mutton exports alone generated foreign currency estimated at approximately USD 450 million per year, and in 2010 the Syrian Arab Republic exported 871 000 sheep (FAOSTAT). The poultry sector, which employed, directly and indirectly, more than 1 million workers, was also an important foreign income earner with significant exports of meat, eggs and day-old chicks. In 2010, 76 000 tonnes of hens' eggs were exported (FAOSTAT).

**Figure 2: Syrian Arab Republic - Crop calendar**

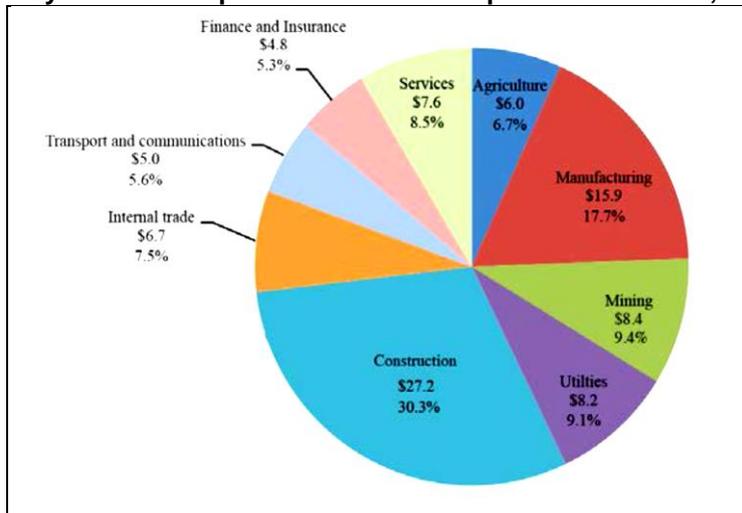


Source: FAO in Emergencies.

<http://www.fao.org/emergencies/resources/documents/resources-detail/en/c/176035/>

The current crisis has devastated the previously flourishing agricultural sector by the loss of cultivated land, the movement of farmers away from insecure areas, the destruction of farm machinery and irrigation structures, shortages and high costs of farm inputs and fuel, a severely damaged infrastructure and compromised power supplies. The situation has been further aggravated by international sanctions on imports and exports. The damage is difficult to quantify, but already by 2013 MAAR estimated that the annual revenue lost as a result of the virtual extinction of agricultural exports due to the crisis was SYP 72 billion (about USD 0.73 billion at the exchange rate prevailing in June 2013). More recently, ESCWA (2016)<sup>7</sup> estimated the loss of capital stock in agriculture between 2011 and 2015 at USD 6 billion, or 6.7 percent of the country's total capital stock losses over that period (Figure 3).

**Figure 3: Syrian Arab Republic - Estimated capital stock losses, 2011-2015**



Source: ESCWA 2016.

## CEREAL PRODUCTION

### Cereal areas and yields

As explained above in the Assessment Methodology section, cereal areas (Table 2) are based on discussions with central and governorate-level MAAR. The CFSAM focus group discussion questionnaire elicited responses concerning cultivated cereal areas in 2015/16 compared with those in 2014/15. These figures are regarded as indicative since they refer only to the average of surveyed sub-districts, but they do show a general reduction in wheat area in nine out of 12 governorates. Lattakia showed an increase, while Quneitra and Idleb showed negligible change. For barley there was a general increase in area in seven of the 12 surveyed

<sup>7</sup> The Syrian Arab Republic at War. Five Years On.

governorates; Sweida, Aleppo and Idleb showed a reduction, while the changes in Quneitra and Homs were negligible.

**Table 2: Syrian Arab Republic - Average cultivated cereal areas (ha) in 2014/15 and 2015/16 as reported by sub-districts in 12 governorates**

	Rural Damascus	Dara'	Quneitra	Sweida	Homs	Hama	Aleppo	Lattakia	Tartous	Idleb	Deir ez-Zor	Hasakeh
Wheat 2014/15	61	437	102	2527	389	1390	598	100	120	265	487	2177
Wheat 2015/16	49	392	103	2265	317	1092	313	127	62	275	346	1558
<b>2015/16 as % of 2014/15</b>	<b>80</b>	<b>90</b>	<b>101</b>	<b>90</b>	<b>81</b>	<b>79</b>	<b>52</b>	<b>127</b>	<b>52</b>	<b>104</b>	<b>71</b>	<b>72</b>
Barley 2014/15	40	263	63	2151	86	339	230	8.0	1.0	260	100	499
Barley 2015/16	67	371	64	1149	83	442	108	10	1.2	217	114	555
<b>2015/16 as % of 2014/15</b>	<b>168</b>	<b>141</b>	<b>102</b>	<b>53</b>	<b>97</b>	<b>130</b>	<b>47</b>	<b>125</b>	<b>120</b>	<b>83</b>	<b>114</b>	<b>111</b>

Source: CFSAM focus group discussion questionnaire.

According to the questionnaire responses more than 70 percent of the 2015-2016 cultivated wheat area was harvested in only six of the twelve surveyed governorates (Table 3). Rural Damascus fared especially badly as a result of both poor rainfall and high levels of insecurity, with only 39 percent of the cultivated area being harvested. Rural Damascus' barley crop was similarly affected with only 35 percent being harvested. Other governorates that showed very low harvested percentages were Dara', Sweida, Lattakia and Tartous. Once again, these figures should only be regarded as indicative.

**Table 3: Syrian Arab Republic - Average percentage of cultivated cereal area that was harvested in 2014/15 and 2015/16 as reported by sub-districts in 12 governorates**

	Rural Damascus	Dara'	Quneitra	Sweida	Homs	Hama	Aleppo	Lattakia	Tartous	Idleb	Deir ez-Zor	Hasakeh
Wheat 2014/15	51	67	78	81	84	88	95	97	95	48	90	91
Wheat 2015/16	39	56	78	48	65	88	77	67	74	46	71	91
<b>2015/16 as % of 2014/15</b>	<b>77</b>	<b>84</b>	<b>99</b>	<b>59</b>	<b>77</b>	<b>100</b>	<b>82</b>	<b>69</b>	<b>78</b>	<b>94</b>	<b>79</b>	<b>100</b>
Barley 2014/15	39	59	79	84	68	85	99	69	42	50	67	97
Barley 2015/16	35	31	87	35	62	86	69	44	42	50	60	97
<b>2015/16 as % of 2014/15</b>	<b>90</b>	<b>53</b>	<b>109</b>	<b>42</b>	<b>91</b>	<b>101</b>	<b>69</b>	<b>64</b>	<b>100</b>	<b>99</b>	<b>90</b>	<b>100</b>

Source: CFSAM focus group discussion questionnaire.

As indicated in the Assessment Methodology section, the Mission had, in addition to its own observations, three sets of crop yield estimates to consider: MAAR's estimates based on official reports from the governorates, those emanating from the checklist synopses, and finally the yields reported in the questionnaire survey responses. Two different yield figures can be calculated from the MAAR figures - those from the planted area and those from the harvested area as reported by MAAR. The questionnaire figures are based on the harvested area.

For both wheat and barley (irrigated and rainfed) the MAAR figures and the checklist figures were almost identical; the only small divergences were in Dara'a for wheat and in Lattakia, Homs and Hasakeh for barley. This was not surprising since much of the checklist information was based on the information supplied *in situ* by the governorate offices. Seven of the wheat yields from the questionnaire were higher than MAAR's figures based on the harvested area and five were lower (Table 4). The greatest discrepancy between the MAAR figures and the questionnaire figures was in Idleb where the questionnaire figure of 3.3 tonnes/hectare was more than twice MAAR's 1.6 tonnes/hectare. The barley figures (Table 5) from both sources were generally closer than those for wheat but there were nevertheless some substantial discrepancies in Hama, Aleppo and Hasakeh.

**Table 4: Syrian Arab Republic - Wheat yields (tonne/hectare) by Governorate as reported by different sources**

Governorate	Yields based on planted area		Yields based on harvested area	
	MAAR	Checklist	MAAR	Questionnaire
Rural Damascus	1.5	1.5	2.6	1.9
Dara'a	0.6	0.5	1.1	0.7
Sweida	0.2	0.2	0.4	0.4
Quneitra	0.8	0.8	0.8	1.3
Homs	1.5	1.5	1.6	1.8
Hama	2.4	2.4	2.6	2.3
Tartous	1.8	1.8	1.8	1.3
Lattakia	1.2	1.2	1.2	1.8
Idleb	0.8	0.8	1.6	3.3
Aleppo	1.0	1.0	1.3	1.9
Raqqa <sup>1/</sup>				
Hasakeh	1.5	1.5	1.5	2.4
Dir-ez-Zor	1.7	1.7	2.0	2.4
<b>Average</b>	<b>1.25</b>	<b>1.24</b>	<b>1.54</b>	<b>1.79</b>

1/ MAAR reported that 110 000 hectares of irrigated wheat were planted in Raqqa and that a yield of 3.2 tonnes/hectare was obtained but, because of the Governorate's occupation by IS, could not provide an estimate of how much was actually harvested. Similarly MAAR reported that 58 000 hectares of rainfed wheat were planted in Raqqa but was unable to provide either the area harvested or the yield. Thus, in the absence of questionnaires, it was estimated by the Mission that half of the area planted in Raqqa was harvested.

**Table 5: Syrian Arab Republic - Barley yields (tonnes/hectare) by Governorate as reported by different sources**

Governorate	Yields based on planted area		Yields based on harvested area	
	MAAR	Checklist	MAAR	Questionnaire
Rural Damascus	0.10	0.10	1.7	1.8
Dara'a	0.13	0.13	0.7	0.6
Sweida	0.18	0.18	0.4	0.3
Quneitra				0.9
Homs	0.20	0.21	0.9	1.3
Hama	0.41	0.41	0.8	1.5
Tartous	1.04	1.04	1.0	1.0
Lattakia	1.87	1.47	1.4	1.5
Idleb				2.1
Aleppo	0.33	0.33	0.5	1.1
Raqqa	0.07	0.07	2.0	
Hasakeh	1.47	1.46	1.5	3.1
Dir-ez-Zor	1.80	1.80	1.8	1.6
<b>Average</b>	<b>0.69</b>	<b>0.65</b>	<b>1.15</b>	<b>1.4</b>

The often quite striking divergence between the different sets of figures demonstrates the difficulty of estimating crop yields and production in a country in conflict. Based on field observations, interviews and Governorate reports of rainfall, access to farm inputs and general crop production conditions, the Mission places more credence in the lower yield estimates wherever there is divergence. Table 6 shows the Mission's estimates based on these considerations.

**Table 6: Syrian Arab Republic - CFSAM yield estimates (tonnes/hectare) for wheat and barley (irrigated and rainfed) based on harvested area**

Governorate	Wheat	Barley
Rural Damascus	2.0	1.7
Dara'a	0.8	0.6
Sweida	0.4	0.3
Quneitra	0.9	0.9
Homs	1.6	1.0
Hama	2.4	1.0
Tartous	1.4	1.0
Lattakia	1.3	1.4
Idleb	1.9	1.6
Aleppo	1.4	0.7
Raqqa	2.0	1.5
Hasakeh	1.6	1.7
Dir-ez-Zor	2.1	1.6
<b>Average</b>	<b>1.52</b>	<b>1.15</b>

Table 7 shows the average wheat and barley yields reported by sub-districts in 12 governorates surveyed by questionnaire. In all governorates this year's wheat yields were reported as being lower than those of 2014/15. Average barley yields were generally reported as being lower than those of 2014/15 in all governorates except Tartous and Hasakeh. Tartous' barley production is negligible, but the 50 percent increase in Hasakeh is significant.

**Table 7: Syrian Arab Republic - Average wheat and barley yields (tonnes/hectare) in 2014/15 and 2015/16 as reported by sub-districts in 12 governorates**

	Rural Damascus	Dara'	Quneitra	Sweida	Homs	Hama	Aleppo	Lattakia	Tartous	Idleb	Deir ez-Zor	Hasakeh
wheat 2014/15	1.03	1.03	1.58	0.50	1.64	2.61	3.37	1.61	1.31	1.81	2.86	2.49
wheat 2015/16	0.74	0.71	1.33	0.35	1.43	2.10	1.75	1.13	1.06	1.33	2.22	2.01
<b>2015/16 as % of 2014/15</b>	<b>72</b>	<b>69</b>	<b>84</b>	<b>70</b>	<b>87</b>	<b>80</b>	<b>52</b>	<b>70</b>	<b>81</b>	<b>73</b>	<b>78</b>	<b>81</b>
barley 2014/15	0.79	0.81	0.98	0.51	1.08	1.84	2.73	0.96	0.34	1.41	1.58	1.93
barley 2015/16	0.64	0.51	0.90	0.35	1.05	1.36	1.03	0.55	0.51	1.14	1.33	2.90
<b>2015/16 as % of 2014/15</b>	<b>81</b>	<b>63</b>	<b>92</b>	<b>69</b>	<b>97</b>	<b>74</b>	<b>38</b>	<b>57</b>	<b>150</b>	<b>81</b>	<b>84</b>	<b>150</b>

Source: CFSAM questionnaire.

MAAR also reports disaggregated figures for the irrigated and rainfed crops. For the purpose of comparison these are presented in Table 8.

**Table 8: Syrian Arab Republic - Irrigated and rainfed wheat and barley yields (tonnes/hectare) by Governorate, 2015/16**

Governorate	Wheat		Barley	
	Irrigated	Rainfed	Irrigated	Rainfed
Rural Damascus	2.7	0.7	2.2	0.7
Dara'a	2.7	0.5		0.7
Sweida	2.0	0.4		0.4
Quneitra	1.1	0.7		
Homs	2.5	1.3	2.0	0.9
Hama	2.8	1.3	2.0	0.7
Tartous	2.6	1.4	1.6	1.0
Lattakia	2.7	1.2		1.4
Idleb	2.5	0.6		
Aleppo	2.3	0.7	2.2	0.5
Raqqa	3.2	0.0	2.0	
Hasakeh	2.4	1.1	2.7	1.4
Dir-ez-Zor	2.0	0.0	1.8	
<b>Average</b>	<b>2.42</b>	<b>0.76</b>	<b>2.06</b>	<b>0.85</b>

Source: MAAR.

### Production

Estimated production of wheat and barley in each governorate in 2015/16 is shown in Table 9. These figures are based on harvested areas agreed by the Mission in discussions with central and governorate-level MAAR, and on yields emanating from the Mission's observations, farmer interviews, governorate agricultural summaries and the responses to the questionnaires. The Syrian Arab Republic's total wheat and barley production for 2015/16 is estimated at 1.547 million tonnes and 877 000 tonnes respectively. The country's production parameters over the last ten years (2007-2016) are shown in Tables 10 and 11.

**Table 9: Syrian Arab Republic - Area (000 hectares), yield (tonnes/hectare) and production (000 tonnes) of wheat and barley by Governorate, 2015/16**

Governorate	Wheat			Barley		
	Area <sup>1/</sup>	Yield	Production	Area <sup>1/</sup>	Yield	Production
Rural Damascus	3.4	2.0	7	0.7	1.6	1.1
Dara's	26	0.8	21	3.0	0.6	1.8
Sweida	14	0.4	6	5.7	0.3	1.7
Quneitra	0.4	0.9	0.4	0.1	0.9	0.1
Homs	28	1.6	45	7.5	1.0	7.5
Hama	56	2.4	134	39	1.0	39
Tartous	10	1.4	14	0.5	1.0	0.5
Lattakia	2.3	1.3	3.0	0.3	1.4	0.4
Idleb	31	1.9	59	45	1.6	72
Aleppo	220	1.4	308	202	0.7	141
Raqqa	55	2.0	110	12	1.5	18
Hasakeh	469	1.6	750	336	1.7	570
Dir-ez-Zor	43	2.1	90	15	1.6	24
<b>Syrian Arab Republic</b>	<b>903</b>	<b>1.6</b>	<b>1 547</b>	<b>665</b>	<b>1.3</b>	<b>877</b>

<sup>1/</sup> Area harvested, as discussed with MAAR.

**Table 10: Syrian Arab Republic - Wheat production parameters, 2007-2016**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>000 ha</b>	1 668	1 486	1 437	1 599	1 521	1 601	1 374	1 313	1 092	958
<b>t/ha</b>	2.42	1.44	2.58	1.93	2.54	1.77	1.75	1.42	2.24	1.61
<b>000 t</b>	4 041	2 139	3 702	3 083	3 858	2 840	2 400	1 865	2 445	1 547

Sources: 2007-2011 FAOSTAT; 2015 MAAR and CFSAM; 2012-2014 FAO's yield and production estimates for 2012, 2013 and 2014 differ from those of MAAR. MAAR's production records for those three years are as follows:

	2012	2013	2014
000 ha	1 603	1 374	1 288

**Table 11: Syrian Arab Republic - Barley production parameters, 2007-2016**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>000 ha</b>	1 363	1 433	1 290	1 527	1 293	1 133	1 263	1 221	1 081	665
<b>t/ha</b>	0.58	0.18	0.66	0.45	0.52	0.64	0.72	0.49	0.9	1.32
<b>000 t</b>	784	261	846	680	667	728	911	600	968	877

Sources: FAOSTAT (2007-2014), CFSAMs (2015/16).

This year's wheat production, at 1.547 million tonnes, is the lowest for the last ten years and comes from the smallest harvested area. These figures support the general observation that the crisis impact, lack of improved seeds, and unfavourable rainfall in many areas have brought about a very significant reduction in the area of harvested crop. Average yield however, at 1.6 tonnes/hectare, is not the lowest of the last ten years but it is below the average of 2 tonnes/hectare.

Barley production, at 877 000 tonnes, is above the average of the last ten years (732 000 tonnes), resulting, apparently, from the highest average yield (1.3 tonnes/hectare) and the smallest area (665 000 hectares). If correct, the relatively high average yield of barley may be the result of more attention being given to the crop by farmers who substituted it for wheat, regarding it as a crop that is more reliable under adverse weather and restricted input conditions.

### **Factors affecting yields**

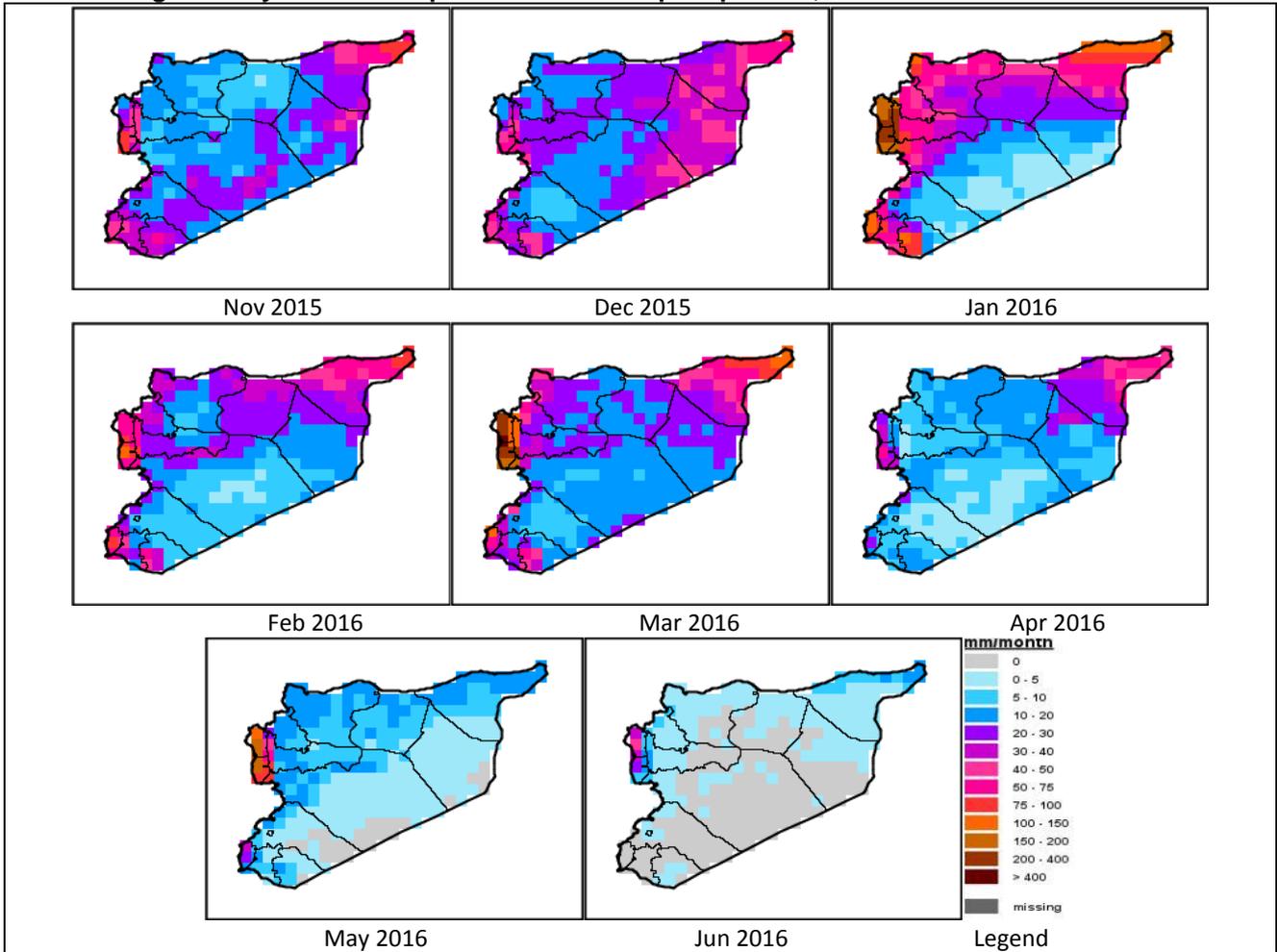
#### Weather

Much of the Syrian Arab Republic suffered from lower-than-average rainfall and poor rainfall distribution during the 2015/16 cropping season. In the north-west (Lattakia, Idleb and Aleppo governorates) the rains started late and were generally poor throughout the season. Idleb and Aleppo respectively reported 50 percent and 70 percent reductions below average in their overall rainfall, with a prolonged dry period in mid-December as well as in the second half of February and the first half of March. The south-east on the other hand (most of Deir Ezzor and part of Homs governorates) received above-average rainfall in December but experienced below-average rainfall thereafter. The MAAR rain gauge in Homs recorded a total of 231 mm over the cropping season, down from an average of 421 mm. A notable exception to the pattern of poor rainfall amounts and distribution was Hasakeh Governorate in the northeast, which is the Syrian Arab Republic's main cereal-producing area. There the rains started on time in November, and were well distributed up to harvest time in June. Unfortunately, distribution of the good cereal production resulting from Hasakeh's favourable rainfall this year is seriously compromised by the continuing control by IS of much of the arterial route to Damascus and other major population centres; Hasakeh still has stocks of wheat stored from the harvest of 2015.

The Al Ghab plain, situated mostly in Hama Governorate, is an important cereal-producing area which benefited from this year's low rainfall. The plain is a reclaimed swamp which used to be flooded by the Orontes River. Its reclamation in the 1950s and 1960s provided an extra 41 000 hectares of irrigated farmland which, with its low-lying topography, benefits from low rainfall.

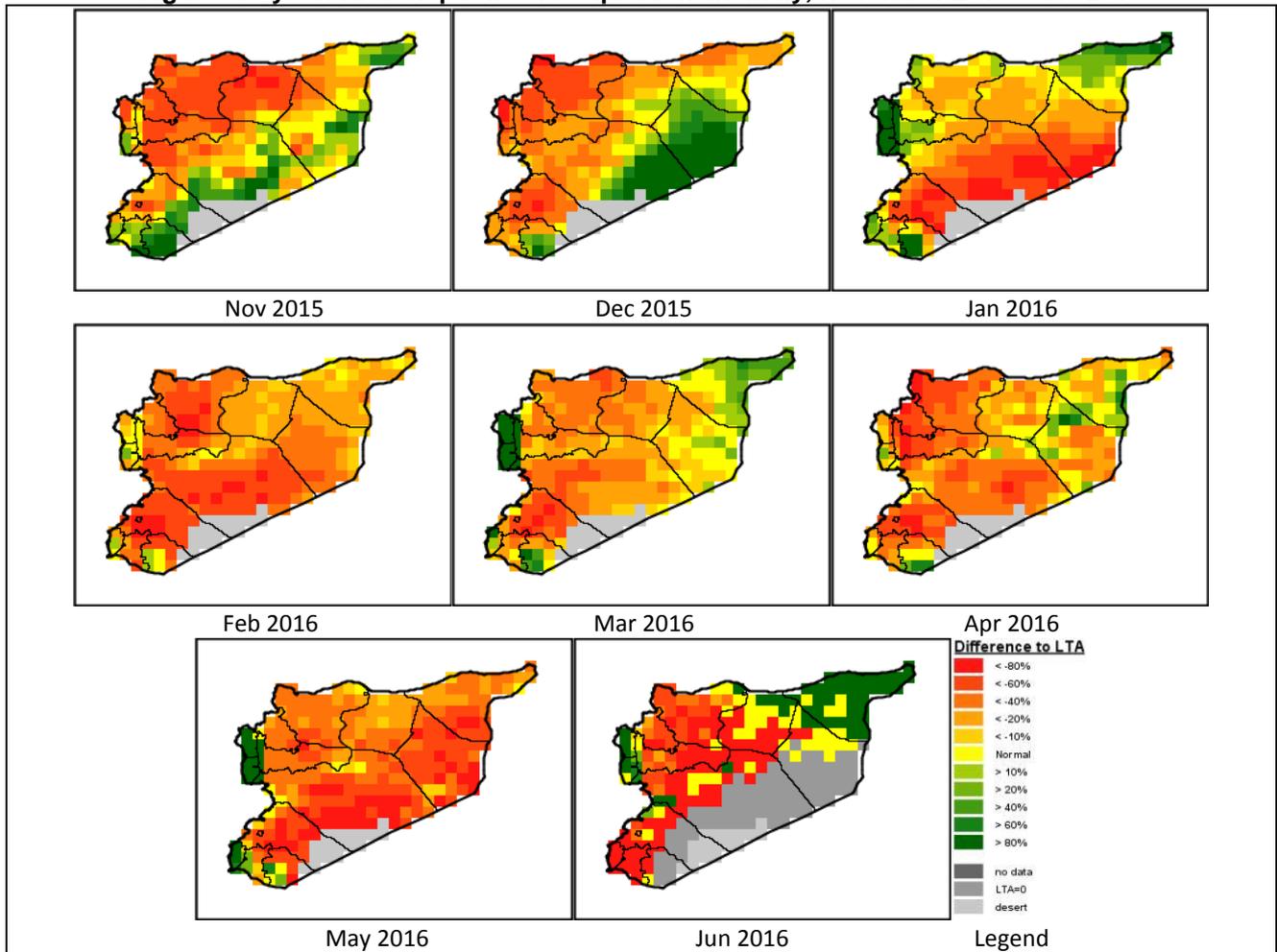
Figure 4 shows the monthly course of precipitation over the Syrian Arab Republic during the 2015/16 cropping season, while Figure 5 shows the differences between the rainfall of 2015/16 and the long-term average (LTA). Figure 6 gives an indication of the adequacy of soil moisture (agricultural stress index) by month and Figure 7 (NDVI anomaly) shows the difference between the 2015/16 vegetation cover and the LTA. This year's favourable rainfall conditions in Hasakeh Governorate are evident in all these figures, as are the rainfall inadequacies over much of the rest of the country.

Figure 4: Syrian Arab Republic - Estimated precipitation, November 2015-June 2016



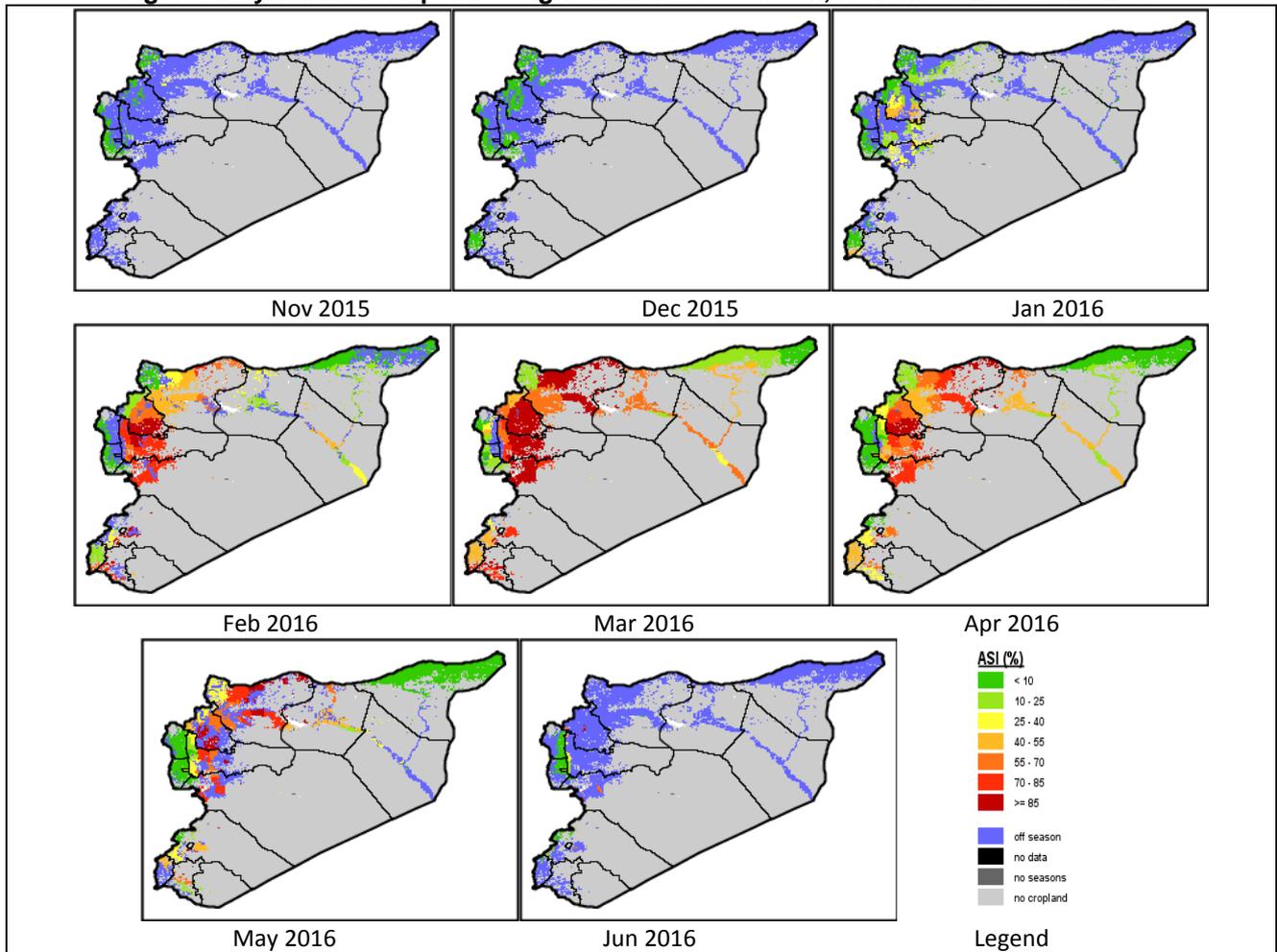
Source: FAO, GIEWS <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=SYR>

Figure 5: Syrian Arab Republic - Precipitation anomaly, November 2015-June 2016



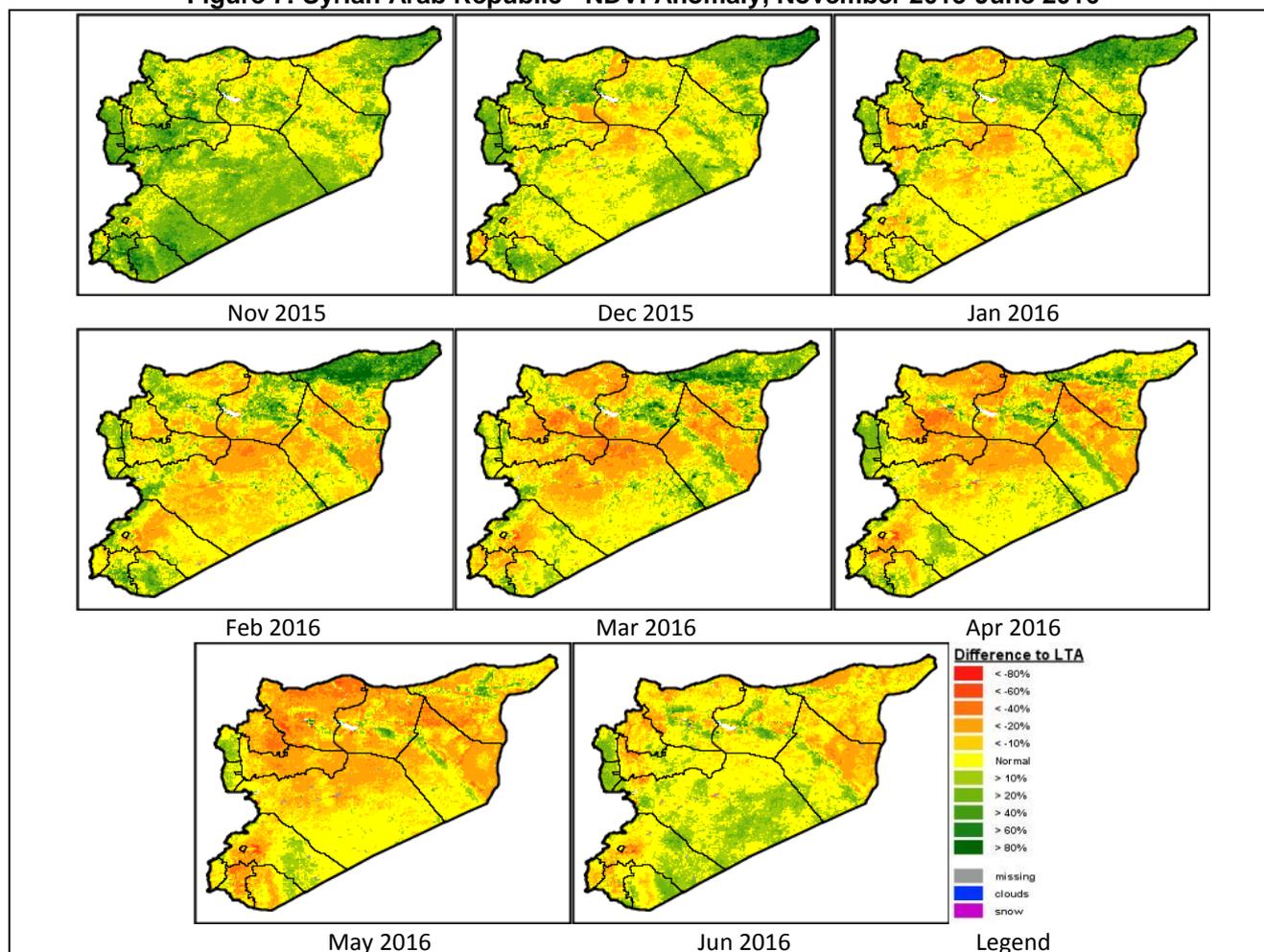
Source: FAO, GIEWS <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=SYR>

Figure 6: Syrian Arab Republic - Agricultural Stress Index, November 2015-June 2016



Source: FAO, GIEWS <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=SYR>

**Figure 7: Syrian Arab Republic - NDVI Anomaly, November 2015-June 2016**



Source: FAO, GIEWS <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=SYR>

All ten governorates covered by NAPC's pre-CFSAM survey (Assessment of the current agricultural season 2015/16) reported frost, mostly during January and February (Table 12).

**Table 12: Syrian Arab Republic - Frost occurrence, 2016**

Governorate	1 <sup>st</sup> frost		2 <sup>nd</sup> frost		3 <sup>rd</sup> frost	
	month	duration (day)	month	duration (day)	month	duration (day)
Al-Hasakeh	Jan	7	Feb	7		
Aleppo	Jan	11	Jan	9	Feb	4
Al-Sweida	Jan	5				
Al-Quneitra	Jan	4	Feb	4		
Dara's	Jan	4	Jan	2	Feb	5
R. Damascus	Jan	7	Feb	4	April	3
Lattakia	Jan	6				
Tartous	Jan	5				
Hama	Jan	6	Jan	5	March	5
Homs	Jan	5				

Source: NAPC 2016. Assessment of the current agricultural season 2015/16.

In Hama, which received an overall total of 16 frosty days between January and March, the most affected area was Al Ghab. Eight days of severe frost in Quneitra Governorate at the end of January and early in February affected the olive crop. In addition to frosty days in January Lattakia and Tartous experienced hail storms. Later in the season several governorates reported unseasonal high temperatures. In addition to receiving below-average rainfall and high temperatures this year, Deir Ezzor also suffered from frequent dust storms.

## Irrigation

The Ministry of Water Resources (MWR) estimates that the Syrian Arab Republic's annual water requirement is 12 894 billion cubic metres, of which 11 108 billion cubic metres (86 percent) are required for agriculture. Prior to the crisis, the main crops grown under irrigation were wheat, cotton, potatoes, sugar beet, vegetables and citrus; barley was, and still is, irrigated, but to a much lesser extent than wheat. Since 2011 however, irrigation canals, pumping stations, small pumps and generators have suffered extensive damage and/or theft, and high fuel prices and electricity outages have affected farmers in all areas where irrigation was normally carried out. Now, with the virtual disappearance of cotton and sugar beet and a significant reduction in potato production, wheat and vegetables have become the two principal consumers of irrigation water.

The Syrian Arab Republic's public irrigation area amounts to 488 000 hectares, with the remainder accounted for by private farmers. In 2014/15, 319 314 hectares were irrigated from the public network, representing 65 percent of the network's capacity. Continuing destruction and economic and security problems have further reduced the coverage of the public network in 2015/16, but the MWR has nevertheless managed to reclaim some irrigation areas that were damaged earlier in the crisis. Examples include 32 000 hectares in Deir Ez-Zor (3 200 hectares of which was actually irrigated in 2015/16) and 18 000 hectares in Al Ghouta in Rural Damascus. None of the latter has been irrigated yet, and it is expected that since irrigation will be with untreated water, the consumption in their raw state of any vegetables grown there will not be safe.

In addition to the destruction of and damage to irrigation structures, the low rainfall received in many areas during 2015/16 has led to lower-than-average water levels in the country's dams, which will inevitably impact on next season's crop production. Other problems include instances of one side in the ongoing conflict depriving an opposing side's access to downstream irrigation water. The country's irrigation situation has been further exacerbated by Turkey's increasing appropriation, for its own irrigation schemes and industrial projects, of upstream flows on the Euphrates River that would normally proceed to the Syrian Arab Republic for its use. Twenty years ago the average flow of the Euphrates as it entered the Syrian Arab Republic was 499 cu m/sec; now it is 393 cu m/sec, but flow is much less regular, dropping on occasion to a mere trickle on the Syrian Arab Republic's side. This has resulted in increased mining of groundwater from unauthorized tube wells and a consequent fall in the water table in some areas including parts of Hama, Hasakeh, Homs and Dara'a governorates. The salinity of irrigation water has also increased in parts of Deir ez-Zor, Raqqa, Aleppo and Rural Damascus. In 2015/16 the area irrigated by groundwater (566 408 hectares) was greater than the area irrigated by surface water from rivers and captured by dams (545 821 hectares).

According to the MWR, the total area irrigated in 2015/16 was 1.112 million hectares, down from 1.625 million hectares in 2014/15. The vast majority of this was from private wells. 1.112 million hectares would still appear to be quite extensive coverage, but it may be assumed that power outages and the increased cost of fuel, and therefore of pumping water from tube wells, led, in many instances, to under-irrigation and consequently low crop yields.

Given the high cost of irrigation, the damage to pumping stations, irrigation structures and irrigation equipment, the unreliability of electricity and the poor availability of fuel, many farmers have abandoned irrigation and turned to predominantly rainfed crops such as barley, coriander and other herbs. Technically, farmers are obliged to pay for their irrigation water at the rate of SYP 3 500/ha, but few do.

## Inputs

The current crisis has resulted in a substantial reduction in the availability as well as the quality of farm inputs both through Government outlets and on the open market. Prior to the crisis the Government used to provide inputs to farmers, horticultural producers and livestock owners either free of charge or at highly subsidized prices. With insecurity, a depleted economy and international import sanctions the extent to which the Government can fulfil this role has been severely restricted. The general scarcity of inputs, combined with the declining value of the Syrian Pound, continues to push up input costs to the farmer, both through Government outlets and, much more acutely, on the open market, to the extent that a large proportion of farmers can no longer afford them. This resulted not only in lower productivity but also in farmers' curtailing, or in some cases abandoning, their enterprises for purely economic reasons.

## Seeds

The General Organization for Seed Multiplication (GOSM) is the Government body responsible for the production and distribution of seed of improved cereal varieties to farmers in the Syrian Arab Republic. Seed of approved crop varieties is produced under contract by selected out-growers. In 2012, GOSM purchased some 280 000 tonnes of wheat seed from out-growers but by 2014 this amount had fallen to 45 000 tonnes.

The seed produced by out-growers is of varieties that have not changed for several years, meaning that there may be a progressive reduction in their genetic resistance to insects, pests and diseases, and GOSM's inability to provide out-growers with herbicide adds hugely to the difficulty of obtaining clean seed. GOSM estimates that it currently needs between 250 000 and 300 000 tonnes of wheat seed and between 60 000 and 70 000 tonnes of barley seed annually in order to satisfy the requirements of farmers whom it can reach<sup>8</sup>. It reports that, prior to the current crisis, it could provide seed to farmers throughout the country at greatly subsidized prices. However, since the beginning of the crisis the amount that GOSM can provide has reduced very significantly, to the extent that in 2014 the organization managed to provide only 17 000 tonnes of wheat seed. However, 2015 saw a slight improvement with the provision of 22 000 tonnes, but this was still less than 10 percent of the country's estimated requirement. On the other hand, barley seed distribution in 2015 amounted to only 11 000 tonnes. The situation may improve this year as by 21 June GOSM had received 27 000 tonnes of wheat seed from contract growers for the 2016/17 crop. Most of this came from Hama Governorate and in particular from Al Ghab. GOSM still has the capacity to screen 100 tonnes of out-grower seed per day, mainly at its centres in Dara'a and Hama.

This year GOSM is paying contract growers SYP 145/kg for wheat seed and SYP 112/kg for barley seed. Although it charges farmers only SYP 61/kg for wheat seed, or just over 40 percent of what it paid for it, this cost represents a 35 percent increase to the farmer compared with last year. Table 13 shows the escalating cost of seed to the farmer since 2010 despite the Government's continuing substantial subsidization.

**Table 13: Syrian Arab Republic - Cost of Government-provided seed to the farmer, 2010-2016 (SYP/kg)**

	2010	2011	2012	2013	2014	2015	2016
Autumn potato seed	20	30	31	75	200	315	375
Wheat seed	19	21	22	26	35	45	61
Barley seed	14	15	20	22	31	33	45
Chickpea seed	50	49	60	100	105	125	125
Lentil seed	68	51	51	51	90	90	90
Maize seed	42	39	41	75	90	90	90
Potato seeds imported for multiplication	66	63	85	110	270	285	375

Source: NAPC-Database (2015), Agricultural Economic Department, 2016.

In the absence of seed provided by the Government, farmers are obliged either to purchase seed from the market or from other farmers, to use their own seed retained from their previous year's harvest, or to borrow seed from relatives or neighbours. Purchased seed is costly (farmers report that wheat seed bought in the market at the end of 2015 was twice as expensive, in terms of Syrian pounds, as it was at the end of 2014) and may not be of good quality. Deir Ezzor, for instance, reports serious shortages of seed, with many farmers resorting to purchasing seed of poor quality smuggled in from Iraq. Retained seed from the previous harvest or seed borrowed from neighbours may be contaminated with weed seed and is likely to be genetically compromised following several generations of re-cycling. Reports indicate that in besieged areas, such as in eastern Ghouta, farmers consume their seed stocks as a coping strategy, and use low quality local seeds due to inaccessibility of seed markets. All this contributes to an overall reduction in the crop's potential productivity.

In 2015 FAO provided 8,835 tonnes of wheat seed benefiting 44 175 households, and 1 868 tonnes of barley seed benefiting 9 340 households. It also provided 3 100 packages of vegetable seed, each package being sufficient for one family.

GOSM's storage capacity has been greatly reduced since the beginning of the crisis. It still has access to storage facilities in Hama and Dara'a with respective capacities of 35 000 and 15 000 tonnes, and to smaller storage facilities in Homs, Hasakeh and Aleppo.

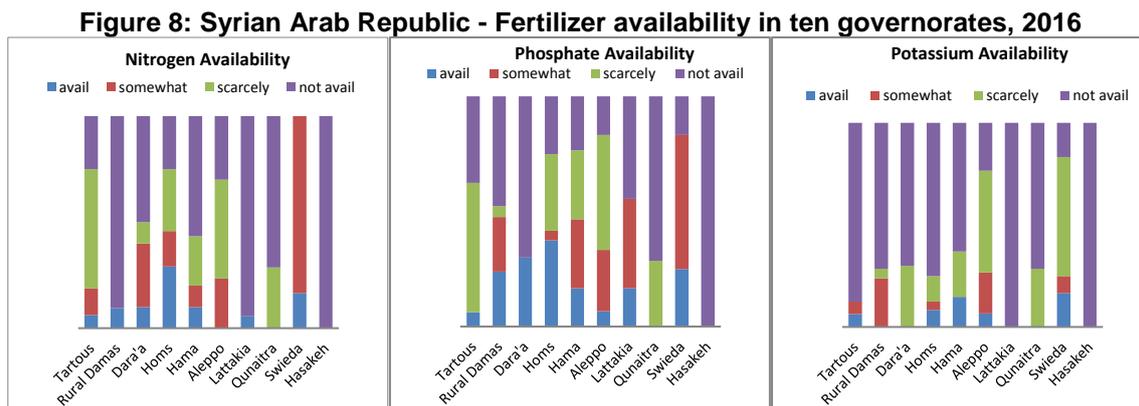
Based on national research findings, MAAR recommends a seed rate for wheat between 200 and 250 kg/hectare depending on variety and local conditions. However, this seed rate is commonly exceeded with many farmers sowing at a rate of 400 kg/ha. While not approved by MAAR, these rates are regarded by farmers as a means of compensating both for poor quality seed purchased on the open market and for sowing by harrowing rather than by drilling.

<sup>8</sup> These figures are substantially lower than GOSM's estimate of national demand prior to the crisis, as quoted in the 2015 CFSAM report. Pre-crisis, the annual national demand for wheat seed was said to be 450 000 tonnes and that for barley seed 415 000 tonnes. Presumably the reduction to 250 000-300 000 tonnes of wheat seed and 60 000-70 000 tonnes of barley seed is a reflection of the reduced number of farmers who can benefit from the subsidized distribution because they are in relatively secure areas.

Depending on available finance (from the Central Bank of the Syrian Arab Republic) GOSM imports between 6 000 and 15 000 tonnes of seed potato from Europe annually, thus contributing to the national demand of approximately 30 000 tonnes.

### Fertilizers

Fertilizer use has declined very significantly since the beginning of the current crisis to the extent that many farmers apply none. There has also been an increase in the use of farmyard manure where this is available. In many governorates fertilizers are available in very limited quantities and those that are available are often prohibitively expensive. Reports from Hasakeh, from both the national CFSAM team and the NAPC pre-CFSAM survey (Figure 8), suggest that no nitrogen fertilizer in granular form is available in that governorate due to its potential use in the manufacture of explosives. This may be an exaggeration, but it does at least indicate a serious scarcity.



Source: NAPC 2016. Assessment of the current agricultural season 2015/16.

The fertilizer factory in Homs still produces urea and superphosphate. According to MAAR, 40 025 tonnes of urea and 47 200 tonnes of superphosphate were produced for the 2015/16 cropping season. However, use in 2015/16 amounted to 50 000 tonnes of urea and 65 000 tonnes of superphosphate, suggesting, since no fertilizer was imported, that some stock remained from 2014/15. Urea, which cost about SYP 63 000/tonne in 2015 now costs SYP 180 000/tonne. Similarly the price of superphosphate has risen from SYP 80 000 to SYP 155 000/tonne, and the price of potash, which is available only on the commercial market and is rarely used, is now SYP 210 000 per tonne.

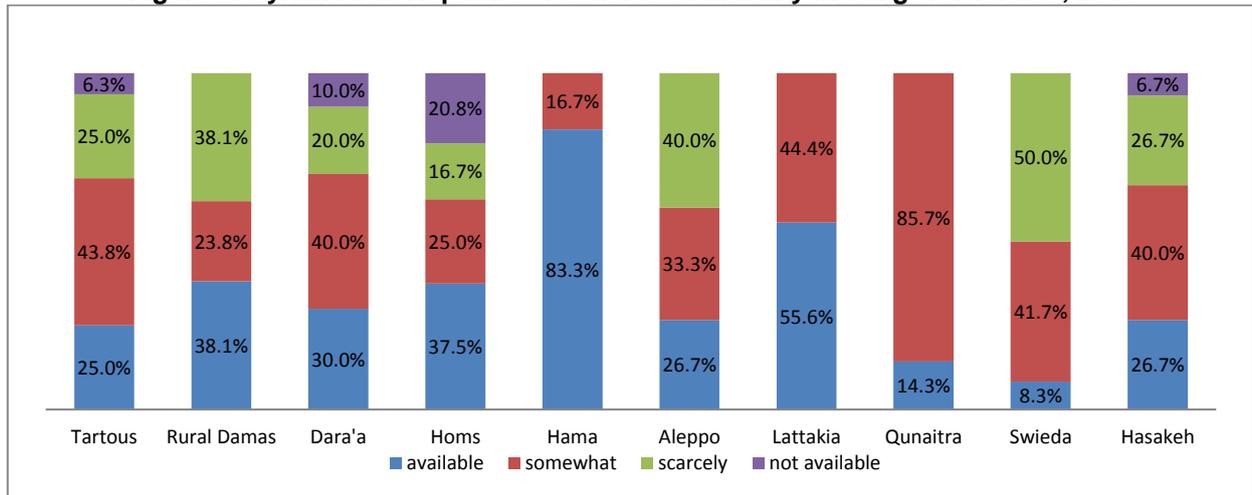
### Crop protection materials

Herbicides and pesticides are available in the market. However, many are not approved, some are ineffectual, and a small minority are claimed to be injurious to crops. Government-selected seed producers used to be provided with herbicide but this is no longer the case, with the result that extra cleaning is required to get rid of contaminating weed seed before the cereal seed can be released. NAPC's pre-CFSAM survey reported on the availability of pesticides in ten governorates (Figure 9); their findings were in broad agreement with those of the CFSAM. Vegetable producers in Tartous and Lattakia rely partly on biological control of pests and diseases in their plastic tunnels/greenhouses but the efficacy of these is often very low.

The cost of crop-protection materials rose significantly from 2014/15 to 2015/16. MAAR estimates that the average price of herbicides and pesticides increased by between 75 and 90 percent over those 12 months.

With greatly reduced cereal storage capacity, HOBOOB now stores grain in stacks of bags under open covers. The stacks are surrounded by trenches to protect them against rodents and are inspected and fumigated with phosphotoxin every fortnight.

**Figure 9: Syrian Arab Republic - Pesticide availability in ten governorates, 2016**



Source: NAPC 2016. Assessment of the current agricultural season 2015/16.

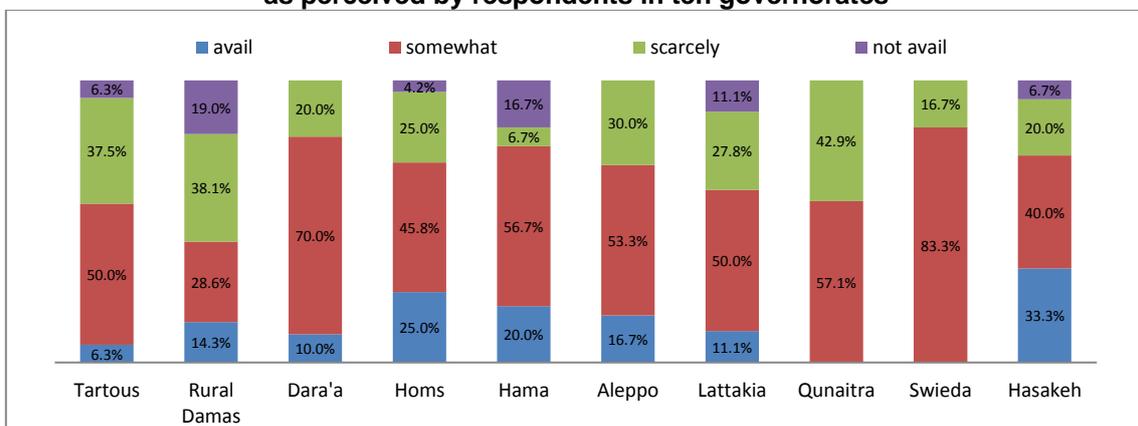
Mechanization

There appears to have been only a very slight reduction in the level of the physical availability of agricultural machinery between 2014/15 and 2015/16. During the first two years of the crisis there was a substantial loss of operational machinery due to wilful damage but the situation seems to have stabilized since then albeit with slight annual attrition resulting largely from the difficulty of obtaining spare parts and from the shortage of qualified maintenance personnel. However, with the rising price of fuel, the cost of accessing tractors and implements has increased significantly from the beginning of the 2014/15 cropping season to that of the 2015/16 season. Towards the end of 2015 fuel prices had already increased considerably compared with the previous year, but the situation for the 2016/17 season is expected to be even more difficult for farmers; in June 2016 the Government announced a 37 percent increase in the official price of fuel from SYP 135/litre to SYP 185/litre. (Prior to the crisis, fuel, which was then highly subsidized by the Government, cost the farmer SYP 15/litre.) Many farmers, even those in safe areas, report that the financial returns on their produce no longer justify their cost of production. MAAR estimates that the average cost of cultivation for one hectare of cereal crop in 2014/15 was SYP 5 750 and that by 2015/16 it had risen to SYP 6 800, an 18 percent increase. The recent rise in fuel prices will undoubtedly increase production costs even further and will probably force more farmers out of production for purely financial reasons.

Fuel shortages and high prices have inevitably encouraged a black market in which the quality of the product is unreliable. Use of poor-quality fuel will shorten the life of tractors that are already compromised by age, low levels of maintenance and a shortage of dependable spare parts.

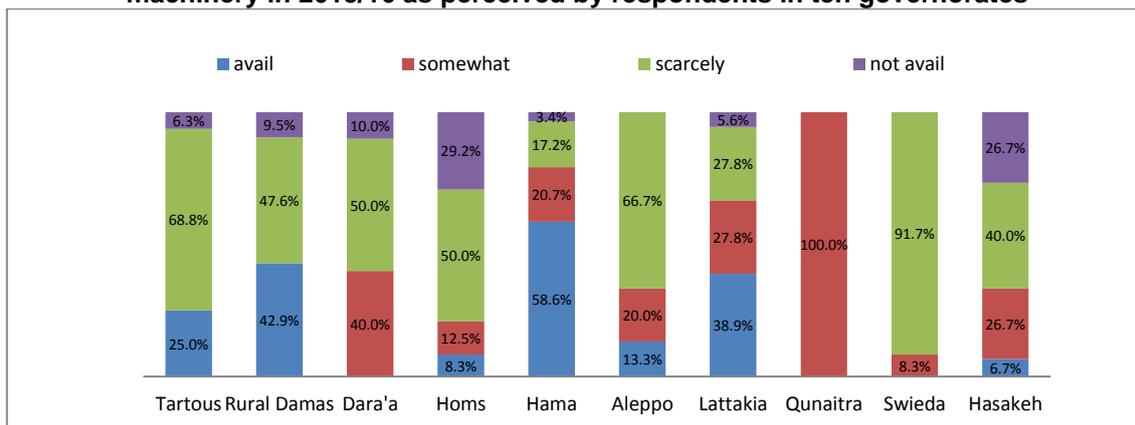
Figures 10 and 11 show the perceived availability of agricultural machinery and machinery spare parts and fuel by governorate as reported in the survey carried out by the NAPC, and Table 15 shows the perceived availability of fuel.

**Figure 10: Syrian Arab Republic - Agricultural machinery availability in 2015/16 as perceived by respondents in ten governorates**



Source: NAPC Assessment of the current agricultural season 2015/16.

**Figure 11: Syrian Arab Republic - Availability of spare parts for agricultural machinery in 2015/16 as perceived by respondents in ten governorates**



Source: NAPC Assessment of the current agricultural season 2015/16.

**Table 15: Syrian Arab Republic - Fuel availability in 2015/16 as perceived by respondents in ten governorates (percent)**

	Available	Somewhat	Scarcely	Not available
Al-Hasakeh	27	27	47	
Al-Sweida		58	42	
Al-Quneitra	14	29		57
Lattakia	17	50	28	6
Aleppo	10	30	60	
Hama	10	17	43	30
Homs	13	21	50	17
Dara'a	40	50	10	
Rural Damascus	29	24	33	14
Tartous			75	25

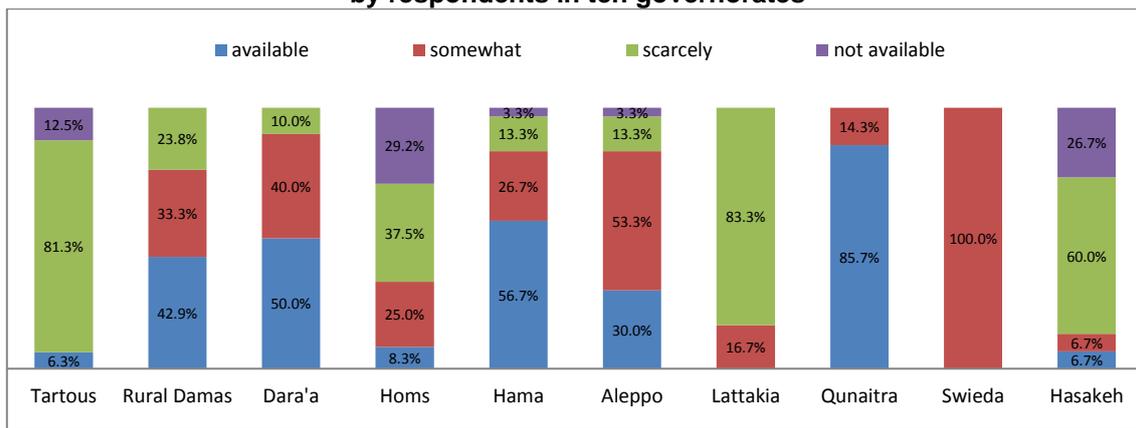
Source: NAPC Assessment of the current agricultural season 2015/16.

### Labour

The availability of farm labour during the 2015/16 season varied greatly from governorate to governorate according to the level of security and to the availability of alternative employment. According to respondents to the NAPC survey, the availability of labour in Tartous and Lattakia is extremely low (Figure 12), presumably because these are relatively secure governorates in which alternative employment is available. In Hasakeh on the other hand, the low availability of farm labour may be attributable both to insecurity and to a general exodus of labour as a result of the collapse of cotton production, now reduced to 4 000 ha, which formerly attracted labour to the governorate. In some governorates with limited alternative employment opportunities, many households depend on agricultural wages as hired labour, even though agricultural production is decreasing and farmers might not be able to pay workers adequately for their services because of increasing production costs.

Farm labour wage rates increased nationally from 2014/15 to 2015/16, but the increases did not generally reflect the rise in the cost of living over the same period. According to the NAPC survey, agricultural labour wages rose over the past 12 months in all governorates except Dara'a where wages are reported to have fallen. Such a fall may possibly be explained by the lack of other employment opportunities in that governorate. The highest reported increase in wages was reported in Lattakia which reflects the reported shortage of available farm labour there.

**Figure 12: Syrian Arab Republic - Farm labour availability in 2015/16 as perceived by respondents in ten governorates**



Source: NAPC Assessment of the current agricultural season 2015/16.

**Table 16: Syrian Arab Republic - Average labour wages (SYP/day) by agricultural operations and Governorate, 2016**

Governorate	Planting		Irrigation	Pest control	Cereal loading SYP/100 kg bag	Average changes 2015/16 (percent)
	Male	Female				
Al-Sweida	1 800	1 500	1 800	2 200	100	22
Dara'a	1 000	700	1 000	1 000	30	-55
Al-Quneitra	1 500	1 000	1 500	1 500	60	31
Rural Damascus	1 800	1 200	2 500	2 500	35	38
Homs	1 200	1 200	1 400	1 350	50	11
Hama	2 000	1 300	2 300	2 200	100	30
Tartous	1 500	1 500	1 500	2 500	100	15
Lattakia	1 500	1 200	1 500	1 500	60	52
Aleppo	1 000	800	1 200	1 200	75	31
Al-Hasakeh	1 000	800	1 500	1 500	100	12

Source: MAAR- Agricultural Economic Department (as cited in NAPC Assessment of the current agricultural season 2015/16).

As might be expected in a situation where the level of security can change rapidly and where there has been a considerable movement of population, the availability and cost of farm labour are volatile. However, the responses gleaned from the CFSAM survey regarding the cost of farm labour broadly (though with some discrepancies) support those of the NAPC survey. In the CFSAM survey, Quneitra Governorate reported a 30 percent increase, while in Hasakeh daily rates were said to have risen from SYP 1 000 to SYP 2 000. Idleb and Lattakia also reported daily rates of SYP 2 000, while in Sweida the daily rates for some farm operations were as high as SYP 3 500. By comparison, farm labour wage rates in 2014/15 were generally reported as having been between SYP 1 000 and 1 500.

In summary, the reduced availability and increased cost of farm labour has had a serious impact on agricultural production. Many insecure areas have been depleted of their potential labour force and those labourers who remain may be unwilling to work in a hazardous situation or may demand a price that the farmer is unwilling or unable to pay. Either way, this may contribute to reduced productivity or abandonment of a farm.

#### Pests and diseases

Cereal pest and disease incidence was generally low this year. Rodents and Sunn Pest (*Eurygaster integriceps*) were controlled by the plant protection unit of MAAR in secure areas but in some insecure areas, such as parts of Aleppo and Hama governorates, control was not possible. The pest and disease situation in Raqqa Governorate, which is currently under IS control, is unknown.

Chickpeas were reportedly attacked by cotton bollworm (*Helicoverpa armigera*) in Sweida. With the high cost of pesticides and fungicides, vegetable crops in plastic tunnels / greenhouses in the coastal governorates of Lattakia and Tartous are especially vulnerable to nematodes and various moulds. Although a few vegetable

producers use approved soil-sterilization chemicals, most rely on solar sterilization which involves laying plastic sheeting over the soil of a greenhouse which has been opened to the elements. This treatment, however, is considered to be only about 50 percent effective.

#### Farm access and movement of farmers

Farm access remains difficult, and often dangerous for farmers in many parts of the country. This can result in the inability to plant a crop because of security concerns, difficulty in carrying out the required activities to maintain a planted crop such as applying fertilizer or pesticide, and sometimes the impossibility of harvesting the crop. The burning of standing crops by militia, either maliciously or to remove potential cover for snipers continues in some areas. In some areas plots were inaccessible to farmers due to land mines. In others, such as besieged eastern Ghouta, bombarding severely restricted quality of soil. The overall result is the abandonment of large tracts of agricultural land across the country.

### **OTHER CROPS**

#### **Legumes**

The total area of the principal food legumes harvested in the Syrian Arab Republic in 2016 decreased by 29 percent as compared to the area harvested in 2010 (Table 17). Due to the substantial decrease in the planted area, there has been a reduction in production.

**Table 17: Syrian Arab Republic - Legume area (000 ha), 2010, 2013, 2015 and 2016**

<b>Crops</b>	<b>2010</b>	<b>2013</b>	<b>2015</b>	<b>2016</b>
Lentils	131	114	98	91
Chickpeas	68	76	72	51
Fava beans	17	15	18	12
Peas	4	3	3	3
<b>Total</b>	<b>220</b>	<b>208</b>	<b>191</b>	<b>157</b>

Sources: FAOSTAT for 2010 and 2013; MAAR for 2015 and 2016.

#### **Potatoes**

The majority of potatoes in the Syrian Arab Republic are planted in February and harvested in June. This year 13 555 hectares were planted, representing almost 66 percent of the planned area with total production of only 338 875 tonnes. The biggest producers were Aleppo and Hama governorates where more than 4 250 and 3 795 hectares were planted respectively. Only a small area of summer crop (sown in August and harvested in December) was planted this year, and nearly all of it was in Dara'a Governorate and Rural Damascus (965 and 925 hectares, respectively). The yield of the spring-planted crop is usually higher than that of the summer crop. Potato production in the country is now down to about two-thirds of its pre-crisis levels, largely because of reduced availability and supply and high costs of seed potatoes as well as all the required inputs and consequently reduced area planted. Due to the high cost of inputs this year, the cost of production of 1 kg of potatoes (SYP 150) exceeded the market price of 1 kg of table potatoes (SYP 50) with a total loss of SYP 100/kg to the producers.

Depending on the availability of funds GOSM imports between 6 000 and 15 000 tonnes of certified seed potato each year from Europe.

#### **Vegetables**

Commercial vegetable production is especially important in the coastal governorates of Tartous and Latakia where it is mostly conducted in plastic tunnels/green houses. Tartous alone is estimated to have 128 000 plastic tunnels, each of 40 m<sup>2</sup> (5 x 8 m); 124 000 of these are in working condition but currently 120 000 are in active production, although 4 000 of these are thought to have been abandoned as a result of the rising cost of inputs and hence, minimum economic returns/profit margins to the producers.

Although tomatoes, cucumber, eggplants, and capsicum are the common crops cultivated in these plastic tunnels, tomatoes are the major economic crop. Vegetable production was adversely affected this year by the extremely high production costs as well as by shortages and frequently poor quality of inputs (fertilizers, pesticides, seed, and fuel for transportation). Currently none of the cold storages are functional for storing perishable fruits and vegetables, and the pumping of ground water is often prohibitively expensive. Consequently, production, especially of tomatoes, is expected to be lower than last year. The majority of the

commonly occurring diseases in greenhouses are under control except soil borne-ones. Solar radiation is the major source to sterilize the soil, with only 50 percent success rate.

The current conflict has not only negatively affected the trade, but it has also severely compromised production and domestic sales due to shortages of all the agricultural inputs, especially fuel for transportation of produce from farm to potential markets, and chemical fertilizers and pesticides which are proscribed under international trade sanctions. Shortages of plastic sheets were also reported.

The strict restrictions by Lebanon's Ministry of Agriculture on the importation of the Syrian Arab Republic fruits and vegetables has also negatively affected the profit margins of Syrian producers during 2016.

### **Fruit trees**

Fruit production, like other crops, has also negatively suffered from shortages and extremely high production costs and poor quality of inputs (fertilizers, pesticides, seeds, fuel for land preparation, transportation, as well as pumping of ground water). As a result the profit margins for the producers are expected to be much lower than last year.

Prior to the crisis, olive production used to employ an estimated 100 000 Syrian families. The Syrian Arab Republic produced close to 1 million tonnes per year, making it the world's fourth largest producer. MAAR now estimates that olive production has fallen to only 850 000 tonnes in 2015/16. During 2010, 200 000 tonnes of olive oil were produced in the country. Olive collection is particularly labour intensive: reports indicate that some households in Aleppo were unable to harvest their crop due to high cost of hired labour during the harvest season.

Citrus production, on the other hand, appears not to have been significantly affected by the crisis, possibly because most citrus has been produced in secure Government-held areas. Prior to the crisis, the Syrian Arab Republic produced about 1 million tonnes of citrus per year and this level has been maintained within the normally expected range until now. Nevertheless, because of the shortages and high costs of fertilizers and pesticides, escalating costs of fuel and hence, difficulties in irrigation, mechanization process, transportation of produce and shortage of proper storage facilities, most farmers face difficulties due to soaring costs of production and minimum economic returns/profit margins for the growers.

### **Industrial crops**

#### Sugar beet

In 2011 the Syrian Arab Republic produced 1.8 million tonnes of sugar beet from 26 000 hectares (FAOSTAT). By 2015 the country's production had fallen to 29 000 tonnes from 860 hectares (MAAR), all in Al Ghab, Hama Governorate, which represented a mere eight days of work for the only remaining functional sugar beet factory, which has a capacity of 3 600 t/d. 2016 saw a further reduction in area down to 252 hectares on land where contracts had already been drawn up between MAAR and producers. Since the harvest from such a small area would not justify operating the factory, the produce, which is expected to be about 8 000 tonnes, will be used as fodder.

Up to the 1980s farmers used to grow sugar beet under a simple contract with the Government. Subsequently production was allocated to MAAR and processing to the Ministry of Industry, and farmers were obliged to obtain credit from the Agricultural Cooperative Bank. In addition to the other consequences of the ongoing crisis, such as shortages of fuels and farm machinery, the Agricultural Cooperative Bank is now no longer able to provide credit, thus reducing even further the attractiveness of growing the crop.

#### Cotton

The Syrian Arab Republic's traditional cotton-producing governorates are Raqqa, Hasakeh, Deir Ezzor and Aleppo, with small amounts also coming from Hama and Homs. At its height in the early 1960s, the area under cotton covered more than 250 000 hectares, but largely due to water shortages and increasing labour costs the area had fallen to 125 000 hectares by 2011. Now with the present crisis and the resulting shortages of seed, crop-protection materials and credit, and damage to irrigation systems and ginneries, the area under cotton has experienced a further dramatic reduction. This year only 16 000 hectares will be harvested in the Syrian Arab Republic, and the bulk of this (12 000 hectares) is in IS-controlled Raqqa Governorate. Hasakeh has 4 000 hectares under cotton this year and Hama and Aleppo governorates have very small areas amounting to just 235 hectares and 138 hectares respectively. Two ginneries remain operational, one in Homs Governorate and the other in Hama Governorate.

## Tobacco

Until 2013 the Syrian Arab Republic grew about 11 000 hectares of tobacco each year (FAOSTAT). This figure dropped to just over 2 750 hectares in 2015 (MAAR), all of which was in Lattakia Governorate. According to MAAR the area has increased this year to more than 6 400 hectares, with 5 100 hectares and 1 100 hectares in Tartous and Lattakia governorates, respectively. There are also some small areas in Homs and Hama governorates.

## **POST-HARVEST AND OTHER PROBLEMS**

Transport of farm produce remains very problematic, often leading to bottlenecks and consequent wastage of produce because it cannot be brought to its intended market, leading to oversupply on some markets and undersupply on others. In Tartous wholesale market, traders of highly perishable vegetable and fruit products estimate that wastage has doubled because of the expense and difficulty (due to insecurity and several checkpoints along the route which may demand that a truck be un-loaded before proceeding) of getting produce to large markets such as Damascus on time. It is reported that refrigerated trucks (where still available) are asked to pay higher amounts at checkpoints than other vehicles. Estimates of transport costs in 2015 to and within Dara'a suggest an increase from SYP 25 per tonne per km to SYP 62 per tonne per km. Transport is also physically restricted by damage to road infrastructure.<sup>9</sup>

Before the crisis, the Syrian Arab Republic was exporting agricultural products. Those have been brought to a halt. In addition to internal transportation bottlenecks, potential exporters might not be able to secure vessels in time to export perishables. The Government of the Syrian Arab Republic estimates that the amount of container traffic dropped from 8 million tonnes in 2006 to 3 million tonnes in 2015 at Lattakia port, and from 13 million tonnes to 4 million tonnes at Tartous port.<sup>10</sup>

Prior to the crisis, the Syrian Arab Republic had more than 140 grain-collection centres that would purchase grain from farmers. By the end of 2014 only 31 of these remained under Government control, the others having been either destroyed, damaged or appropriated by opposition forces. In some cases, warehouses become targets for attacks. According to HOBBOB, the Government had a grain-storage capacity of 7 million tonnes in 2010, but this has now been reduced to between 3 and 3.5 million tonnes. The number of operational cold stores for the collection of perishable fruits and vegetables available to the Government has been reduced to only 10 percent of its pre-crisis level. Rent of private cold storage facilities reportedly increased multiple times compared to the pre-crisis levels, reflecting lack of cold storage facilities as well as difficulties in ensuring they run properly given frequent electricity shortages and high fuel prices.

Although MAAR remains operational, anecdotal evidence suggests that out of 1 516 extension services units previously active across the country, only some 30 percent remain operational. Farmers continue to struggle with lower – or in many case no – subsidies which increases their perceived cost of production. Pre-crisis there were three types of funds available: the agricultural production subsidies fund, export subsidies fund, and the climate change effect compensation fund. The agricultural production subsidies fund before the war amounted to SYP 10 million but was valued at SYP 300 million in 2015. The export subsidies fund has stopped but tax and customs exemptions for [official] exporters are still in place. Before the crisis, the Government of the Syrian Arab Republic extended credit to farmers at favourable rates with generous repayment periods. This credit system is no longer available, further stunting agricultural investment.<sup>11</sup>

Although it is still heavily subsidized, at an estimated annual cost to the Government of USD 900 million (mail online, 2 February 2015), the price of bread rose by 40 percent in January 2015. In addition, the Government increased the flour extraction rate from wheat, thereby increasing the bran content of bread but gaining an extra 10 percent or so in saleable product. Rumours of raising the price of the standard bundle of bread or reducing its weight circulate regularly. The Government maintains that there is no shortage of bread as it is available in all provinces.<sup>12</sup> Subsidised bread is available only in Government-controlled areas.

In May 2016 the Government set the wheat purchase price from farmers at SYP 100 000 per tonne and the purchase price of barley at SYP 75 000 per tonne. The Central Committee for Cereals Marketing announced that a sum of SYP 100 billion would be allocated for marketing this season's cereal production.

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<sup>9</sup> RFSAN (2016): The Syrian Arab Republic Agricultural Production and Cross Border Trade Study.

<sup>10</sup> Idem.

<sup>11</sup> RFSAN (2016): The Syrian Arab Republic Agricultural Production and Cross Border Trade Study.

<sup>12</sup> <http://sana.sy/en/?p=77513>

## LIVESTOCK

Livestock production in the Syrian Arab Republic, like elsewhere in the region, plays an important part in the agricultural production system, both as a source of income and providing employment opportunities. Before the crisis, livestock production accounted for between 35 and 40 percent of the country's total agricultural production, and employed about 20 percent of the labour force in rural areas. Mutton exports alone generated approximately USD 450 million as foreign currency per year. The poultry sector, which employed, directly and indirectly, more than 1 million workers, was also an important foreign-income earner with significant exports of meat, eggs and day-old chicks. Poultry production was mainly a private-sector activity, with a public-sector share of less than 10 percent. Private cattle ownership was typically less than ten per household in a mixed-farming context, in addition to which there were eleven state dairy farms.

Following the onset of the crisis, livestock farmers adjusted to volatile security and economic conditions by either moving away to more secure areas with their animals, selling them below market prices, or even abandoning them. Consequently, livestock stocking patterns across the country have been altered. Higher concentrations of livestock in the more secure areas of the country led to increased pressure on the pastures as well as upward pressure on animal feed and increased demand for veterinary services in some areas.

Based on discussions with Government representatives, focus groups and questionnaires, the Mission concluded that the livestock situation, although not deteriorating at the pace observed in the previous years, has not improved and greatly varies among various governorates, partly mirroring the security situation across the Syrian Arab Republic. While a large share of respondents reported keeping livestock to earn or supplement their income, the majority of respondents kept livestock for home consumption, leading to extensive backyard small-scale farming.

The main issues facing the livestock sector identified by the Mission include but are not limited to:

- Feed: high cost of compound feed and poor access to pastures.
- High cost or shortages of labour for larger production units.
- High cost and inconsistent availability of other inputs, such as energy, fuel, veterinary drugs, vaccines, etc.
- Limited supply of veterinary services.
- Limited access to and inconsistent quality of breeding materials.
- Supply chains and cold chain disruptions due to power shortages and insecurity affecting both inputs and outputs, including transportation bottlenecks.
- Changes in the business environment resulting from the conflict such as a lack of providers of accessible credit, requirement to pay cash at delivery, etc.
- Decrease of purchasing power of the population: with increasing prices of animal products, many are unable to purchase sources of animal protein.

### Livestock numbers

Livestock numbers are challenging to monitor under normal circumstances, but under the continuing conflict conditions such as that affecting the Syrian Arab Republic, the task becomes even more difficult. The last comprehensive agricultural census was conducted before the start of the crisis in 2010. In the absence of a census, approximate estimates of animal numbers can be obtained by extrapolation from the number of vaccines administered and routine drugs provided, the volume of trade at livestock markets, abattoir records and anecdotal evidence. However, as discussed later, with deteriorating veterinary services and damages to the supply chains, any extrapolations are likely to be inaccurate.

Given the minimal decrease in the figures provided by the MAAR to the Mission as well as to the FAOSTAT since the beginning of the crisis, it appears that MAAR might be underestimating the impact of the conflict on the livestock production. In the focus group discussions, a large share of respondents reported decreasing or stable livestock numbers. As such, the Mission chose to take the MAAR figures for guidance only and based the livestock figures in this report on the percentage decreases from the last pre-conflict census.

Livestock numbers within the Syrian Arab Republic continued to decrease albeit not as fast as in the earlier years of the conflict. The rate of decline is not uniform across the country, with some more secure governorates reporting increases in animal numbers mostly due to internal displacement of farmers who brought animals with them. In Tartous, for instance, the livestock population is reported to have doubled in the last four years as a result of livestock owners moving there from insecure areas. Across the country, slaughtering of animals due to the high cost of feed, transport and veterinary inputs has not slowed down. Besieged areas report that many animals were killed by shelling. Livestock figures are summarised in Table 18.

**Table 18: Syrian Arab Republic - Livestock numbers (millions), 2011 and 2016**

	2011	2016 estimates
<b>Cattle</b>	1.1	0.75
<b>Sheep</b>	18	10.5
<b>Goats</b>	2.3	1.4
<b>Poultry (chicken)</b>	26.2	10.5

Source: 2011 figures: FAOSTAT, 2016: Mission estimates.

#### Sheep, goats and cattle

The Syrian Arab Republic used to be a very significant exporter of sheep (especially of the Awassi breed) to Saudi Arabia and the Gulf countries. Sheep numbers peaked in 2007 at 22.9 million but had dropped back to levels of around 18 million by 2011, the year when the last livestock census was released. Since then, numbers are thought to have declined by over 40 percent to 10.5 million. The country's goat population is much smaller than that of sheep. From about 2.3 million in 2011, with a reduction of about 40 percent, the number of goats is reckoned to have fallen to less than 1.4 million. Particularly affected by decline are local breeds, such as the Shami goat known for its robustness and dairy productivity.

The country's cattle population has always been relatively small at around one million under normal circumstance. Since 2011, when cattle numbers were estimated at some 1.1 million, the country has seen a decline of over 30 percent to about 750 000. The decline of cattle might have stabilised but given the shortage of feed, veterinary care, etc., the overall output decreased and remains below potential.

#### Poultry

Within the livestock sector, the poultry sub-sector declined the most since the beginning of the crisis, resulting in a decrease in the supply of poultry products (meat and eggs) and consequently high prices for what used to be the most widely available protein. At an estimated 10.5 million, the Syrian Arab Republic's poultry numbers are now at 60 percent of their 2011 level of 26.2 million, although the rate of decline varied across the governorates.

While a larger share of respondents in the focus groups reported increases in poultry numbers than for cattle, sheep and goats, most of the poultry production appears to be for own consumption as backyard farming to improve the food and nutrition situation of individuals. Owing to conflict related constrains, there has not been a recovery in the industrial type of production, as was customary before the conflict. The General Poultry Association (GPA) estimates that 80 to 90 percent of poultry farmers have left production operations due to reduction in aid and state subsidies and lack of operator confidence in the recovery of the sector. Many poultry farms and hatcheries were damaged. The high cost of feed and other inputs resulted in increased slaughter of laying hens to benefit from high price of chicken meat. Disruptions in energy supply further threaten production of small chicks.

#### Other livestock species

It is assumed that the numbers of other, economically less represented livestock species, such as buffaloes and camels, have suffered similar reductions during the present crisis.

#### **Animal nutrition**

Under non-conflict conditions in the past, most livestock feed in the Syrian Arab Republic originated from natural pastures and rangelands, cultivated green and conserved fodder, crop residues and by-products of the agro-processing industry. Barley is the main feed grown for livestock, but in years of poor rainfall, other crops, which are not economical to harvest for grain, contribute significantly as a source of fodder for ruminants. The principal agricultural stubbles are those of wheat, barley and cotton. In the past with more widespread production of cotton, cotton seed-cake used to provide the main source of supplementary protein to grazing animals. Wheat bran and straw are the most important crop by-products for feed production.

Poor nutrition limits the production potential of the livestock. The Mission noted that nutrition intake of improved cattle breeds (such as cross-breed between Holstein and local Shami) as well as sheep and goats are well below the requirements necessary for normal milk production.

## Pasture

Pasture availability and quality depends largely on the rainfall. As described earlier, rainfall across the country in 2015/16 agricultural season were inconsistent, leading to drought-like conditions in many areas. In addition, insecurity made many pastures inaccessible, leading to overgrazing on available pasture in secure areas which can, in turn, lead to pasture deterioration. Thus, rangelands were degraded either by drought or, in areas where rainfall was normal, overgrazing due to the influx of herds from insecure or drought-affected regions. Insecurity and high transportation costs are also hampering the movement of livestock between different grazing areas.

The plots where the crops were harvested were reported to be consequently rented to farmers and constitute a significant alternative to feed the sheep and goat herds for a period of one to two months during the summer.

## Feed

Reports indicate that in the areas under its control, the Government continues to provide subsidized feed, albeit in limited quantities. Feed ingredients (barley, maize, soya, wheat, etc.) are expensive and often scarce, particularly in the years with limited harvest. Where possible, given the security and natural constraints, fodder crops were reportedly replaced by more lucrative crops, including wheat. Feed availability differs across governorates. While hay, concentrated feed and crop residues are available or somewhat available across most governorates, feed costs almost universally increased across the country compared to the previous year.

Farmers report that the cost of feed represents the most limiting constraint to livestock production. For instance, the average prices of barley, the principal livestock concentrate, rose from SYP 52/kg in 2014 to SYP 70/kg in 2015 and SYP 120/kg in 2016. Compound poultry feed increased from SYP 128/kg in 2015 to SYP 175/kg in 2016. Some compound feed factories are still operating, albeit below capacity, but just like other economic activities, suffer from high costs of inputs and labour as well as unreliable energy supplies and disrupted supply chains hampering distribution and adding additional costs. In addition, compound feeds were reported to be of insufficient quality and without necessary guarantees.

## Water

In some areas, livestock watering is insufficient or comes at a high cost. It is often supplied by water tankers, thus passing on the cost of transport compounded by insecurity or road transportation to the farmers.

## **Animal health**

Livestock health is threatened by a greatly weakened veterinary service, shortages of vaccines and reliable drugs, and questionable refrigeration to maintain cold chains for the safe transport of veterinary vaccines. Access to veterinary services and availability of veterinary medicines varies across governorates, although respondents report deterioration compared to last year.

The international trade sanctions limit imports of vaccines and veterinary drugs to the country. Smuggled veterinary medicines and vaccines have been detected in the country, raising concerns about quality control, expiration dates, etc. Vaccines for FMD, brucellosis and pasteurellosis must all be imported. The Government's Shabaa veterinary laboratory near Damascus, which used to produce veterinary vaccines, was damaged and occupied by opposition groups shortly after the start of the crisis. Reports indicate that some veterinary drugs factories are still functioning in the government controlled areas.

Last year's CFSAM cited a reduction of about 50 percent in the coverage of vaccination campaigns and disease prevention programmes compared to the pre-conflict coverage, mostly using stocks of existing vaccines now exhausted. Although some vaccinations continue, there is no reason to believe the situation eased in the meantime. Since veterinary vaccines do not provide life-long immunity to animals, re-vaccination is required.

Mastitis and brucellosis in cattle as well as internal and external parasites have been reported in several governorates. While no significant animal disease outbreak has occurred so far since the onset of the conflict, the country's dysfunctional veterinary system and the continuing movement of animals (including transboundary) do not provide sufficient guarantees that such an outbreak will not occur. Some animal diseases and zoonosis might not have been reported due to lack of diagnostic kits, leading to an uncertain epidemiology status in the region. A suspected FMD outbreak was reported in Hasakeh this year, while lumpy skin disease is frequently reported. Diagnostic laboratories have been using decrepit equipment and technicians lack access to training.

As in the earlier years, the high impact animal diseases of concern to animal health/production and public health are: brucellosis, sheep and goat pox, rabies, lumpy skin disease (LSD), FMD, peste des petits ruminants (PPR), Newcastle disease, tuberculosis...). Relatively weak veterinary systems in the other countries in the region might require strengthening in order to cope with the potential threat of emerging transboundary animal diseases at their borders. In any case, it should be noted that, being in the same epidemiological unit and considering the frequent movements of animals between countries (due to cross-border family links), even under normal circumstances, the risk of diseases spreading across the region is high. This risk is, of course, heightened when a country's vaccination capability has been seriously eroded, as is the case in the Syrian Arab Republic.

Across the country lack of food safety and veterinary public health activities can have significant sanitary consequences on the health of consumers and the spread of zoonotic diseases.

### **Breeding and livestock research**

Livestock research centres are no longer operational, leaving a gap in breeding programmes and improvements particularly of local breeds (Shami cattle and goats, Awassi sheep). Despite some government support to livestock breeding, artificial insemination – where still available – suffers, among others, from power shortages, limited availability of liquid nitrogen, and limited semen diversity leading to an increasing possibility of inbreeding. Absence of research and preservation centres of national Syrian local, bovine, sheep and goat breeds known for their productivity, hardiness and environmental adaptation threatened sector recovery in the future.

## **LOCAL FOOD MARKET CONDITIONS**

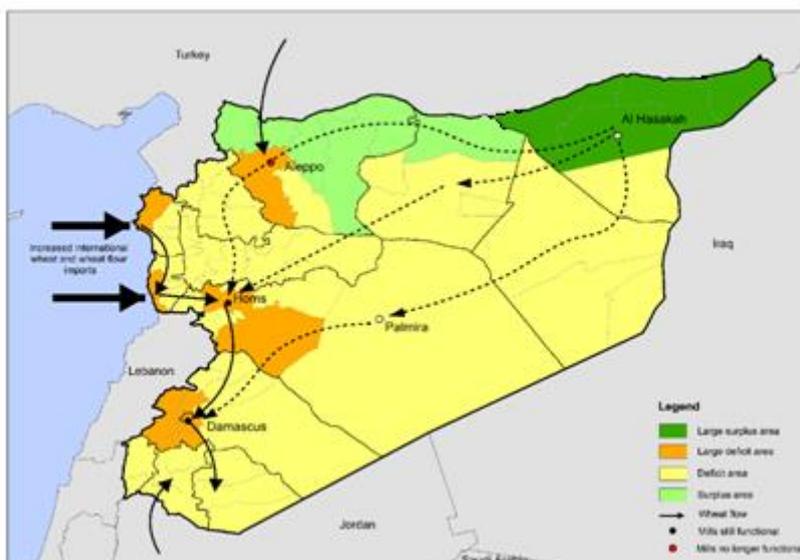
### **Wheat market**

The conflict has led to the destruction of vital storage and milling infrastructure. There are considerable security risks and elevated transaction costs for traders and transporters. Consequently, the wheat market has become highly fragmented: the transfer of wheat between surplus-producing areas to wheat-deficit zones has slowed, causing critical trade distortions.

The breadbasket of the Syrian Arab Republic extends along the north and northeast, with Hasakeh Governorate alone accounting for one-third of aggregate wheat production (cereal production is discussed in Chapter 4 of this report). This breadbasket is distant from the western governorates of the country, where final demand for wheat is concentrated. Milling capacity, which was about 2.8 million tonnes per year in 2015, slightly increased in 2016, but it's still well below the pre-crisis level of 3.8 million tonnes per year. The mills currently working are mostly located in the large cities of Damascus and Homs after the damage to mills in Aleppo.

As shown on the map below (Figure 13), the domestic wheat trade flows remain disrupted by insecurity and the increased cost of road transportation, leading to reduced internal wheat flows. In 2015, due to this reduction in trade, about 200 000 tonnes of wheat had accumulated in government silos in Hasakeh Governorate. The fall of Palmyra in May 2015, has further disrupted the internal routes used to transfer wheat from the east to Damascus. Although the city was brought again under Government control in March 2016, the security situation at the time of the Mission remained volatile.

**Figure 13: Syrian Arab Republic - Domestic wheat flows, 2015**



Source: WFP.

Due to exorbitant internal transactions costs, millers in Damascus presently have no economic incentive to source wheat from Hasakeh Governorate. Indeed, a private trader would pay some USD 300 to bring a tonne of soft Black Sea wheat to Damascus, slightly less than the USD 310 needed to transfer a tonne of wheat from Hasakeh to Damascus. As the Table 19 shows, the very high internal transactions costs, which currently amount to some USD 100 per tonne, including high transportation costs, and a 25 percent “tax” levied by armed groups controlling the road, are similar to the transport costs of imported wheat (sea freight + import charges + land transport from entry ports to Damascus). Compared to 2015, the cost differential between imports from the Black Sea region and internal transfer from Hasakeh narrowed due to the partial resumption of the Hasakeh-Palmyra-Damascus corridor; however, under present conditions, importing wheat from overseas is still the most competitive option for Syrian traders, as the internal routes could suffer from disruptions. As a result, imports will likely continue to cover needs in the urban areas of the west of the country. In the past the Government used to cover the high transfer cost for some quantities of wheat.

**Table 19: Syrian Arab Republic - Cost of transporting a tonne of wheat to Damascus from the Black Sea or Hasakeh Governorate (June 2016)**

Item (USD/t)	Black Sea-Beirut-Damascus	Hasakeh-Damascus
Commodity	190	210
Quality control	2	2
Sea freight	58	n/a
Port charges	17.66	n/a
Import duty	n/a	n/a
Armed group 'tax'	n/a	52
Land transport	29.75	44.9
<b>Total</b>	<b>~300</b>	<b>~310</b>

Source: WFP.

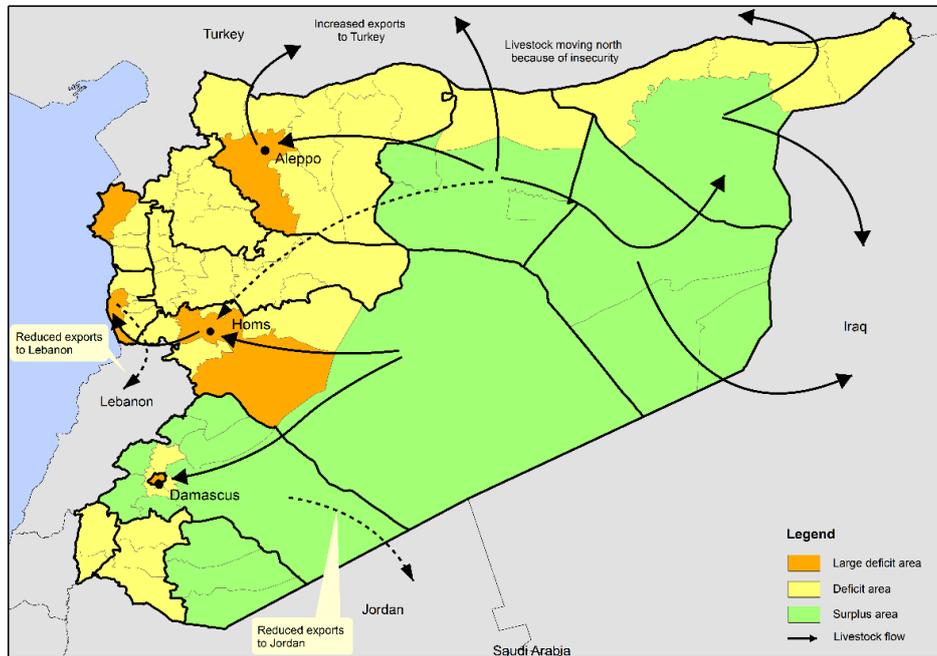
Although the Syrian Arab Republic has not exported wheat following the drought of the 2007/08 season, since the start of the crisis, the Syrian Arab Republic has increasingly relied on international imports to cover domestic needs which decreased from about 4.5 million tonnes at the onset of the crisis to about 3.9 million tonnes now (discussed in detail in the following chapter).

### Livestock market

As shown in Figure 14, in 2015, livestock are found further north than usual, because of insecurity in the “badia”, the rangelands that cover most of Deir ez-Zor, Raqqqa, southern Hasakeh, eastern Homs and Rural Damascus governorates. The livestock market has shifted in response to insecurity and risk and changing access to export markets. Since the closure of the border point between Jordan and the Syrian Arab Republic, exports have slowed on that corridor. Exports to Lebanon are below those of last year, owing to insecurity.

Meanwhile, an increase in unregulated livestock exports to Turkey and to northern Iraq to take advantage of higher prices abroad in areas where local prices are depressed by oversupply is noted. The very high cost of transportation continues to limit east-to-west livestock transportation; as a result, a glut of livestock is reported in rural areas of Deir ez-Zor Governorate.

**Figure 14: Syrian Arab Republic - Domestic livestock flows, 2015**



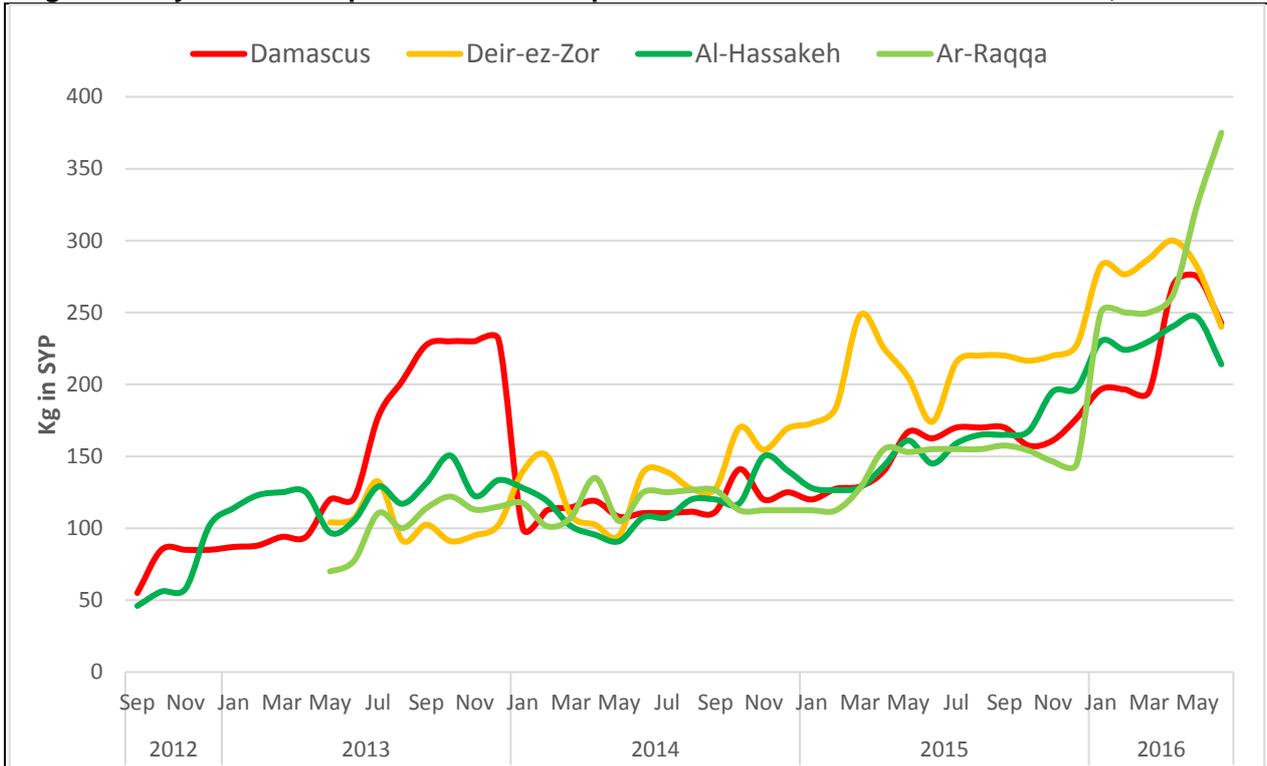
Source: WFP.

## Food prices

### Prices of cereals and agricultural commodities

Prices of wheat flour, the main staple, have increased substantially since the start of the conflict in 2011. As Figure 15 shows, wheat flour prices have surged, albeit irregularly, both in markets located in surplus producing areas (Hasakeh, Raqqa) and in markets located in deficit areas (Deir ez-Zor, Damascus). For instance, in Hasakeh, located in the main producing area, and in the capital Damascus, the main consumption area, prices spiked from about SYP 50/kg in September 2012 to over SYP 200/kg in June 2016. After a relative period of stability in 2014, price increases resumed in 2015 and in the first semester of 2016, after food subsidies were curtailed and the depreciation of the local currency exerted additional upward pressure. In June 2016, prices of wheat flour declined in several key markets by 12-15 percent: in Hasakeh, and Damascus the price declines were driven by newly harvested crops increasing supplies and a temporary stabilization of the exchange rate and of general inflation, while in Deir Ez-Zor, a besieged area prices were at very high levels both compared to the pre-crisis levels and to other markets, prices declined for the second consecutive month due to food assistance airdrop operations. By contrast, in Raqqa, prices surged by 43 percent between April and June 2016, reaching all-time records, due to heavy fighting disrupting markets. However, despite the recent declines, wheat flour prices in Al-Hasakeh, in Damascus and in Deir Ez-Zor in June were still between 40 and 50 percent higher than 12 months earlier.

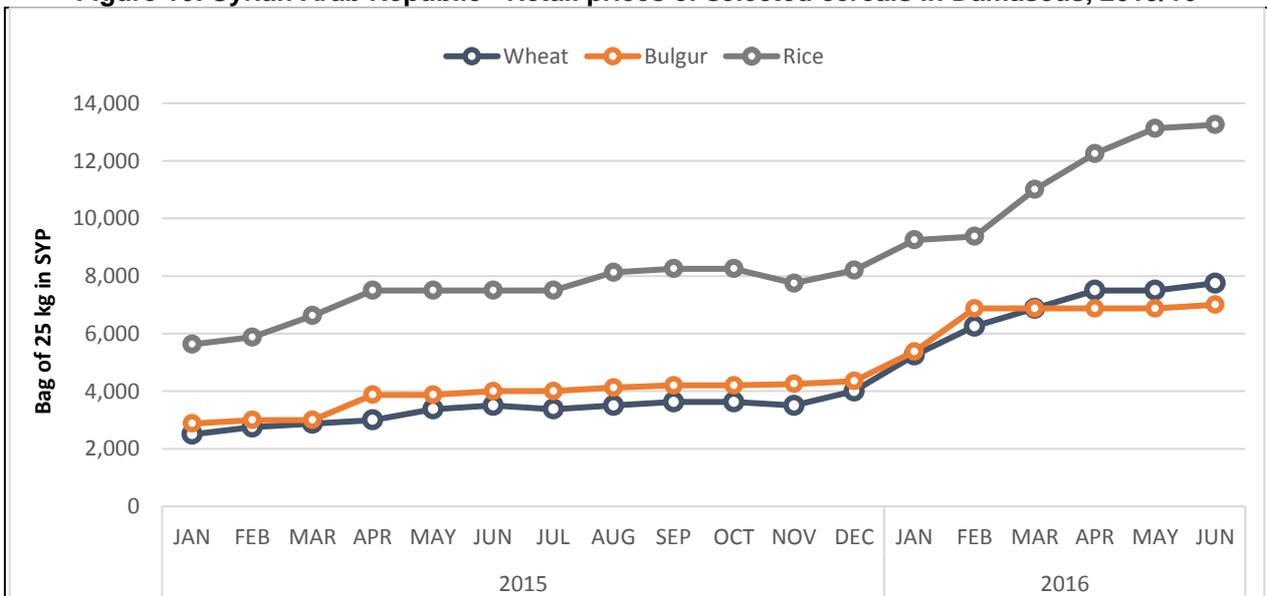
**Figure 15: Syrian Arab Republic - Wholesale prices of wheat flour in selected markets, 2012-2016**



Source: WFP.

In the capital, Damascus, as Figure 16 shows, retail prices of wheat were mostly stable in May and June 2016, but more than twice their levels of 12 months earlier. Similarly, prices of bulgur<sup>13</sup> were stable in recent months, but in June 2016 they were 75 percent higher than in June of the previous year. Prices of rice, sourced from the international market, after having surged by 40 percent between February and May 2016, levelled off in June due to a temporary stabilization of the exchange rate and they were about 75 percent higher than 12 months earlier.

**Figure 16: Syrian Arab Republic - Retail prices of selected cereals in Damascus, 2015/16**



Source: WFP.

<sup>13</sup>Bulgur is a cereal food made from wheat grains that are boiled, dried and cracked, either between stones or in a hand mill.

In order to gauge food access in different locations, the cost of a standard basket of dry goods providing 1 930 kcal a day for a family of five during a month has been calculated. The basket includes 37 kg of bread, 19 kg rice, 19 kg lentils, 5 kg of sugar, and 7 kg of vegetable oil. Prices of the food basket seem to have risen the most in places exposed to active conflict (Table 20). For instance, prices almost doubled in Aleppo, and increased by about 160 percent in Al-Hasakeh and Ar-Raqqa. In besieged Deir ez-Zor city, prices declined in June 2016 by 45 percent due to food assistance distributions, but they remained 33 percent higher than 12 months earlier; in addition, at SYP 61 553, the cost of the food basket, despite the recent sharp decline, was the highest among all the monitored markets and almost 80 percent higher than the national average. People living in areas not directly affected by the conflict have also faced large price increases, including Sweida (+84 percent), Tartous (+95 percent) and Lattakia (+93 percent), due to the devaluation of the local currency, high inflation rates, disrupted supply lines and large numbers of incoming IDPs from conflict-affected areas.

**Table 20: Syrian Arab Republic - Price of a standard basket of dry goods (SYP)**

Governorate	Price May 2016	Price 1 month change	Price 6 months changes	Price 12 months changes
Aleppo	SYP 26,718	-2.8%	28.2%	97.2%
Damascus	SYP 29,069	8.2%	46.5%	82.3%
Dar'a	SYP 25,488	-1.7%	23.9%	54.5%
Deir-ez-Zor	SYP 61,553	-45.2%	-52.7%	33%
Hama	SYP 29,608	7.9%	45.9%	79.1%
Al-Hasakeh	SYP 41,613	4.3%	94.9%	164.7%
Homs	SYP 29,368	21.1%	56.4%	84.8%
Lattakia	SYP 28,944	-2.5%	43.1%	93.3%
Ar-Raqqa	SYP 43,780	8.8%	98.7%	156.5%
Rural Damascus	SYP 38,316	5.4%	-15.2%	126%
As-Sweida	SYP 28,925	8.8%	43.6%	84.0%
Tartous	SYP 29,794	-1.9%	46.1%	95.2%
Quneitra	SYP 27,648	4.4%	N/A	N/A
Idleb	SYP 30,763	-8.2%	N/A	N/A
<b>Average</b>	<b>SYP 34,431</b>	<b>-7.1%</b>	<b>24.2%</b>	<b>114%</b>

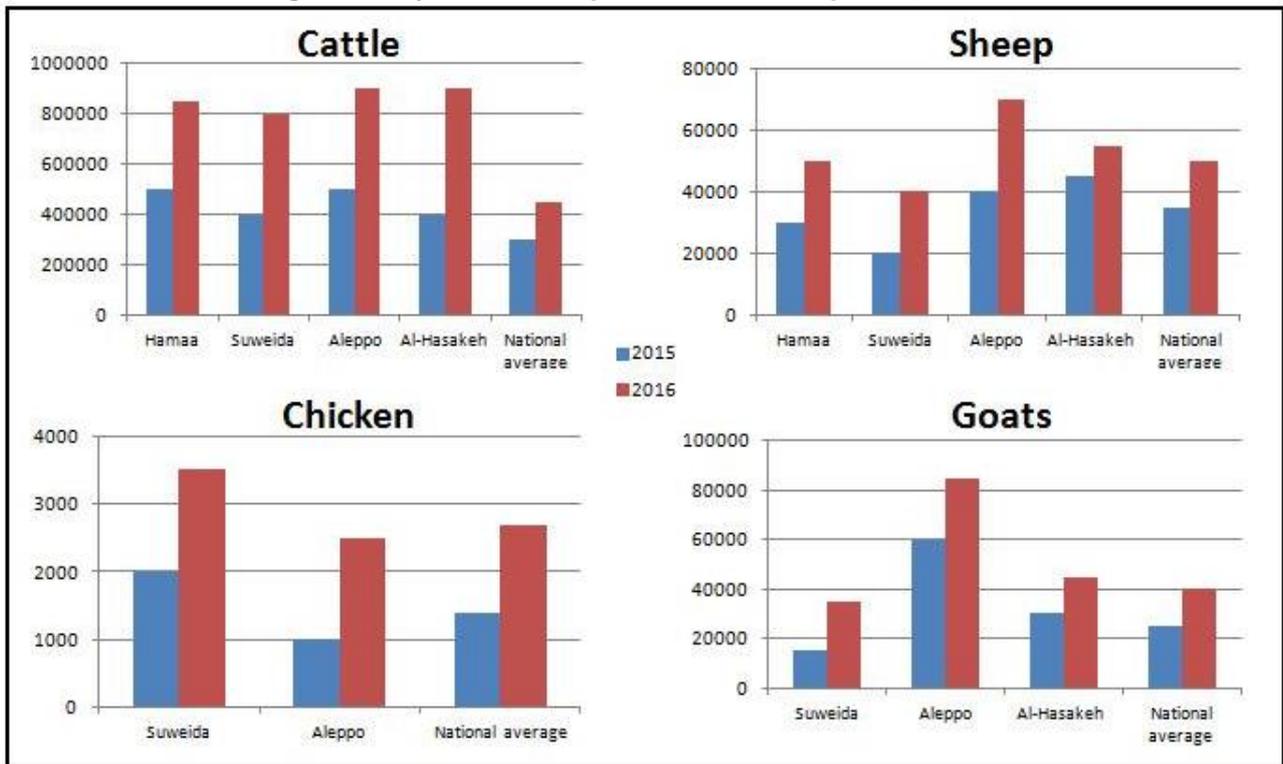
Source: WFP.

#### Livestock and animal product prices

Over the last 12 months, livestock numbers are estimated to have further decreased, as livestock rearers had to slaughter more animals than usual to reduce the economic losses mainly caused by sharp increase in feed prices, road transport costs and veterinary inputs (paragraph 6.1). As a result, prices of livestock sharply increased over the last 12 months. As Figure 17 shows, prices of cattle, at SYP 800 000/900 000 per head at the time of the Mission, approximately doubled between 2015 and 2016 in markets located both in government controlled and in rebel controlled areas. Similarly, prices of sheep in 2016 were up to twice their levels of one year earlier, while prices of goats and chicken more than doubled in some markets over the same period.

A crate of eggs rose from SYP 120 pre-crisis to more than SYP 1 000, and milk and cheese have experienced similar increases of about more than 600 percent, depending on the area. The increase in milk prices has contributed to the prevalence of “fake” dairy products made from powdered milk.

Figure 17: Syrian Arab Republic – Livestock prices, 2015/16



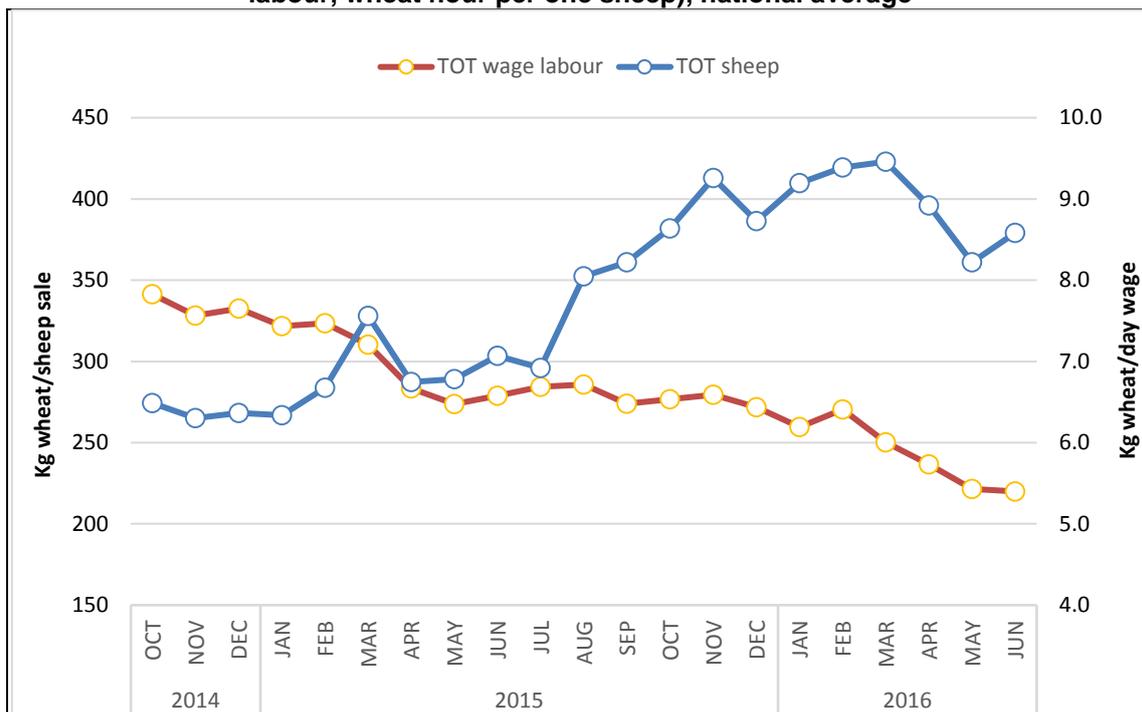
Source: CFSAM interviews, MAAR.

Livestock prices differ across governorates. In less secure governorates with increased migration of livestock farmers offloading their assets before moving to more secure areas without their animals, prices tend to get depressed.

Terms of trade

Both farm labour wage rates and wheat flour increased over the last 12 months. However, since the increase of wheat prices was more pronounced, the purchasing power of casual labourers (measured by terms of trade) followed a decreasing trend (see Figure 18). For a day of work in June 2016, casual labourers could only buy about 5.4 kg of wheat flour, which is approximately 20 percent lower than 12 months earlier. By contrast, prices of livestock increased more than prices of wheat: as a result, terms of trade for pastoralists followed an increasing albeit irregular trend over the last 12 months. For instance, in June 2016, one sheep was exchanged for about 380 kg of wheat, 25 percent more than 12 months earlier.

**Figure 18: Syrian Arab Republic - Terms of trade (wheat flour per one day of casual labour, wheat flour per one sheep), national average**



Source: WFP.

Over the last 12 months, prices of agricultural and livestock products increased, but as the upward pressure of tight supplies was partly offset by the low purchasing power depressing demand, prices of final products increased at slower rates compared to productive inputs. As a result, farmers have been incurring heavy losses, and in order to continue crop production and livestock rearing activities they are increasingly resorting to negative coping strategies including children school dropout to engage young family members in agricultural activities, increasing indebtedness, reducing the quality and the diversification of their own diet. The resilience of farmers has been heavily compromised after five years of conflict, and many may abandon food production, with potential grave consequences on the food availability at national level and on the food security of farming households. An urgent and strong support to farmers through the provision of critical inputs and the rehabilitation of irrigation infrastructures is therefore urgently required.

## CEREAL SUPPLY/DEMAND SITUATION

### Population

According to the World Bank<sup>14</sup>, the Syrian Arab Republic had a population of 21.5 million in 2010, one year prior to the start of the present crisis. There is not a clear consensus on the size of the population living on the Syrian Arab Republic territory. UNHCR now estimates<sup>15</sup> that the number of registered refugees from the Syrian Arab Republic is close to 5 million with a continuing exodus and a large share of refugees not being registered, while the United Nations Envoy to the Syrian Arab Republic reckons that 400 000 lives have been lost as a direct result of conflict. With such losses and volatility it is difficult to estimate the remaining national population. In the absence of any more substantiated estimate, and on the assumption that births within the country will for the time being be balanced by deaths and departures, a figure of 18.5 million by the end of 2016 has been assumed; this figure has been used for the food balance sheet in this report.

### Stocks

Prior to 2011, the Syrian Arab Republic maintained a strategic stock of about three million tonnes of wheat, but inevitably the present crisis has rendered this impossible. It is difficult to quantify the amount of wheat currently remaining in stock, given the strategically sensitive nature of such information. Shipping industry sources report that individual shipments of wheat are now substantially smaller than in recent years. Maximum

<sup>14</sup> <http://data.worldbank.org/indicator/SP.POP.TOTL/countries/SY?display=graph>

<sup>15</sup> <http://www.unhcr.org/53ff76c99.html>

cargo sizes landed at Tartous and Lattakia are now of the order of 15 000 to 20 000 tonnes, compared with 60 000 tonnes when conditions were more stable.

### National cereal balance sheet

The national cereal balance sheet for the Syrian Arab Republic's 2015/16 harvest is presented in Table 21. The following assumptions have been made:

- By the middle of the 2016/17 marketing year (31 December 2016), the human population of the Syrian Arab Republic will be 18.5 million (see above).
- Cereal production in 2015/16 comprises 1.437 million tonnes of wheat, 877 000 tonnes of barley. A small amount of maize (less than 100 000 tonnes) was also harvested but is not considered in the balance sheet.
- Opening stocks of wheat at the beginning of July 2016 amounted to 500 000 tonnes.
- The closing stock of wheat by 30 June 2016 will be approximately 100 000 tonnes.
- Opening stocks of barley held either privately or by Government are zero.
- Per caput wheat consumption will be 170 kg/annum. (A reduction of 15 kg/caput /annum from the previously assumed 185 kg/caput /annum has been used to reflect the generally reported reduction in daily household consumption).
- A sheep/goat population of 11.9 million, and a cattle population of 750 000.
- An average feed requirement of 0.25 kg of barley grain/sheep per day as part of a ration of 1 kg/animal per day of total feed, including bran, browse and crop residues. This represents a minimum physiological maintenance requirement for sheep.
- An average feed requirement of 3.5 kg of barley grain/bovine per day.
- The planned cereal area for 2016/17 will be similar to that of 2015/16.
- Seed rates of 220 kg/hectare for wheat and 170 kg/hectare for barley.
- Harvest and storage losses of 15 percent of production for wheat, barley and maize.
- The Government will import 600 000 tonnes of wheat.
- Commercial companies will import 200 000 tonnes of wheat.
- For 2016/17, some 185 200 tonnes of wheat products will be received as in-kind food assistance by WFP. Food assistance by other organizations would decrease the uncovered shortfall.

**Table 21: Syrian Arab Republic - National cereal balance sheet, 2016**

	<b>Wheat</b>	<b>Barley</b>
<b>Total Availability</b>	<b>2 047</b>	<b>877</b>
Production	1 547	877
Opening stock	500	0
<b>Total Utilization</b>	<b>3 854</b>	<b>2 425</b>
Food use	3 145	0
Feed use	0	2 044
Seed	393	250
Losses, field and post-harvest	232	132
Closing stock	100	0
<b>Import Requirement</b>	<b>1 823</b>	<b>1 548</b>
Anticipated Government imports	600	0
Anticipated commercial imports	200	0
Food assistance	185	0
<b>Uncovered shortfall</b>	<b>838</b>	<b>1 548</b>

However, if the population living within the borders is as low as 16.6 million, the uncovered shortfall would decline by almost 40 percent to 515 000 tonnes of wheat.

## HOUSEHOLD FOOD SECURITY SITUATION

### Estimates of food insecurity

As of June 2016, the Food Security Sector estimates that some 9.4 million people are in need of food assistance<sup>16</sup>, an eight percent increase from the baseline estimate of 8.7 million, which was made in September 2015. The increase in the caseload was driven by continued displacement and conflict impacts, crop failure, severe winter weather and food price increases. The Food Security Analysis Technical Working Group (FSATWG) distinguishes between two levels of vulnerability. Out of the 9.4 million people in need as of mid-2016, 6.7 million are classified as food insecure (category 1), while 2.7 million are classified as at risk of food insecurity (category 2). All of the people in need identified in the governorates of Raqqa and Deir ez-Zor are assessed as food insecure, an indication of the higher severity of food insecurity in those governorates.

**Table 22: Syrian Arab Republic - Estimates of people in need, mid 2016**

Governorate	Category 1, mid-2016	Category 2, mid-2016	Total, mid 2016	% PIN in Cat 1	% PIN in Cat 2
Aleppo	1,543,508	772,554	2,316,062	67%	33%
Al-Hasakeh	474,654	136,522	611,176	78%	22%
Ar-Raqqa	537,867		537,867	100%	0%
As-Sweida	118,982	72,002	190,985	62%	38%
Damascus	476,564	324,133	800,697	60%	40%
Dar'a	261,840	208,035	469,875	56%	44%
Deir-ez-Zor	589,647		589,647	100%	0%
Hama	629,720	238,463	868,183	73%	27%
Homs	428,896	128,581	557,477	77%	23%
Idleb	311,768	350,793	662,561	47%	53%
Lattakia	125,740	58,940	184,679	68%	32%
Quneitra	52,410	13,195	65,605	80%	20%
Rural Damascus	879,739	313,116	1,192,855	74%	26%
Tartous	314,344	89,099	403,443	78%	22%
<b>Grand Total</b>	<b>6,745,678</b>	<b>2,705,433</b>	<b>9,451,112</b>	<b>71%</b>	<b>29%</b>

Source: Food Security Sector.

As Table 22 shows, the governorates with the highest number of people in need of assistance as of mid-2016 include Aleppo (2.1 million), Rural Damascus (1.2 million), Hama (868 000), and Damascus (800 000).

Overall, it is assessed that over 716 000 more people now require food assistance than was the case in September 2015. The rate of increase in needs is most notable in Quneitra (+40 percent), Dara'a (+19 percent), Damascus (+15 percent), Idleb (+13 percent) and Aleppo (+12 percent) governorates. These governorates are experiencing new displacement and worsening food access conditions. By contrast, little change in persons in need numbers was observed during the period in the governorates of As-Sweida, Hama, Tartous, Lattakia, Hasakeh, Raqqa, Deir ez-Zor and Rural Damascus.

<sup>16</sup> The estimate is based on the 2015 Food Security Assessment, updated mid-2016 with the latest information from various sources including DTM (Displacement Tracking Mechanism), mVAM data and qualitative assessments, which has been endorsed by the Food Security Analysis Technical Working Group in Beirut. The figure was derived from a combination of indicators related to food consumption, levels of economic vulnerability, and the severity of coping strategies that a household may use to survive and meet their food and livelihood needs. The 2015 food security assessment was the first robust household assessment carried out in Syria since the start of the conflict, producing representative statistics on food consumption and coping at the sub district level. The number of people in need in 2016 largely relies on this new information source, and updates from new monitoring mechanisms. For these reasons, the estimates of people in food need presented here are not strictly comparable to figures used to estimate the number of food insecure people in the 2015 edition of the CFSAM.

**Table 23: Syrian Arab Republic - Changes in people in need of food assistance by Governorate**

Governorate	Persons in need, 2015	Persons in need, revised mid 2016	Change	% change
Aleppo	2,076,715	2,316,062	239,346	12%
Al-Hasakeh	571,029	611,176	40,147	7%
Ar-Raqqa	504,528	537,867	33,339	7%
As-Sweida	188,492	190,985	2,492	1%
Damascus	696,258	800,697	104,439	15%
Dar'a	393,487	469,875	76,388	19%
Deir-ez-Zor	555,179	589,647	34,468	6%
Hama	864,678	868,183	3,505	0%
Homs	553,901	557,477	3,576	1%
Idleb	587,981	662,561	74,581	13%
Lattakia	180,877	184,679	3,802	2%
Quneitra	46,857	65,605	18,748	40%
Rural Damascus	1,111,516	1,192,855	81,339	7%
Tartous	403,443	403,443		
<b>Grand Total</b>	<b>8,734,941</b>	<b>9,451,112</b>	<b>716,171</b>	<b>8%</b>

Source: Mid-Year Review of Needs, Food Security Sector TWG, June 2016.

#### Food security situation of displaced populations

Conflict-induced displacement continues to constitute a primary driver of food insecurity in the Syrian Arab Republic. As of August 2016, OCHA reports that there were 6.1 million people displaced by the conflict in the country, and that 900 000 people had been displaced over the preceding 6 months alone<sup>17</sup>. Large-scale population displacement continues in the North. OCHA estimated that some 275 000 people in Eastern Aleppo were entirely cut off from essential services and food supplies, while access remains limited for an additional 1.5 million people living in western sections of the city. Significant displacement was also reported in Hasakeh, Dara'a, Homs and Idleb governorates.

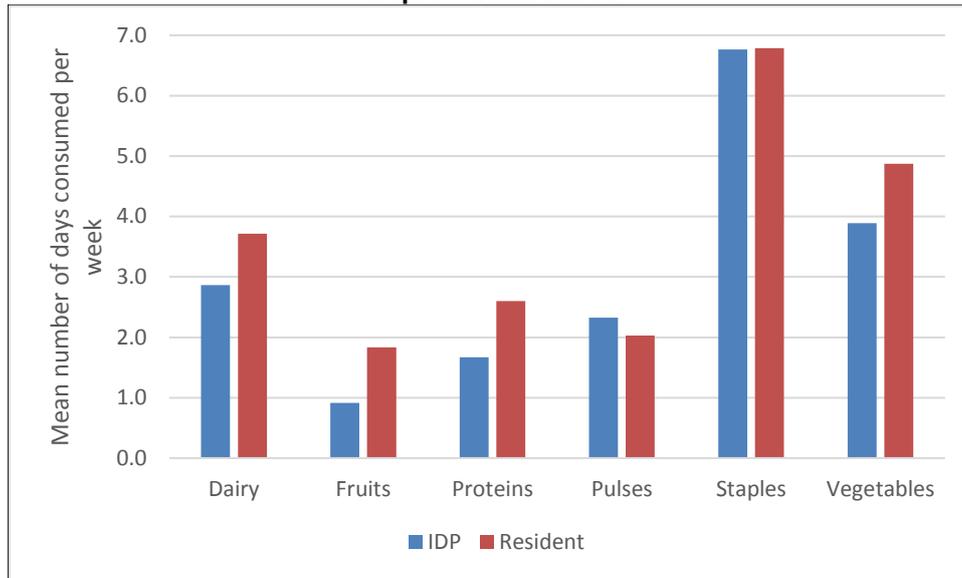
WFP assessments show that displacement is a key driver of household food insecurity, as people abandon assets, jobs and social networks. The 2015 food security assessment estimated that half of IDP and returnee households were food insecure. Continuing displacement is expected to contribute to protracted food insecurity in the country.

According to WFP, in May and June 2016, over 35 percent of IDP households continue to report inadequate food consumption, compared to 18 percent of resident households. Nearly 9 of 10 IDP households used negative coping strategies. IDP households report a higher use of extreme negative coping strategies compared to residents: 42 percent of IDP households reported eating fewer meals a day on most days of the week, compared to 29 percent of resident respondent households. Moreover, 29 percent of IDP households restricted adult food consumption to provide for children, compared to 19 percent of residents. In order to buy food, IDPs tend to rely more on credit (68 percent) more frequently than non-displaced households (52 percent), due to their irregular income.

As a result of low purchasing power, Syrian IDP households consume a staple-heavy diet that is poor in fresh foods and in protein. As shown in Figure 19, WFP monitoring data suggests that displaced households consume protein, dairy, fruits and vegetables less frequently than their non-displaced counterparts.

<sup>17</sup> OCHA (2016) situation report 12. The Syrian Arab Republic. <http://reliefweb.int/report/syrian-arab-republic/syria-crisis-bi-weekly-situation-report-no12-2-september-2016-enar>

**Figure 19: Syrian Arab Republic - Dietary diversity by household displacement status**



Source: WFP.

### Severe food security situation in besieged and hard-to-reach areas

Acute food insecurity prevails in besieged and hard-to-reach areas. The UN has identified 18 besieged areas in the Syrian Arab Republic, their population being estimated at 592 000 as of mid-June<sup>18</sup>. WFP monitoring suggests that food in these areas is very scarce, as attested by extremely high food prices in these locations. The population in the besieged areas has been experiencing severe food insecurity due to extremely limited availability of food and fuel in markets with no functioning bakeries and scarcity of income generating opportunities, which left the population depending on remittances and food assistance when/if accessible. Food sources in besieged areas are predominantly food assistance, hunting, gathering. The consumption of seed stock, immature grain, hunting and consumption of wild foods are noted in the case of the Eastern Ghouta<sup>19</sup>. Food production continues in besieged areas, as in the case of the Eastern Ghouta, which has been under siege for four years.

#### East Harasta (Eastern Ghouta, Duma district, Rural Damascus)

Food commodities in east Harasta markets are sourced from the three main markets in eastern Ghouta (Duma, Zamalka, Arbin). Due to movement restrictions, traders can't replenish their stocks on a regular basis. Food availability in markets is still poor, and households depend on food assistances and summer food production. Cooking fuel availability is still very limited. Most households are using wood as an alternative. Although wheat flour is available, bakeries are not functional due to of lack of fuel. Traders in eastern Ghouta were able to bring bread from neighbouring accessible markets at very high prices.

Salaries, agricultural activities, skilled labour and limited remittances are the main income sources for besieged populations. The daily income is on average between SYP 400-500. Job opportunities for women are extremely limited compared to men; and child labour is reported to have increased due to poor education, low capacity of schools and high prevalence of poverty. The bulk of household expenditure is devoted to food. Purchasing food on credit, reducing the number of meals per day, restricting adult consumption in order for small children to eat are the coping strategies that are adopted by most households.

Recent assistance improved food consumption patterns and most households consume two meals a day. Fruit and vegetable consumption improved due to the summer months. However, the situation will rapidly deteriorate if ongoing assistance stops.

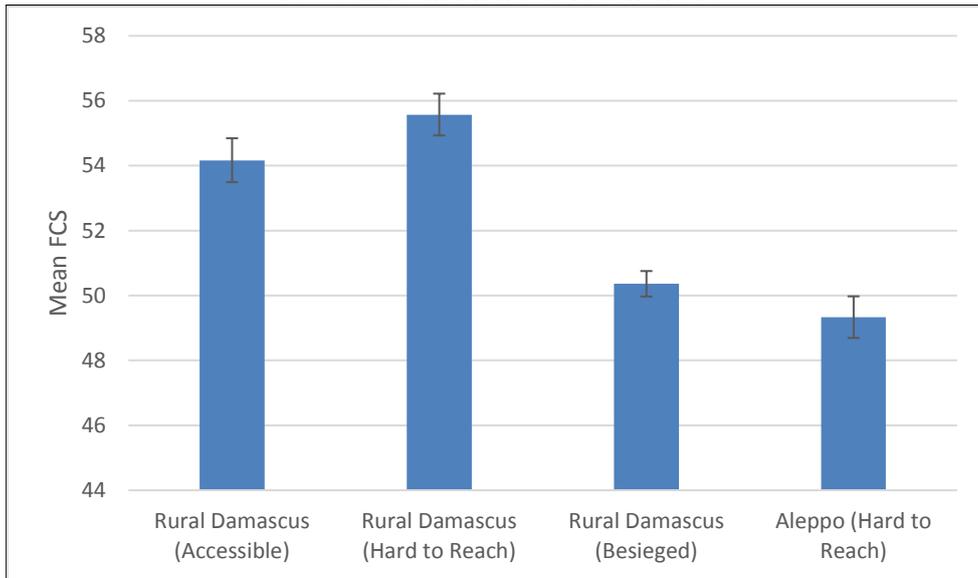
Source: WFP rapid assessment.

<sup>18</sup>[http://www.static.reliefweb.int/sites/reliefweb.int/files/resources/WoS%20Sit%20Rep%20No%206\\_%20June%202016.pdf](http://www.static.reliefweb.int/sites/reliefweb.int/files/resources/WoS%20Sit%20Rep%20No%206_%20June%202016.pdf)

<sup>19</sup><http://documents.wfp.org/stellent/groups/public/documents/ena/wfp284843.pdf>

The food consumption score is a weighted sum of the frequency and nutrient density of the food consumed at the household level over the past seven days. A higher score indicates households are better off in terms of food consumption. WFP's monitoring data shows that the mean food consumption score is highest in Damascus, where the population largely benefits from a relatively favourable security context, stable market access and income. The score is lower in besieged area of Rural Damascus and hard to reach areas of Aleppo. Food access conditions appear to be especially severe in hard to reach areas of Aleppo. The impact of conflict on food supply, food prices and livelihoods has led to impacts on food consumption for people who are not displaced but who live in areas affected by conflict. Indeed, the mean Food Consumption Score (FCS) is 10-15 percent lower in besieged and hard to reach areas than in accessible areas of Damascus (Figure 20).

**Figure 20: Syrian Arab Republic - Mean food consumption score in besieged, accessible and hard to reach areas**



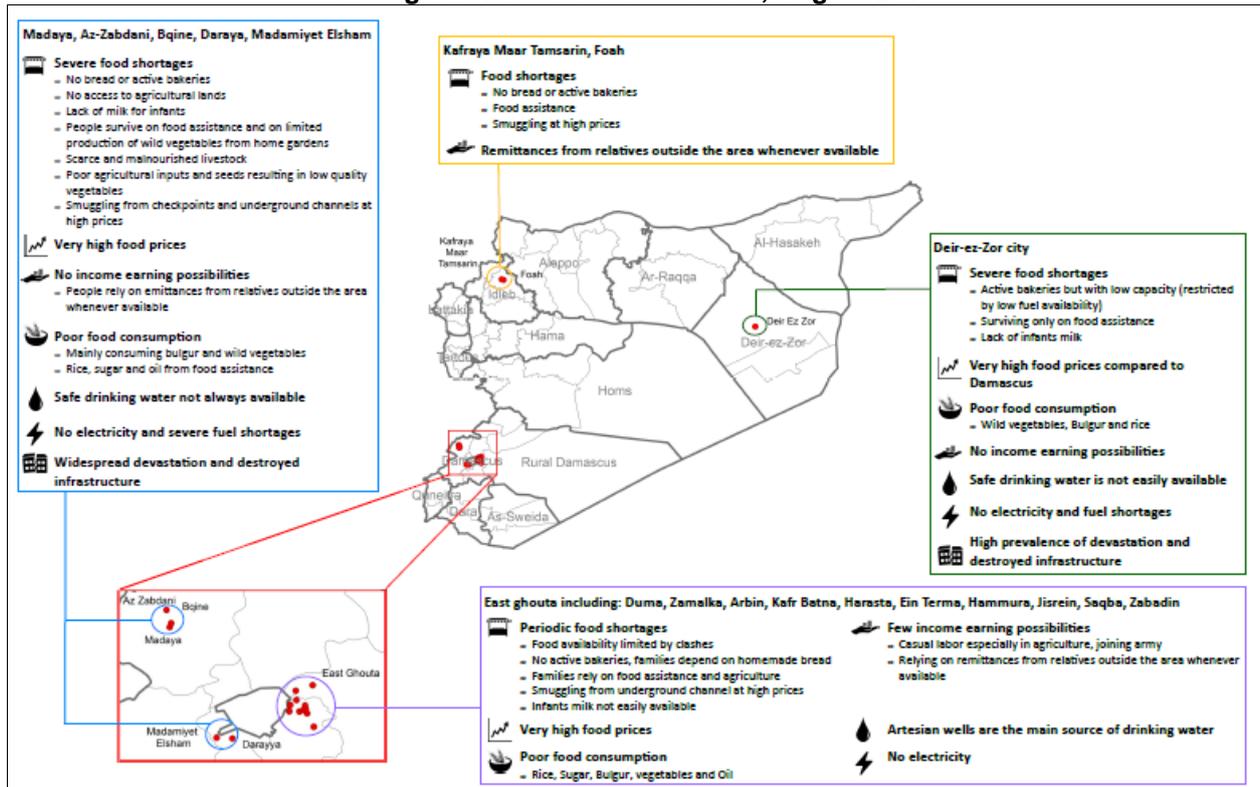
Source: WFP.

Household food consumption is reportedly very poor, composed of cereals, sugar and oil from food assistance, and wild vegetables. The severity of the situation varies by location, and in agricultural areas such as eastern Ghouta is relatively better due to seasonal to own food production in summer. Siege conditions also limit the availability of electricity, cooking fuel and drinking water. This has consequences for food storage, preparation and ultimately utilization. Lack of availability and accessibility to nutritious food, coupled with the limited access to safe drinking water cause a serious concern on the nutrition status among the vulnerable population including children under five as well as pregnant and lactating women.

As of August, it was estimated that some 0.59 million people are in the 18 besieged locations in Rural Damascus and Deir ez-Zor governorates (Figure 21)<sup>20</sup>.

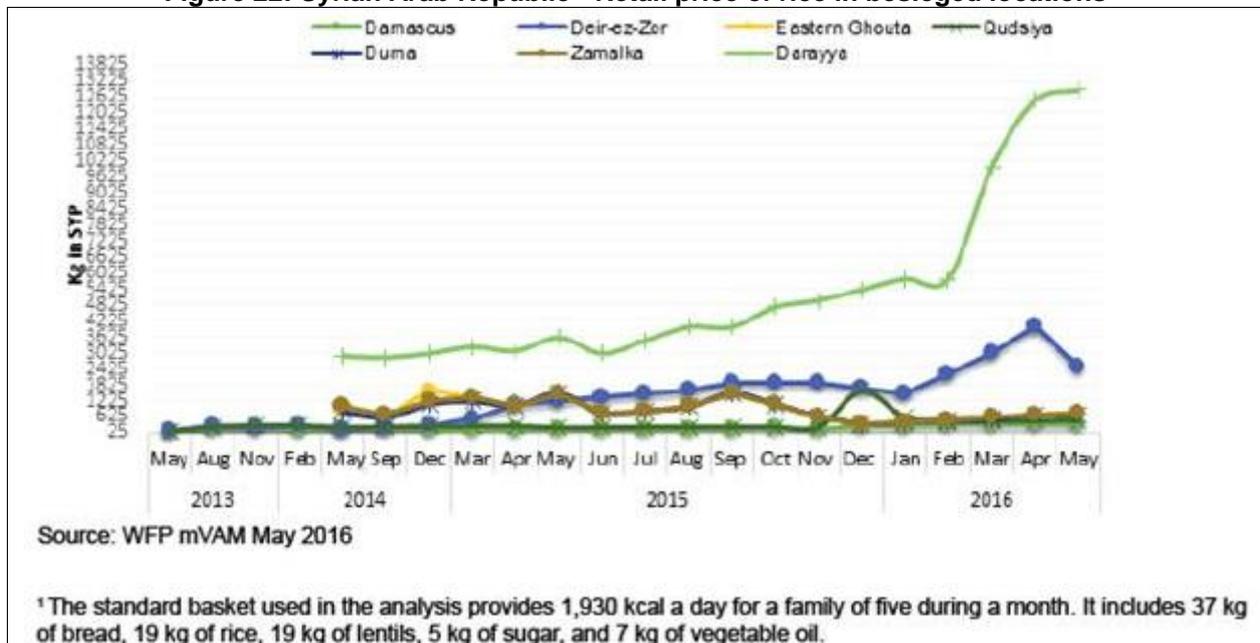
<sup>20</sup> UNOCHA, May 2016.

**Figure 21: Syrian Arab Republic - Food security conditions in selected besieged and hard to reach areas, August 2016**



The cost of the standard food basket has been extremely high and kept increasing in all the besieged and conflict-affected areas (Figure 22). In May, the highest cost of a standard food basket was reported in Darayya (Dara'a), where the price is over twenty times the cost in Damascus<sup>21</sup>.

**Figure 22: Syrian Arab Republic - Retail price of rice in besieged locations**



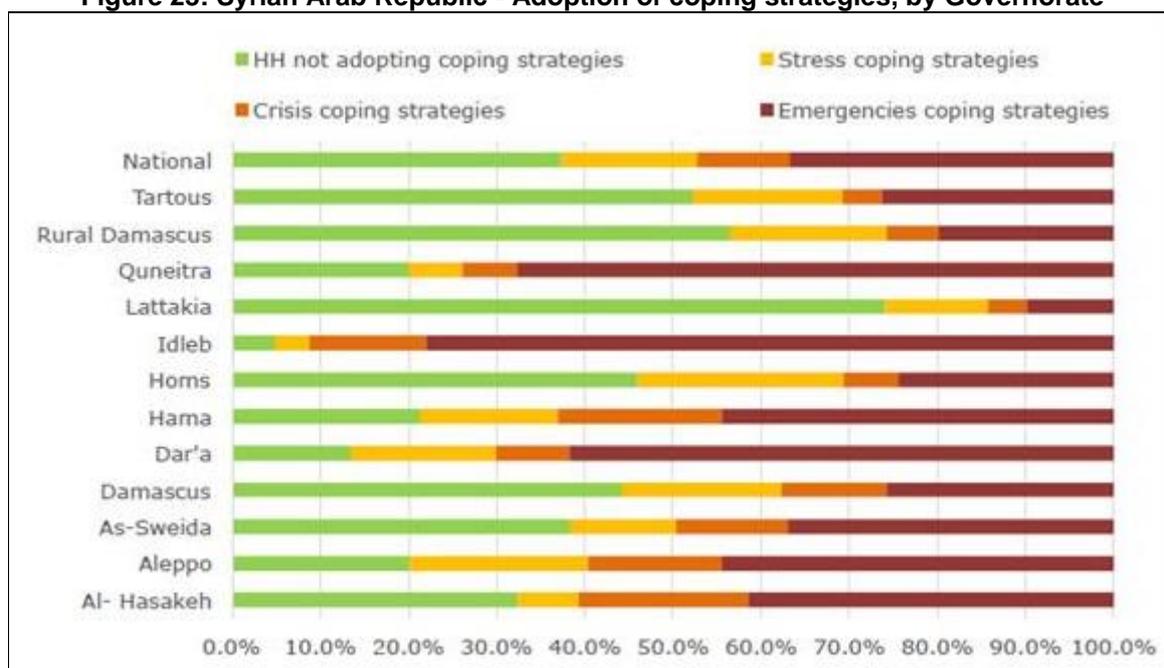
### Impact of the crisis on livelihoods

Regular salaries and pensions from government employment are by far the most common income sources for half of the population, followed by skilled and wage labour. The contribution of crop and livestock production appear to be low at national level though there are notable geographical variations: governorates like

<sup>21</sup> WFP the Syrian Arab Republic mVAM Bulletin Issue-4 (May 2016).

el-Hasakeh, Dara'a, and Quneitra have a higher share of agricultural production<sup>22</sup>. Public sector, private business and industries have been severely disrupted, failing to provide livelihoods for the population in the Syrian Arab Republic. The population in relatively secure areas struggles with high competition over wage labour opportunities, whereas farmers have gone through a collapse of the agricultural sector due to insecurity, lack of inputs, damage to infrastructures including irrigation facilities and high costs of production with limited marketing opportunities due to low purchasing power. Facing the reduction or loss of direct income, households have resorted to other sources like including remittances and indebtedness: nearly one-third of the households is indebted<sup>23</sup> mostly to buy food. Since they have limited access to formal credit sources, those households borrow money mostly from family and friends. Households cope with the situation through employing various coping strategies. Almost half of the Syrian households are reported to adopt intense and severe, often irreversible coping strategies including selling productive assets or land, which are detrimental to future productivity and resilience to shocks. A higher prevalence of severe livelihood coping strategies was observed in the areas that have been directly affected by the conflict, including Idleb, Quneitra, Dara's, Aleppo and Hama governorates.

**Figure 23: Syrian Arab Republic - Adoption of coping strategies, by Governorate**



Source: FSA, WFP 2015.

Conflict has severely impacted the traditional family unit, resulting in the loss of the traditional male breadwinners<sup>24</sup>. The rates of women-headed households have reportedly become very high as male family members are lost/missing or have left the Syrian Arab Republic to escape from getting involved in the conflict. Livelihoods opportunities for women are limited due to various reasons including security conditions and a lack of community acceptance for women to work under poor security conditions. Women-headed households are among the most vulnerable to food insecurity due to the limited income generating opportunities and insufficient earnings even if they are available.

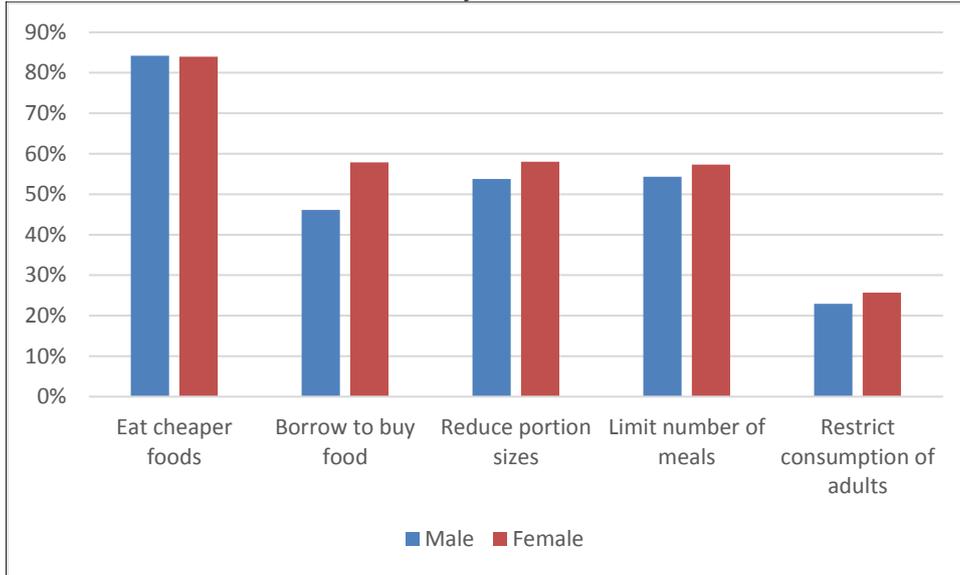
The data indicates that as of the second quarter of 2016, the most common coping strategy was to eat cheaper, calorie-dense foods. This strategy is used by over 80 percent of beneficiary households in the week preceding the survey. Half of households declared reducing portion sizes, and skipping meals. Borrowing food seems to be an especially important strategy, as it is used by 58 percent of all women headed households (Figure 24).

<sup>22</sup> Food Security Assessment Report, WFP 2015

<sup>23</sup> Food Security Assessment, WFP 2015

<sup>24</sup> "Food Security Livelihoods Assessment", Food Security Cluster 2016

**Figure 24: Syrian Arab Republic - Use of coping strategies among WFP beneficiary households, 2016**

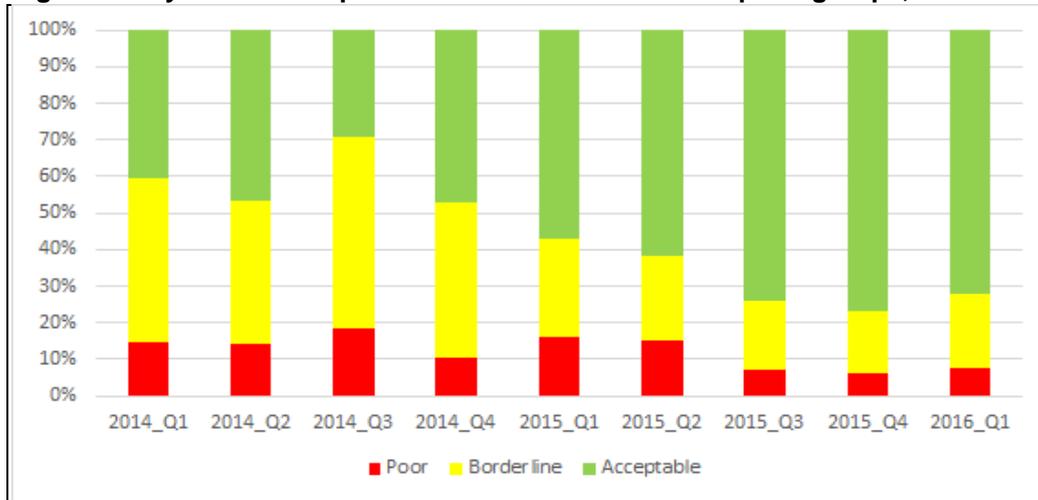


Source: WFP.

**Food security trends for food assistance beneficiaries**

According to Monitoring and Evaluation data, the food consumption score among WFP beneficiaries has been stabilizing over the past year. As of late 2015 and early 2016, approximately 25 percent of beneficiary households had poor or borderline food consumption, a figure that showed continuous improvement, considering that more than 50 percent of households had poor or borderline food consumption in 2014 (Figure 25).

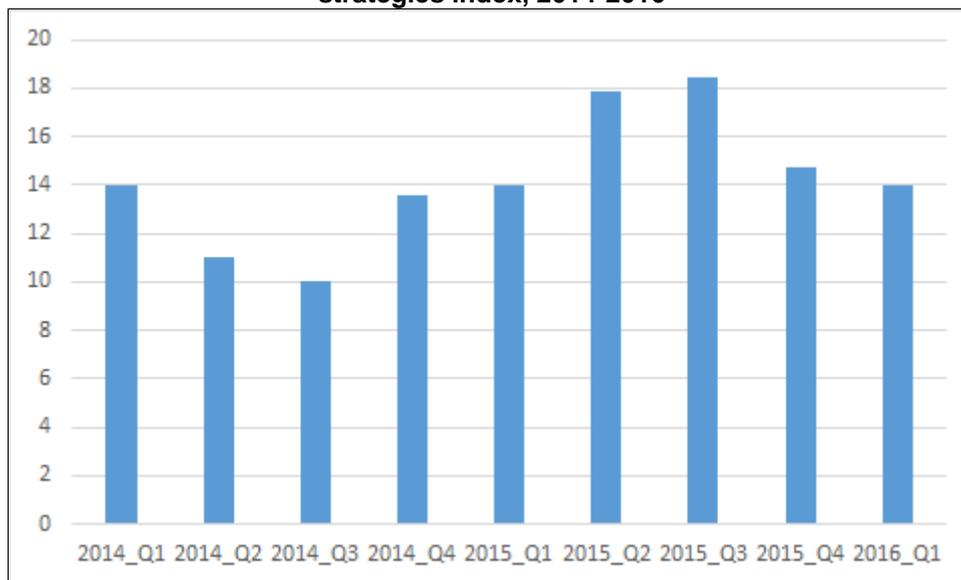
**Figure 25: Syrian Arab Republic - Trends in food consumption groups, 2014-2016**



Source: WFP.

The trend in the coping strategies index - which measures how often people rely on different coping strategies - is also favourable. It shows a decreasing trend in 2016, after reaching a peak in 2015, indicating that people are resort to fewer or less severe coping strategies than in previous periods. The level of the CSI in early 2016 (CSI=14) is above what it was in late 2014. This suggests that improved food consumption among WFP beneficiary households may have been attained through the use of food related coping strategies, including eating cheaper foods, borrowing food or money to buy food. This underscores the necessity of continued targeted assistance to achieve food consumption levels at the household level (Figure 26).

**Figure 26: Syrian Arab Republic - Trends in the reduced coping strategies index, 2014-2016**



Source: WFP.

### Access to food assistance

The Food security sector partners provide assistance to an average of 5.7m people every month.

Data collected in the CFSAM (Table 24) suggests that access to assistance is above the national average for households in located in the governorates of Aleppo and Rural Damascus, suggesting that people in some conflict-affected locations receive food assistance. By contrast, most households report having received no assistance at all in the three months preceding the survey in the governorates of Tartous (90 percent), As-Sweida (85 percent), Deir Ez-Zor (77.8 percent) and Lattakia (73.2 percent). The low percentage receiving assistance in As-Sweida and Deir Ez-Zor - both conflict-affected locations - might be as a result of access difficulties.

**Table 24: Syrian Arab Republic - Number of times communities were reached by assistance in the three months prior to the survey**

Governorate	Assistance Frequency			
	none	one time	two times	three times or more
Rural Damascus	49.4%	30.1%	9.0%	11.5%
Dar'a	27.8%	72.2%	.0%	.0%
Quneitra	14.3%	46.4%	35.7%	3.6%
As-Sweida	85.0%	13.1%	.9%	.9%
Homs	50.0%	33.9%	6.8%	9.3%
Hama	49.0%	35.3%	10.8%	4.9%
Aleppo	41.5%	31.7%	4.3%	22.6%
Lattakia	73.2%	20.7%	6.1%	.0%
Tartous	90.0%	1.3%	8.8%	.0%
Idelb	36.0%	10.0%	38.0%	16.0%
Deir-ez-Zor	77.8%	20.0%	2.2%	.0%
Al-Hassakeh	65.2%	29.9%	4.3%	.5%
National	55.8%	28.2%	8.8%	7.2%

Source: CFSAM data collection.

Access to assistance in besieged and hard to reach areas improved temporarily in June, when some improvement in some food security indicators took place. For instance WFP monitoring suggests that airdrops in Deir-ez-Zor city have led to a fall in food prices: in June, the price of rice (SYP 1000/kg) is 60 percent lower than in May, while the price of bread remained at SYP 150/kg. The cost of a standard food basket providing 2,100 kcal per person costs 64.8 percent less than it did in May. Thanks to the provision of assistance, the cost of the same food basket declined by 78 percent in Madamiyet Elsham from May to June.

### **Food assistance needs**

As of mid-2016, the various Food Security Sector partners reached on average 5.7 million people every month with food assistance (food parcels, cash and voucher) and close to a million people until May with livelihood and agriculture assistance.

WFP plans to distribute some 277 000 tonnes of grain (rice + wheat) over the next 12 months. WFP also plans to provide cash transfers with a value of USD 2.7 million per month. The dynamic nature of the situation on the ground in the Syrian Arab Republic could lead to changes to these planning figures.

### **RECOMMENDATIONS**

The recommendations stemming from the CFSAM in the Syrian Arab Republic aim to increase the livelihood and food security resilience of the population by:

1. Addressing the immediate needs through rapid interventions to support the food security and strengthen absorptive capacity of vulnerable populations.
2. Reinforcing agro-ecological systems and improving sustainable access to key agriculture inputs and services and natural resource management to allow people who depend on the sector to restore their livelihoods.
3. Addressing systemic risks (drought, climate change and others) to successfully emerge from the crisis.

In particular:

1. To increase absorptive capacity:
  - Support cereal production by rehabilitating the seed production and distribution systems along with the provision of other required agricultural inputs.
  - Support diversification of production, including the provision of agricultural inputs such as plastic sheets for greenhouses and diversification to other cash crops to increase household income (herbs and spices, beekeeping, etc.).
  - Provide livestock producers with feed, animal assets, vaccines and regular veterinary drugs.
  - Increase support for backyard vegetable and poultry production through distribution of quality seeds and chicks.
2. To restore livelihoods:
  - Establish agriculture based micro enterprises in rural areas.
  - Rehabilitate damaged irrigation infrastructure and improve water for production efficiency through low cost technology (solar panels and others), possibly by implementing cash for work schemes.
  - Provide off-farm income generating opportunities.
  - Provide some credit lines to farmers using alternative collaterals, such as part of forward contracting.
  - Establish village-based private seed production and distribution centres to supplement the limited public distribution.
  - Provide good quality bovine semen and units for liquid nitrogen production to improve breeding.
  - Establish small centres for milk collection and processing for local markets to improve food variety and prevent diseases transmitted by raw milk to protect public health.
  - Train livestock holders in home processing of milk for cheese, yoghurt and other dairy products in selected areas, particularly where access to other markets is difficult, to provide income generating opportunities and improve local diets.
  - Consider alternative energy sources to power agricultural production by converting agricultural waste into fuel.
3. To address systemic risks and transform from the crisis:
  - Continue to support Drought Early Warning observatory centres.
  - Continue to support food security information management and assessments.
  - Rehabilitate extension and research services particularly for local breeds.
  - Rehabilitate and strengthen veterinary services, including rehabilitating domestic vaccine production.
  - Rehabilitate infrastructure using alternative sources of energy to ensure sustainability.

In addition:

- Continue the provision of life-saving food assistance to severely food insecure populations in besieged and hard to reach locations.
- Priority groups for food assistance include people displaced in the past year or people who have been displaced multiple times; households headed by women or children, households in besieged and hard to reach areas, households with limited access to markets, and households headed by a person with a disability or chronic illness.
- Where markets allow, expand the WFP voucher transfer program in order to support the purchasing power of the most vulnerable while supporting local food markets. A dedicated market assessment would identify such locations; close monitoring of market functionality would be required considering the fluid state of prices and supply.
- Review the needs using the in-depth food security analysis exercise in order to refine the estimates of food insecure populations based on household's dietary diversity and coping strategies. The exercise would also allow continued improvement of targeting of assistance.
- Provide support to public and private milling and bakeries in conflict affected areas, for instance by providing fuel, yeast or subsidies.
- Continue with the food security monitoring. A system should be set up in order to produce regular updates on food security in the country, with reference to agriculture, food prices and household outcome indicators.

**Focus group discussion questionnaire**  
**Assessment of the agricultural production in the Syrian Arab Republic, 2015/16**

**1. General information**

N. Questionnaire	Governorate	District	Sub-district	Village	Settlement zone	Interview date	n. group discussion members		Phone number of data entry person
							Male	Female	

**2. Climate: please use √ at the selected answer**

In normal years, when does the rain start	September October November December
In this year, when did the rain start	September October November December Didn't start yet
How could you describe the geographical distribution of the rain on district level	Bad Fair Good Very good
How could you describe the rain distribution throughout the season on district level	Bad Fair Good Very good
Please indicate the frost period, and how many days the frost lasted	

**3. Growing conditions**

Compared to last year, how can you describe the irrigation situation: water amount – fuel availability – availability of spare parts for pump sets?

Item	Spate	Pump
	Please answer using the following numbers (1) better (2) same (3) worse	Please answer using the following numbers (1) better (2) same (3) worse
Availability of water for irrigation		
Fuel availability		
Availability of spare parts for pump sets		

Production type

What are the crop types for this season and last year for the following main crops?

Crop	2014/15 season				2015/16 season			
	Actual Planted area (donum)	Percentage of harvested area (%)	Percentage of marketed production	Yield (kg/donum)	Actual Planted area (donum)	Percentage of harvested area (%)	Percentage of marketed production	Yield (kg/donum)
Wheat								
Barley								
Lentils								
Chickpeas								
Other legumes								
Potato								
Tomato								
Other (please specify)								

Agriculture inputs supply

What is the situation of agricultural inputs throughout the season: availability – prices – sources – quality?

Inputs		Availability Answer using the following: (1) Available (2) Fair (3) Difficult (4) Not available	Prices compared with last year Answer using the following: (1) Less than last year (2) Same as last year (3) Higher than last year	Source Answer using the following: (1) Own production (farm) (2) Private sector (market) (3) Public sector (government) (4) Emergency assistance	Quality Answer using the following: (1) Good (2) Fair (3) bad
Seeds	Wheat				
	barley				
	Lentils				
	Chickpeas				
	Vegetables				
	Forage crops				
	Other (please specify)				
Fertilizer	N				
	P				
	K				
Pesticides					
Fuel					
Machinery					
Spare parts					
Labour					
Greenhouse (plastic sheets – irrigation systems etc)					

Timing of agriculture activities (where the activities implemented on the usual time!)

Crop	Land preparation		Cultivation and sowing		Weeding & other activities		Harvest		Transport and marketing	
	Time implementation	Reasons if not on time	Time of implementation	Reasons if not on time	Time of implementation	Reasons if not on time	Time of implementation	Reasons if not on time	Time of implementation	Reasons if not on time
Wheat										
barley										
Lentils										
Chickpeas										
Vegetables										
Forage crops										
Fruit trees										

For the time of implementation please use one of the following numbers to answer: (1): on time (2) before the usual time (3) after the usual time.

For reasons for not implementing on time please use one of the following numbers to answer : (1) non-availability of machinery and labour (2) hard access to the field (3) high prices (4) late rain (5) lack of funding (6) other (please specify).

What are the main pests and diseases, and the damage percentage on the total production?

Crop	Disease	Pest	Percentage of damages farmers reporting damage	Damage percentage on the production	Was the pest or disease controlled 1. Yes 2. No
Wheat					
Barley					
Legumes					
Vegetables					
Olive					
Apple					
Citrus					

Please mention here only the pests and diseases that happened to many farmers, not for individual cases

What are the main agricultural activities that farmers are unable to implement in a good way?

Crop	Agricultural activities (1) land preparation (2) agriculture inputs supply (3) harvest (4) marketing	Reasons (1) inputs are unavailable (2) lack in funding (3) unavailability of labour (4) unavailability of machinery (5) low rainfall (6) insecurity (7) high costs (inputs, labour etc.) (8) no market
Irrigated wheat		
Rainfed wheat		
Barley		
Legumes		
Winter vegetables		
Summer vegetables		
Forage crops		
Fruit trees		

#### 4. Livestock

Livestock condition: numbers and health situation

Livestock	Numbers compared to last year (1) lower (2) same (3) increased	In case the answer was 1 or 3, please explain the reason	Health situation (1) bad (2) fair (3) good (4) very good	In case there is a change in health situation, what is the reason
Cattle				
Sheep				
Goat				
Poultry				

What is the current situation of the pastures, what about feed availability (amount and prices)?

Item	Availability (1) available (2) somewhat (3) unavailable	Availability compared to Last year (1) less (2) same (3) more	Compared to last year, what is the changes in prices (1) less (2) same (3) increased
Pastures			
Hay			
Concentrated feed			
Crop residuals			
Green fodder			

Health condition

Disease	Were the animals affected by the disease (1) yes (2) no	Animal type (1: cattle, 2: sheep, 3: goat, 4: poultry, 5: other)	Were the control measures applied		Percentage of death		
			(1) yes (2) no		Low 1-5%	Middle 5-15%	High 20%>
Endo and ecto parasites							
Foot and mouth disease							
Brucellosis							
enterotoxemia							
Mastitis							
Newcastle							
Other							

### 5. Families livelihood

What are the families' percentages depending on the following income sources on district level, which family members are supporting the family living, and how equally revenues are distributed within a household?

Income source	Gender based contribution (is this livelihood practiced/income ensured by male/female members)	The contribution of this income source to total income (%)	The importance of this source compared to last year (1) decreased (2) no change (3) increased	Gender based contribution compared to last year (1) decreased (2) no change (3) increased	Intra-house women share of financial revenues (%)	Intra-house women share of food production (%)
Farming						
Livestock production						
Seasonal agricultural work						
Salary of government work						
salary of permanent private work						
Salary of temporary private work (not exceed 3 months)						
Trade						
Government assistance (support)						
Remittance earners						
Donations from friends and relatives						
Other sources (please specify)						

Did the family receive any emergency assistance?

Assistance type	Received by the family 1. Yes 2. No	Percentage of families assisted (%)	Source: 1. Government 2. UN agencies 3. NGOs 4. Other (please specify)
Seeds			
Fertilizers			
Feed			
Veterinary services			
Sheep or goats			
Poultry			
Other (please specify)			

## 6. Market conditions

### Agricultural input prices

Input	Prices (1) decreased (2) same (3) increased	Change percentage compared to last year (%) In case the prices have decreased please put (-) next to the percentage
Wheat seeds (specify the variety)		
Barley seeds(specify the variety)		
Vegetable seeds (specify the vegetable and variety)		
Dry feed (barley – hay – wheat bran)		
Concentrated feed		
Veterinary services (drugs, vaccinations...)		
Fertilizers (specify the type)		
pesticides (specify the type)		
Labour		
Fuel		
Plastic sheets for green house production		
Machinery		
Other		

**Household questionnaire  
n. questionnaire ( )**

**General information**

Governorate	District	Sub-district	Village	Settlement zone	Phone number of data entry person

Name of head of the family	Is the head of the family currently present 1 yes 2 no (if no, specify who is currently supporting the living of the family)	Age	Sex	Social status	Phone number

**Family structure**

What are the production assets owned by the family?

Land (donum)	Cattle (heads)	Sheep (heads)	Goats (heads)	Poultry (heads)	Tractor (number)	Tractor extensions (number)	Harvester (number)

**Production type**

What are the types of crops according to the plots you own?

Plot	Area	Irrigation source	Irrigation method	Planted crop for last season	Planted crop in the current season

**Agriculture production**

Agricultural inputs supply:

	<b>Below</b>	<b>Same</b>	<b>Above</b>	<b>Remarks</b> [reasons if different from last year/normal; timing]
Wheat seeds supply <i>Main source (own production, markets, Government, other sources etc.):</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Barley seeds supply <i>Main source:</i>				
Chickpeas seeds supply <i>Main Source:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lentils seeds supply <i>Main source:</i>				
Other Vegetables seeds supply. <i>Specify: ..... Main source:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other seeds supply. <i>Specify: ..... Main source:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fertilizers supply <i>Main source:</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Types of fertilizers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pesticides supply <i>Main source:</i>				
<i>Types of pesticides</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Green house supply (plastic sheets, irrigation schemes...)</i>				
Agricultural tools supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Agric. machinery supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spare parts supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Labour supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Credit supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other (please specify)				

In the current season, did you plant all the land you own?

- (1) Yes
- (2) No

In case the answer is no, explain the reasons:

- Lack of seeds
- Lack of Fertilizers
- Lack of Funding
- Water for irrigation is unavailable
- Fuel non availability
- Hard access to the fields
- The presence of armed groups
- Other (specify)

What was the production situation for the previous season 2014/15?

Crop	Planted area (donum)	Harvested area (donum)	Production quantity (tons)	Amount of marketed production (tons)	Market destination 1. Local markets 2. Government 3. Dealer (trader) directly on the farm
Wheat					
Barley					
Lentils					
Chickpeas					
Potato					
Citrus					
Apple					
Olive					

What is the production situation for the current season 2015/2016?

Crop	Planted area (donum)	Harvested area (donum)	Production quantity (tons)	Amount of marketed production (tons)	Market destination 1. Local markets 2. Government 3. Dealer (trader) directly on the farm
Wheat					
Barley					
Lentils					
Chickpeas					
Potato					
Citrus					
Apple					
Olive					

**Livelihood and emergency assistance**

What is the contribution of the following income sources to the total income?

Income source	Percentage of total income (%)	Income source	Percentage of total income (%)
Farming		Private sector work	
Livestock production		Trade	
Paid agriculture labour		Donations and assistances	
Governmental work		Remittance	
Self employed		Other	

Note. The sum of the percentages of total income should be equal to 100%

Which members of the family are involved in these activities (sex-disaggregated data on who is doing what as a livelihood within one given family)?

Activity	Gender based contribution (%)		Activity	Gender based contribution (%)	
	Male	Female		Male	Female
Farming			Private sector work		
Livestock production			Trade		
Paid agriculture labour			Donations and assistances		
Governmental work			Remittance		
Self employed			Other		

Was any of the previously mentioned income sources affected by the current crisis: 1. Yes 2. In case the answer is yes, what are the reasons?

- Marketing difficulties
- Presence of armed groups
- Herd lost
- Losing job
- Emigration
- Other (please specify)

During the last period, did you receive any assistance?

Assistance type	How many times	Was it enough 1. Yes 2. No	Source of assistance 1. Government 2. UN agencies 3. NGOs 4. Friends 5. Other (please specify)
Seeds			
Fertilizers			
Feed			
Food baskets			
Training			
Production tools			
Other			

**Checklist for the collection of agricultural data  
Syrian Arab Republic, 2016  
Governorate level**

**Name of Governorate:**

**Total population:**

**Permanent residents:**

**IDPs:**

**Rainfall** compared with 2014/15: Better / same / worse

Any significant dry spells?

Any flooding?

**Irrigation** compared with 2014/15: Better / no change / worse

Irrigated area compared with 2014/15: Larger / no change / smaller

**Crops**

Crop	Area (hectares)		Average yield (tonnes/hectare)	
	2015	2016	2015	2016
Wheat				
Barley				
Maize				
Greenhouse				
Fruit trees				

Farm labour: available/ scarce / not available

Mechanization: available / scarce / not available

Urea: available / scarce / not available

Fuel: available / scarce / not available

**Cost of inputs**

Farm labour SYP/day		Tractor hire SYP/hr		Urea SYP/50 kg		Fuel SYP/litre	
2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16

Seed: available / not available (at time of planting)

Cost of seed SYP/kg

	2014	2015	2016
Wheat			
Barley			
Maize			

Significant crop pests / diseases

Cereals:

Horticultural and fruit crops:

Were they controlled?

Effect of insecurity on crop production and crop harvesting:

**Livestock**

	Numbers		Health	
	2015	2016	Good	Poor
Sheep				
Goats				
Cattle				
Poultry				

Pasture condition: Good / average / poor

**Terms of trade**

	Average price of sheep SYP	Average price of 50 kg wheat SYP
2015		
2016		

Tabulated results of the household questionnaire

A.4.1. Demographic information

Demographic information	Is the head of household the breadwinner (%)		If not, who is the breadwinner (%)			Age	Sex (%)		Social situation (%)			
	yes	no	wife	G. father or uncle	1st son	Mean	male	female	Married	Divorced	widowed	single
R. Damascus	96.8	3.2	1.3	0	1.3	53.44	98.1	1.9	96.8	0	0	3.2
Dara'a	96.2	3.8	2.5	0	0	50.63	83.5	16.5	92.4	1.3	6.3	0
Quneitra	92.9	7.1	0	0	3.6	51.71	89.3	10.7	92.9	0	7.1	0
Sweida	87.9	12.1	6.5	0	0.9	59.03	87.9	12.1	86	0	10.3	3.7
Homs	94.9	5.1	1.7	0	2.5	53.53	93.2	6.8	94.9	0	0.8	4.2
Hama	91.2	8.8	5.9	0	2.9	51.37	95.1	4.9	91.2	0	4.9	3.9
Aleppo	97.6	2.4	0	0	2.4	52.45	100	0	97	0	3	0
Lattakia	95.1	4.9	2.4	0	1.2	53.24	95.1	4.9	91.5	0	4.9	3.7
Tartous	100	0	0	0	0	49.38	100	0	97.5	0	0	2.5
Idleb	87	13.0	8	1	1	50.63	92	8	91	1	7	1
Der-Ezzor	75.6	24.4	20	0	0	49.00	91.1	8.9	95.6	0	4.4	0
Al-Hasakeh	95.7	4.3	1.6	0	1.6	56.43	96.8	3.2	98.9	0	0.5	0.5
Total Average	92.6	7.4	4.2	0.1	1.5	52.57	93.5	6.5	93.8	0.2	4.1	1.9

A.4.2. Household production assets

Household production assets	cultivable lands (Hectare)	sheep (head)	cows (head)	goats (head)	chickens (head)	tractor (number)	tractor supplements (number)	harvester (number)
R. Damascus	2.89	14.03	2.04	4.07	259.14	.39	.58	.01
Dara'a	7.09	6.27	.33	1.54	6.32	.27	.76	.03
Quneitra	4.45	27.68	2.75	2.86	12.71	.36	1.25	0.00
Sweida	14.05	14.09	.98	3.64	13.13	.27	.90	.01
Homs	3.42	11.60	1.05	1.79	7.49	.38	.89	0.00
Hama	5.15	18.23	.90	2.88	8.50	.25	1.09	.03
Aleppo	6.04	24.04	.20	2.80	9.65	.41	1.16	.01
Lattakia	1.54	1.29	1.52	.38	11.28	.11	.15	0.00
Tartous	1.80	.34	.89	.13	6.20	.10	.10	0.00
Idleb	6.85	10.87	1.11	3.90	17.61	.48	.89	.02
Der-Ezzor	2.48	22.18	.53	1.29	6.93	.13	.11	0.00
Al-Hasakeh	14.80	28.04	.43	4.25	8.94	.30	.73	.04
Total Average	5.88	14.89	1.06	2.46	30.66	0.29	0.72	0.01

**A.4.3. Crop structure**

Production type (irrigation)	pieces of land, areas (Hectare)	irrigation method		irrigation source				
		traditional. Irrigation (%)	modern irrigation (%)	Well (%)	canal-river (%)	Network (%)	Rainfed (%)	Tank (%)
R. Damascus	1.3	61.1	38.9	76.4	6.4	0	17.3	0
Dara'a	3.0	45.8	54.2	28.6	3.6	10.7	57.1	0
Quneitra	1.8	57.1	42.9	55.6	33.3	11.1	0	0
Sweida	4.8	33.3	66.7	0	0	50	50	0
Homs	1.6	57.4	42.6	40.4	19.2	3.8	36.5	0
Hama	3.3	72.7	27.3	41.1	6.8	16.4	35.6	0
Aleppo	2.9	47.7	52.3	55.2	20.7	0	24.1	0
Lattakia	0.9	46.3	53.7	44	4	48	4	0
Tartous	0.7	30.4	69.6	28.3	0	8.3	63.3	0
Idleb	4.1	49.1	50.9	24.6	9.2	0	61.5	4.6
Der-Ezzor	1.5	100	0	7.4	92.6	0	0	0
Al-Hasakeh	9.3	81.5	18.5	50.6	0	0	49.4	0
Total Average	2.9	56.9	43.1	37.7	16.3	12.4	33.2	0.4

crops past season (% composition)	wheat	barley	Chick peas	lentil	Spices (cumin, anis)	potato	tomato	garlic	bean	peas	beans	cotton	tobacco	vegetables	olive	citrus	almond	apple	other
R. Damascus	20	12	1.3	0	0	1.3	0	2	0	2	3.3	0	0	9.3	16.7	0	7.3	12.7	12.1
Dara'a	55.6	23.8	0	0	0	0	0	0	0	0	0	0	0	4.8	14.3	0	0	0	1.6
Quneitra	30.8	23.1	0	0	0	0	3.8	0	0	0	0	0	0	0	23.1	0	3.8	11.5	3.8
Sweida	44.6	16.9	14.5	0	0	0	0	0	0	0	0	0	0	1.2	13.3	0	0	8.4	1.2
Homs	29.1	10.9	.9	0	.9	0	0	0	0	0	0	0	0	0.0	29.1	8.2	13.6	2.7	4.5
Hama	30.9	17.5	2.1	2.1	8.3	4.1	1	0	0	0	1	1	0	5.2	15.5	0	0	2.1	9.3
Aleppo	52.9	10.2	.6	4.5	.6	4.5	1.9	0	0	0	1.9	0	0	10.2	9.6	0	.6	0	2.5
Lattakia	9.9	0	0	0	0	1.2	7.4	0	0	0	0	0	3.7	11.1	40.7	19.8	0	3.7	2.5
Tartous	5	0	0	0	0	0	1.3	0	0	0	0	0	1.3	13.8	66.3	7.5	0	5	0
Idleb	15.6	17.7	8.3	4.2	0	5.2	0	0	0	0	0	0	0	4.2	35.4	1	0	6.3	2.1
Der-Ezzor	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Al-Hasakeh	59.3	14.8	.5	3.8	2.2	0	0	0	0	0	0	1.1	0	17	0	0	0	0	1.1
Total Average	37.8	12.2	2.4	1.2	1.3	1.4	1.3	0.2	0	0.2	0.5	0.2	0.4	6.4	22	3	2.1	4.4	3.4

crops current season (% composition)	wheat	barley	Chick peas	lentil	Spices (cumin, anis)	potato	tomato	garlic	bean	peas	beans	cotton	tobacco	vegetables	olive	citrus	almond	apple	other
R. Damascus	21.6	13.5	2	0	0	0	.7	2	1.4	2.7	0	0	11.5	21.6	15.5	0	6.1	13.5	9.5
Dara'a	26	40	6	0	0	0	0	0	0	0	0	0	8	26	18	0	0	0	2
Quneitra	26.9	19.2	3.8	0	0	0	7.7	0	0	0	0	0	0	26.9	23.1	0	3.8	11.5	3.8
Sweida	20	13.8	35.4	1.5	0	0	0	0	0	0	0	0	1.5	20	15.4	0	0	10.8	1.5
Homs	28.9	7	0	0	3.5	2.6	0	0	0	0	0	0	.9	28.9	28.1	7.9	14	2.6	4.4
Hama	35.8	17.9	3.2	1.1	8.4	2.1	0	0	0	0	0	0	5.3	35.8	15.8	0	0	2.1	8.4
Aleppo	35.9	13.1	5.9	11.8	1.4	2	0	0	0	2.6	0	0	13.1	35.9	9.8	0	.7	0	3.9
Lattakia	9.9	1.2	0	0	0	1.2	4.9	0	0	0	0	3.7	14.8	9.9	40.7	18.5	0	3.7	1.2
Tartous	3.8	0	0	0	0	0	1.3	0	0	0	0	1.3	12.7	3.8	67.1	7.6	0	5.1	1.3
Idleb	22.1	15.8	5.3	4.2	1.1	1.1	0	0	0	0	0	0	6.3	22.1	34.7	1.1	0	4.2	4.2
Der-Ezzor	94.6	5.4	0	0	0	0	0	0	0	0	0	0	0	94.6	0	0	0	0	0
Al-Hasakeh	66.8	21.7	0	3.3	2.7	0	0	0	0	0	1.1	0	4.3	66.8	0	0	0	0	0
Total Average	32.7	14.1	5.1	1.8	2.3	0.7	1.2	0.2	0.1	0.4	0.1	0.4	6.5	32.7	22.4	2.9	2.1	4.5	3.4

#### A.4.4. Agricultural input availability

seeds availability compared to last year	wheat			barley			chickpeas			lentils			vegetables		
	less	same	higher	less	same	higher	less	same	higher	less	same	higher	less	same	higher
R. Damascus	47	42.4	10.6	44.1	48.5	7.4	46.7	46.7	6.7	55.6	33.3	11.1	30	67.1	2.9
Dara'a	47	50	1.5	65.4	32.7	0	90	10	0	90	0	0	73.7	21.1	0
Quneitra	0	75	21.4	0	100	0	0	100	0	0	100	0	0	100	0
Sweida	22.5	77.5	0	41.7	58.3	0	47.3	52.7	0	50	50	0	50	50	0
Homs	9.7	88.7	1.6	46.9	53.1	0	20	80	0	22.2	77.8	0	20	80	0
Hama	30	55.7	14.3	38.7	58.1	3.2	22.2	69.4	8.3	25.8	67.7	6.5	18.8	62.5	18.8
Aleppo	45.9	45.2	8.9	50	47.7	2.3	64.9	35.1	0	63.8	36.2	0	47.6	31.7	20.6
Lattakia	11.1	88.9	0	0	100	0	16.7	83.3	0	33.3	66.7	0	14.6	85.4	0
Tartous	33.3	51	15.7	15.4	84.6	0	0	100	0	0	100	0	0	76.7	23.3
Idleb	75.9	24.1	0	47.9	52.1	0	71.7	28.3	0	80	20	0	50.9	49.1	0
Der-Ezzor	100	0	0	100	0	0	0	0	0	0	0	0	100	0	0
Al-Hasakeh	36.7	56.2	7.1	37.6	55	7.4	41.1	58.9	0	37	56.2	6.8	41.7	58.3	0
Total Average	38.3	54.6	6.8	40.6	57.5	1.7	35	55.4	1.3	38.1	50.7	2	37.3	56.8	5.5

Note: might not add up to 100 per crop and commodity as some respondents did not respond.

Fertilizer availability (NPK) compared to last year	Nitrogen (N)				phosphorus (P)				Potassium (K)			
	less	same	higher	NA	less	same	higher	NA	less	same	higher	NA
R. Damascus	55.5	31.8	11.8	.9	55	31	13	1	68.4	29.1	1.3	1.3
Dara'a	82.8	3.4	13.8	0	81.5	18.5	0	0	94.7	0	0	5.3
Quneitra	0	0	17.9	82.1	0	0	17.9	82.1	0	3.6	17.9	78.6
Sweida	50	50	0	0	53.8	46.2	0	0	66.7	33.3	0	0
Homs	37.7	59.7	2.6	0	44.8	53.4	1.7	0	57.1	40.5	2.4	0
Hama	31.9	46.2	22	0	36	42.7	21.3	0	52.5	42.4	5.1	0
Aleppo	83.2	16.8	0	0	80.1	16.6	3.3	0	79.5	16.5	3.9	0
Lattakia	6.2	93.8	0	0	22.7	77.3	0	0	0	18.8	0	81.3
Tartous	32.5	46.3	21.3	0	33.8	50.7	15.5	0	91.9	8.1	0	0
Idleb	92.6	7.4	0	0	92.5	7.5	0	0	92.5	7.5	0	0
Der-Ezzor	100	0	0	0	100	0	0	0	100	0	0	0
Al-Hasakeh	98.4	1.6	0	0	98.5	1.5	0	0	94	6	0	0
Total Average	55.9	29.7	7.4	6.9	58.2	28.8	6.1	6.9	66.4	17.1	2.5	13.9

Pesticides availability compared to last year	Insecticides				Herbicides				Fungicides			
	less	same	higher	NA	less	same	higher	NA	less	same	higher	NA
R. Damascus	42.6	50.4	6.1	.9	41.2	54.1	3.5	1.2	39.8	54.4	4.9	1
Dara'a	84.4	15.6	0	0	75	20.8	0	4.2	80	20	0	0
Quneitra	0	100	0	0	0	100	0	0	0	100	0	0
Sweida	73.9	26.1	0	0	95.7	4.3	0	0	95.8	4.2	0	0
Homs	18.2	77.9	3.9	0	10	88.3	1.7	0	18.3	78.3	3.3	0
Hama	12.9	57.6	29.4	0	10.6	60	29.4	0	9.7	55.6	34.7	0
Aleppo	56	32.8	11.2	0	62.1	26.7	11.2	0	59.6	28.4	11.9	0
Lattakia	31.9	68.1	0	0	29.6	70.4	0	0	29.6	70.4	0	0
Tartous	34.3	50	15.7	0	36.8	51.5	11.8	0	32.9	52.9	14.3	0
Idleb	47.6	52.4	0	0	38.9	61.1	0	0	43.6	56.4	0	0
Der-Ezzor	100	0	0	0	100	0	0	0	100	0	0	0
Al-Hasakeh	47.1	52.9	0	0	47.7	52.3	0	0	48.8	51.2	0	0
Total Average	45.7	48.7	5.5	0.1	45.6	49.1	4.8	0.4	46.5	47.6	5.8	0.1

Equipment availability compared to last year	Greenhouse supplies (plastic sheets, irrigation...)			Agricultural tools			Agricultural machinery			Spare parts for machinery, irrigation, etc.		
	less	same	higher	less	same	higher	less	same	higher	less	same	higher
R. Damascus	40.5	52.4	7.1	41.7	57.3	1	44	56	0	59.3	37.4	3.3
Dara'a	72.7	27.3	0	51.1	48.9	0	46	54	0	79.5	20.5	0
Quneitra	0	100	0	0	100	0	0	100	0	0	100	0
Sweida	100	0	0	61.9	38.1	0	56.2	43.8	0	93.3	6.7	0
Homs	17.6	76.5	5.9	27	69.8	3.2	29.4	69.1	1.5	53.6	46.4	0
Hama	0	93.8	6.3	19.3	78.3	2.4	19.8	77.9	2.3	30.4	64.6	5.1
Aleppo	63.3	23.3	13.3	68	29.5	2.5	69.4	28.2	2.4	79.2	15.4	5.4
Lattakia	62.5	37.5	0	20.8	79.2	0	43.7	56.3	0	66.7	33.3	0
Tartous	25.9	55.2	19	35.7	51.4	12.9	39.7	49.2	11.1	43.5	45.2	11.3
Idleb	68.6	31.4	0	67	33	0	76.2	23.8	0	83.1	16.9	0
Der-Ezzor	0	0	0	88.9	11.1	0	84.4	15.6	0	100	0	0
Al-Hasakeh	85.2	11.1	3.7	29.5	68.9	1.6	32.9	61.9	5.2	65.3	29.3	5.4
Total Average	44.7	42.4	4.6	42.6	55.5	2	45.1	53	1.9	62.8	34.6	2.5

Availability compared to last year	Fuel				Labour				Credit			
	less	same	higher	NA	less	same	higher	NA	less	same	higher	NA
R. Damascus	18.3	38.9	42.1	.8	37.7	56.6	5.7	0	46.8	44.2	9.1	0
Dara'a	93.9	6.1	0	0	63.5	36.5	0	0	97.2	2.8	0	0
Quneitra	0	17.9	82.1	0	0	60.7	39.3	0	100	0	0	0
Sweida	91.9	8.1	0	0	73	25.8	0	1.1	0	0	0	0
Homs	70.6	26.5	2.9	0	67.4	31.5	1.1	0	77.5	22.5	0	0
Hama	52.2	34.4	13.3	0	28	48.4	23.7	0	58.2	32.7	9.1	0
Aleppo	54.9	35.2	9.9	0	45.8	46.5	7.7	0	51.9	30.8	17.3	0
Lattakia	77.4	22.6	0	0	97.1	2.9	0	0	60	24	0	16
Tartous	53	36.4	10.6	0	73.9	13	13	0	50.9	49.1	0	0
Idleb	98.9	1.1	0	0	38.7	45.2	16.1	0	65.6	33.3	0	1.1
Der-Ezzor	82.2	17.8	0	0	9.1	90.9	0	0	100	0	0	0
Al-Hasakeh	36.7	57.8	5.4	0	77.5	17.6	4.9	0	79.6	20.4	0	0
Total Average	60.8	25.2	13.9	0.1	51	39.6	9.3	0.1	65.6	21.6	3	1.4

#### A.4.5. Seed sources

Wheat (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	87.8	12.2	80.8	19.2	84.6	15.4	100	0
Dara'a	89.9	10.1	65.8	34.2	54.4	45.6	100	0
Quneitra	0	100	92.9	7.1	32.1	67.9	100	0
Sweida	70.1	29.9	87.9	12.1	66.4	33.6	100	0
Homs	83.1	16.9	99.2	.8	55.9	44.1	100	0
Hama	83.3	16.7	78.4	21.6	52	48	97.1	2.9
Aleppo	57.9	42.1	34.1	65.9	97.6	2.4	98.2	1.8
Lattakia	85.4	14.6	84.1	15.9	87.8	12.2	100	0
Tartous	61.3	38.8	76.3	23.8	97.5	2.5	100	0
Idleb	69	31	49	51	100	0	100	0
Der-Ezzor	64.4	35.6	4.4	95.6	97.8	2.2	97.8	2.2
Al-Hasakeh	52.9	47.1	44.4	55.6	96.8	3.2	98.4	1.6
Total Average	67.1	32.9	66.4	33.6	76.9	23.1	99.3	0.7

Barley (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	84.6	15.4	70.5	29.5	98.1	1.9	100	0
Dara'a	81	19	50.6	49.4	87.3	12.7	100	0
Quneitra	10.7	89.3	82.1	17.9	100	0	100	0
Sweida	79.4	20.6	68.2	31.8	92.5	7.5	100	0
Homs	86.4	13.6	86.4	13.6	93.2	6.8	100	0
Hama	91.2	8.8	58.8	41.2	84.3	15.7	100	0
Aleppo	78.7	21.3	56.1	43.9	98.8	1.2	100	0
Lattakia	95.1	4.9	93.9	6.1	100	0	100	0
Tartous	75	25	95	5	100	0	100	0
Idleb	61	39	54	46	100	0	100	0
Der-Ezzor	75.6	24.4	6.7	93.3	100	0	100	0
Al-Hasakeh	63.1	36.9	43.9	56.1	98.4	1.6	100	0
Total Average	73.5	26.5	63.9	36.1	96.1	3.9	100	0

Chickpeas (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	98.1	1.9	93.6	6.4	100	0	100	0
Dara'a	89.9	10.1	75.9	24.1	98.7	1.3	100	0
Quneitra	32.1	67.9	35.7	64.3	100	0	100	0
Sweida	71	29	74.8	25.2	100	0	100	0
Homs	98.3	1.7	93.2	6.8	100	0	100	0
Hama	91.2	8.8	70.6	29.4	98	2	100	0
Aleppo	97.6	2.4	76.8	23.2	100	0	100	0
Lattakia	98.8	1.2	96.3	3.7	100	0	100	0
Tartous	73.8	26.3	92.5	7.5	100	0	100	0
Idleb	75	25	55	45	100	0	100	0
Der-Ezzor	100	0	100	0	100	0	100	0
Al-Hasakeh	88.2	11.8	71.1	28.9	100	0	100	0
Total Average	84.5	15.5	78	22	99.7	0.3	100	0

Lentils (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	99.4	.6	97.4	2.6	100	0	100	0
Dara'a	97.5	2.5	88.6	11.4	100	0	100	0
Quneitra	75	25	35.7	64.3	100	0	100	0
Sweida	99.1	.9	99.1	.9	100	0	100	0
Homs	98.3	1.7	94.1	5.9	100	0	100	0
Hama	94.1	5.9	72.5	27.5	100	0	100	0
Aleppo	93.3	6.7	58.5	41.5	100	0	100	0
Lattakia	100	0	98.8	1.2	100	0	100	0
Tartous	81.3	18.8	85	15	100	0	100	0
Idleb	76	24	56	44	100	0	100	0
Der-Ezzor	100	0	100	0	100	0	100	0
Al-Hasakeh	86.1	13.9	65.8	34.2	100	0	100	0
Total Average	91.7	8.3	79.3	20.7	100	0	100	0

Vegetables (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	96.8	3.2	59	41	100	0	100	0
Dara'a	98.7	1.3	77.2	22.8	100	0	100	0
Quneitra	89.3	10.7	14.3	85.7	100	0	92.9	7.1
Sweida	99.1	.9	99.1	.9	100	0	100	0
Homs	98.3	1.7	77.1	22.9	100	0	99.2	.8
Hama	100	0	53.9	46.1	99	1	99	1
Aleppo	99.4	.6	62.8	37.2	100	0	100	0
Lattakia	91.5	8.5	61	39	100	0	100	0
Tartous	100	0	46.3	53.8	100	0	100	0
Idleb	98	2	47	53	100	0	99	1
Der-Ezzor	95.6	4.4	6.7	93.3	100	0	100	0
Al-Hasakeh	96.3	3.7	71.1	28.9	100	0	99.5	.5
Total Average	96.9	3.1	56.3	43.7	99.9	0.1	99.1	0.9

#### A.4.6. Fertilizer sources

Nitrogen (N) (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	100	0	57.1	42.9	68.6	31.4	100	0
Dara'a	100	0	73.4	26.6	87.3	12.7	100	0
Quneitra	100	0	96.4	3.6	82.1	17.9	100	0
Sweida	100	0	99.1	.9	88.8	11.2	100	0
Homs	99.2	.8	84.7	15.3	50.8	49.2	100	0
Hama	100	0	64.7	35.3	25.5	74.5	100	0
Aleppo	99.4	.6	10.4	89.6	98.8	1.2	100	0
Lattakia	100	0	79.3	20.7	19.5	80.5	100	0
Tartous	100	0	76.3	23.8	13.8	86.3	100	0
Idleb	100	0	8	92	100	0	100	0
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	100	0	67.9	32.1	100	0	100	0
Total Average	99.9	0.1	59.8	40.2	69.6	30.4	100	0

Phosphorus (P) (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	100	0	62.8	37.2	69.2	30.8	100	0
Dara'a	100	0	73.4	26.6	87.3	12.7	100	0
Quneitra	100	0	96.4	3.6	82.1	17.9	100	0
Sweida	100	0	99.1	.9	89.7	10.3	100	0
Homs	100	0	85.6	14.4	65.3	34.7	100	0
Hama	100	0	66.7	33.3	32.4	67.6	100	0
Aleppo	100	0	9.1	90.9	98.8	1.2	100	0
Lattakia	98.8	1.2	85.4	14.6	23.2	76.8	100	0
Tartous	100	0	82.5	17.5	18.8	81.3	100	0
Idleb	100	0	10	90	100	0	100	0
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	100	0	67.4	32.6	100	0	100	0
Total Average	99.9	0.1	61.5	38.5	72.2	27.8	100	0

Potassium (K) (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	100	0	61.5	38.5	87.8	12.2	100	0
Dara'a	100	0	78.5	21.5	98.7	1.3	100	0
Quneitra	100	0	96.4	3.6	82.1	17.9	100	0
Sweida	100	0	88.8	11.2	100	0	100	0
Homs	100	0	83.9	16.1	80.5	19.5	100	0
Hama	100	0	61.8	38.2	72.5	27.5	100	0
Aleppo	100	0	25.6	74.4	98.2	1.8	100	0
Lattakia	100	0	96.3	3.7	97.6	2.4	100	0
Tartous	100	0	60	40	91.3	8.8	100	0
Idleb	100	0	10	90	100	0	100	0
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	99.5	.5	67.9	32.1	100	0	100	0
Total Average	100	0	60.9	39.1	92.4	7.6	100	0

#### A.4.7. Pesticides sources

Insecticides (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	100	0	30.8	69.2	94.2	5.8	100	0
Dara'a	100	0	59.5	40.5	100	0	100	0
Quneitra	100	0	7.1	92.9	100	0	100	0
Sweida	99.1	.9	58.9	41.1	100	0	100	0
Homs	100	0	36.4	63.6	98.3	1.7	100	0
Hama	100	0	21.6	78.4	98	2	100	0
Aleppo	100	0	25.6	74.4	98.2	1.8	100	0
Lattakia	100	0	18.3	81.7	98.8	1.2	100	0
Tartous	100	0	16.3	83.8	97.5	2.5	100	0
Idleb	100	0	19	81	100	0	99	1
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	99.5	.5	58.3	41.7	100	0	100	0
Total Average	99.9	0.1	29.3	70.7	98.8	1.2	99.9	0.1

Herbicides (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	100	0	49.4	50.6	98.7	1.3	100	0
Dara'a	100	0	70.9	29.1	100	0	100	0
Quneitra	100	0	0	100	100	0	100	0
Sweida	100	0	78.5	21.5	100	0	100	0
Homs	100	0	50	50	99.2	.8	100	0
Hama	100	0	19.6	80.4	99	1	100	0
Aleppo	100	0	30.5	69.5	98.8	1.2	99.4	.6
Lattakia	100	0	15.9	84.1	100	0	100	0
Tartous	100	0	17.5	82.5	98.8	1.3	100	0
Idleb	100	0	31	69	100	0	99	1
Der-Ezzor	100	0	2.2	97.8	100	0	100	0
Al-Hasakeh	98.9	1.1	57.2	42.8	100	0	100	0
Total Average	99.9	0.1	35.2	64.8	99.5	0.5	99.9	0.1

Fungicides (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	99.4	.6	37.2	62.8	98.7	1.3	100	0
Dara'a	100	0	68.4	31.6	100	0	100	0
Quneitra	100	0	0	100	100	0	100	0
Sweida	100	0	78.5	21.5	100	0	100	0
Homs	100	0	51.7	48.3	98.3	1.7	100	0
Hama	100	0	33.3	66.7	99	1	100	0
Aleppo	100	0	34.8	65.2	98.8	1.2	100	0
Lattakia	100	0	13.4	86.6	100	0	100	0
Tartous	100	0	15	85	98.8	1.3	100	0
Idleb	100	0	25	75	100	0	99	1
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	99.5	.5	57.8	42.2	100	0	100	0
Total Average	99.9	0.1	34.6	65.4	99.5	0.5	99.9	0.1

#### A.4.8. Equipment and input sources

Greenhouse supplies (plastic sheets, irrigation...)(Percentage)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	96.8	3.2	79.5	20.5	97.4	2.6	100	0
Dara'a	100	0	87.3	12.7	98.7	1.3	100	0
Quneitra	100	0	89.3	10.7	100	0	100	0
Sweida	100	0	98.1	1.9	100	0	100	0
Homs	100	0	84.7	15.3	100	0	100	0
Hama	100	0	87.3	12.7	98	2	100	0
Aleppo	99.4	.6	81.7	18.3	99.4	.6	100	0
Lattakia	100	0	80.5	19.5	100	0	100	0
Tartous	95	5	33.8	66.3	100	0	100	0
Idleb	99	1	32	68	100	0	100	0
Der-Ezzor	100	0	100	0	100	0	100	0
Al-Hasakeh	99.5	.5	89.3	10.7	100	0	100	0
Total Average	99.1	0.9	78.6	21.4	99.5	0.5	100	0

Agricultural equipment (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	88.5	11.5	51.3	48.7	99.4	.6	100	0
Dara'a	86.1	13.9	54.4	45.6	98.7	1.3	100	0
Quneitra	96.4	3.6	3.6	96.4	100	0	100	0
Sweida	94.4	5.6	86.9	13.1	100	0	100	0
Homs	76.3	23.7	65.3	34.7	99.2	.8	100	0
Hama	99	1	25.5	74.5	99	1	100	0
Aleppo	95.1	4.9	29.3	70.7	98.8	1.2	100	0
Lattakia	59.8	40.2	47.6	52.4	100	0	98.8	1.2
Tartous	88.8	11.3	26.3	73.8	98.8	1.3	100	0
Idleb	93	7	8	92	100	0	100	0
Der-Ezzor	93.3	6.7	2.2	97.8	100	0	100	0
Al-Hasakeh	85	15	47.6	52.4	100	0	100	0
Total Average	88	12	37.3	62.7	99.5	0.5	99.9	0.1

Agricultural machinery (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	88.5	11.5	49.4	50.6	99.4	.6	100	0
Dara'a	82.3	17.7	53.2	46.8	97.5	2.5	100	0
Quneitra	96.4	3.6	3.6	96.4	100	0	100	0
Sweida	82.2	17.8	54.2	45.8	99.1	.9	97.2	2.8
Homs	76.3	23.7	66.9	33.1	100	0	97.5	2.5
Hama	97.1	2.9	21.6	78.4	99	1	100	0
Aleppo	94.5	5.5	28	72	98.2	1.8	100	0
Lattakia	87.8	12.2	35.4	64.6	100	0	85.4	14.6
Tartous	87.5	12.5	36.3	63.8	100	0	100	0
Idleb	90	10	18	82	100	0	100	0
Der-Ezzor	93.3	6.7	4.4	95.6	100	0	100	0
Al-Hasakeh	83.4	16.6	34.8	65.2	97.3	2.7	99.5	.5
Total Average	88.3	11.7	33.8	66.2	99.2	0.8	98.3	1.7

Spare parts (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	98.7	1.3	46.8	53.2	99.4	.6	100	0
Dara'a	100	0	45.6	54.4	98.7	1.3	100	0
Quneitra	100	0	0	100	100	0	100	0
Sweida	98.1	1.9	72.9	27.1	99.1	.9	99.1	.9
Homs	100	0	52.5	47.5	100	0	99.2	.8
Hama	99	1	28.4	71.6	98	2	100	0
Aleppo	100	0	23.2	76.8	97	3	100	0
Lattakia	98.8	1.2	28	72	100	0	98.8	1.2
Tartous	100	0	25	75	100	0	100	0
Idleb	93	7	18	82	100	0	100	0
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	98.4	1.6	31	69	94.1	5.9	98.9	1.1
Total Average	98.8	1.2	31	69	98.9	1.1	99.7	0.3

Labour (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	81.4	18.6	53.2	46.8	100	0	98.7	1.3
Dara'a	60.8	39.2	39.2	60.8	98.7	1.3	100	0
Quneitra	57.1	42.9	17.9	82.1	100	0	100	0
Sweida	78.5	21.5	51.4	48.6	100	0	84.1	15.9
Homs	61.9	38.1	57.6	42.4	99.2	.8	99.2	.8
Hama	80.4	19.6	29.4	70.6	100	0	99	1
Aleppo	68.9	31.1	25	75	97.6	2.4	97.6	2.4
Lattakia	98.8	1.2	31.7	68.3	98.8	1.2	85.4	14.6
Tartous	61.3	38.8	50	50	100	0	100	0
Idleb	57	43	43	57	100	0	90	10
Der-Ezzor	62.2	37.8	6.7	93.3	100	0	100	0
Al-Hasakeh	90.9	9.1	44.9	55.1	90.9	9.1	97.3	2.7
Total Average	71.6	28.4	37.5	62.5	98.8	1.2	95.9	4.1

Fuel (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	98.7	1.3	84	16	35.3	64.7	100	0
Dara'a	100	0	22.8	77.2	75.9	24.1	100	0
Quneitra	100	0	82.1	17.9	21.4	78.6	100	0
Sweida	92.5	7.5	34.6	65.4	40.2	59.8	99.1	.9
Homs	98.3	1.7	89	11	50	50	100	0
Hama	99	1	48	52	52.9	47.1	99	1
Aleppo	99.4	.6	20.7	79.3	85.4	14.6	100	0
Lattakia	100	0	23.2	76.8	95.1	4.9	100	0
Tartous	98.8	1.3	38.8	61.3	81.3	18.8	100	0
Idleb	98	2	10	90	100	0	100	0
Der-Ezzor	100	0	0	100	100	0	100	0
Al-Hasakeh	97.9	2.1	34.2	65.8	92.5	7.5	100	0
Total Average	98.5	1.5	40.6	59.4	69.2	30.8	99.8	0.2

Credit (Percentage of respondents)	self-production		market		government		UN	
	no	yes	no	yes	no	yes	no	yes
R. Damascus	78.2	21.8	84.6	15.4	94.9	5.1	100	0
Dara'a	24.1	75.9	92.4	7.6	86.1	13.9	88.6	11.4
Quneitra	92.9	7.1	100	0	100	0	100	0
Sweida	100	0	100	0	100	0	100	0
Homs	72	28	97.5	2.5	96.6	3.4	100	0
Hama	83.3	16.7	78.4	21.6	87.3	12.7	99	1
Aleppo	91.5	8.5	77.4	22.6	100	0	100	0
Lattakia	80.5	19.5	95.1	4.9	97.6	2.4	98.8	1.2
Tartous	86.3	13.8	67.5	32.5	83.8	16.3	97.5	2.5
Idleb	33	67	87	13	100	0	90	10
Der-Ezzor	97.8	2.2	4.4	95.6	97.8	2.2	100	0
Al-Hasakeh	97.3	2.7	65.2	34.8	92	8	98.4	1.6
Total Average	78.1	21.9	79.1	20.9	94.7	5.3	97.7	2.3

#### A.4.9. Agricultural production

Did you cultivate all your own land this season? (Percentage of respondents)		
	no	yes
R. Damascus	48.7	51.3
Dara'a	49.4	50.6
Quneitra	64.3	35.7
Sweida	80.4	19.6
Homs	14.4	85.6
Hama	14.7	85.3
Aleppo	36.6	63.4
Lattakia	40.2	59.8
Tartous	36.3	63.8
Idleb	14	86
Der-Ezzor	91.1	8.9
Al-Hasakeh	39.8	60.2
Total Average	44.2	55.8

If not, it was because of.... (Percentage of respondents)	Unavailability of seeds		Unavailability of fertilizer		Unavailability of cash		Unavailability of irrigation water		Unavailability of fuel		Access to farms		Presence of armed groups	
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
R. Damascus	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Dara'a	0	100	0	0	0	100	0	0	0	100	0	100	0	100
Quneitra	0	0	0	100	0	100	0	100	0	0	0	100	0	100
Sweida	0	100	0	0	0	100	0	100	0	100	0	100	0	100
Homs	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Hama	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Aleppo	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Lattakia	0	0	0	100	0	100	0	100	0	100	0	100	0	0
Tartous	0	100	0	100	0	100	0	0	0	100	0	0	0	0
Idleb	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Der-Ezzor	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Al-Hasakeh	0	100	0	100	0	100	0	100	0	100	0	100	0	100
Total Average	0	83.3	0	83.3	0	100	0	83.3	0	91.7	0	91.7	0	83.3

#### A.4.9.1. Agricultural production past season (2014/15)

Crop area planted and harvested past season (2014/15) (donum)	wheat		barley		lentils		chickpeas		potatoes	
	cultivated	harvested								
R. Damascus	4.26	3.37	3.88	1.56	.19	.06	.62	.42	1.05	.99
Dara'a	17.54	11.53	16.70	9.33	0	0	1	1	0	0
Quneitra	9.59	8.43	9.18	8.07	0	0	1.54	1.54	0	0
Sweida	37.77	33.10	18.78	14.42	.37	.37	18.02	15.74	0	0
Homs	6.53	6.32	7.22	4.33	.08	.08	.20	.20	1.17	1
Hama	11.88	11.88	21.98	21.49	2.08	2.08	1.75	1.75	1.46	1.46
Aleppo	20.64	20.64	9.20	8.40	4.59	4.59	1.07	1.07	2.59	2.59
Lattakia	2.73	2.73	.16	.16	.05	.05	.03	.03	.16	.16
Tartous	2.29	2.29	.06	.06	0	0	0	0	.15	.15
Idleb	13.84	13.84	17.72	14.63	4.56	4.56	2.94	2.94	5.56	5.53
Der-Ezzor	9.64	11.58	.84	.78	0	0	0	0	.07	.07
Al-Hasakeh	60.38	59.74	25.96	25.90	13.24	13.24	4.28	4.28	0	0
Total Average	16.4	15.5	11.0	9.1	2.1	2.1	2.6	2.4	1	1

Production past season (2014/15) (tonnes)	wheat		barley		lentils		chickpeas		potatoes	
	harvested	marketed								
R. Damascus	4.59	1.93	2.06	.17	.03		.10	.04	2.64	2.77
Dara'a	1.22	1.13	.51	.67	0	0	.08	.07	0	0
Quneitra	1.26	.84	.76	.27	0	0	.11	.07	0	0
Sweida	1.88	1.42	.86	.42	.01	0	.32	.22	0	0
Homs	1.55	1.42	.62	.23		0	.02	.01	1.39	1.38
Hama	2.83	2.42	2.87	1.03	.53	.52	.26	.34	.75	.66
Aleppo	7.40	6.89	2.19	1.80	.79	.74	.18	.18	4.57	4.50
Lattakia	.43	.29	.02	0		0		0	.08	.06
Tartous	.35	.15	.01	0	0	0	0	0	.38	.31
Idleb	5.65	5.64	5.19	4.91	.52	.52	.42	.42	1.53	1.53
Der-Ezzor	3.06	1.09	22.33	0	0	0	0	0	.16	.16
Al-Hasakeh	12.78	11.35	3.40	2.36	1.24	.85	.49	.44	0	0
Total Average	3.6	2.9	3.4	1	0.3	0.2	0.2	0.1	1	0.9

Fruit and olive trees cultivated and harvested past season (2014/15) (donum)	citrus		apples		olives	
	cultivated	harvested	cultivated	harvested	cultivated	harvested
R. Damascus	0	0	1.63	.74	3.41	2.13
Dara'a	0	0	0	0	4.56	4.21
Quneitra	0	0	.79	.79	8.39	8.29
Sweida	0	0	1.97	1.97	3.08	2.56
Homs	.60	.60	.31	.31	8.93	8.37
Hama	.01	.01	.86	.70	7.56	7.49
Aleppo	0	0	0	0	6.58	6.25
Lattakia	2.23	1.92	.84	.60	6.01	6.01
Tartous	1.30	1.30	.73	.73	12.03	12.03
Idleb	2.22	2.22	1.11	1.11	10.78	10.03
Der-Ezzor	0	0	0	0	0	0
Al-Hasakeh	0	0	0	0	0	0
Total Average	0.5	0.5	0.7	0.6	5.9	5.6

Production past season (2014/15) (tonnes)	citrus		apples		olives	
	harvested	marketed	harvested	marketed	harvested	marketed
R. Damascus	0	0	.78	.76	2.41	.49
Dara'a	0	0	0	0	1.93	1.73
Quneitra	0	0	.24	.23	1.77	1.24
Sweida	0	0	.23	.23	1.26	.04
Homs	.40	.38	.75	.75	.94	.27
Hama	.05	.05	.86	.70	1	.68
Aleppo	0	0	0	0	1.11	.81
Lattakia	4.13	3.29	.84	.60	.53	.22
Tartous	10.46	5.70	.73	.73	16.63	10.80
Idleb	.78	.78	1.11	1.11	5.39	5.38
Der-Ezzor	0	0	0	0	0	0
Al-Hasakeh	0	0	0	0	0	0
Total Average	1.3	0.8	0.7	0.6	2.7	1.8

Wheat marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	88.5	11.5	80.1	19.9	99.3	.7
Dara'a	92.4	7.6	51	49	80.6	19.4
Quneitra	64.3	35.7	70.4	29.6	85.2	14.8
Sweida	79.4	20.6	30.8	69.2	100	0
Homs	96.6	3.4	67.9	32.1	97.2	2.8
Hama	90.2	9.8	55.6	44.4	89.7	10.3
Aleppo	65.9	34.1	96.3	3.7	66	34
Lattakia	82.9	17.1	87.5	12.5	95	5
Tartous	90	10	96.2	3.8	100	0
Idleb	87	13	90.2	9.8	100	0
Der-Ezzor	84.4	15.6	100	0	40.9	59.1
Al-Hasakeh	77.5	22.5	0	100	0	100
Total Average	83.3	16.7	68.8	31.2	79.5	20.5

Barley marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	89.7	10.3	0	0	0	100
Dara'a	83.5	16.5	0	0	0	100
Quneitra	89.3	10.7	0	0	0	100
Sweida	89.7	10.3	0	100	0	0
Homs	96.6	3.4	0	100	0	100
Hama	88.2	11.8	0	100	0	100
Aleppo	85.4	14.6	0	0	0	100
Lattakia	100	0	0	0	0	0
Tartous	100	0	0	0	0	0
Idleb	86	14	0	100	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	81.8	18.2	0	100	0	100
Total Average	90.9	9.1	0	41.7	0	66.7

Lentils marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	99.4	.6	0	0	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	100	0	0	0	0	0
Hama	92.2	7.8	0	0	0	100
Aleppo	90.2	9.8	0	0	0	100
Lattakia	100	0	0	0	0	0
Tartous	100	0	0	0	0	0
Idleb	90	10	0	100	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	93	7	0	0	0	100
Total Average	97.1	2.9	0	8.3	0	33.3

Chickpeas marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	96.8	3.2	0	0	0	100
Dara'a	94.9	5.1	0	0	0	100
Quneitra	85.7	14.3	0	0	0	0
Sweida	78.5	21.5	0	0	0	100
Homs	100	0	0	0	0	100
Hama	91.2	8.8	0	0	0	100
Aleppo	96.3	3.7	0	0	0	100
Lattakia	100	0	0	0	0	0
Tartous	100	0	0	0	0	0
Idleb	90	10	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	94.7	5.3	0	0	0	100
Total Average	94	6	0	0	0	66.7

Potatoes marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	94.9	5.1	0	100	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	94.9	5.1	0	0	0	0
Hama	95.1	4.9	0	0	0	100
Aleppo	89.6	10.4	0	0	0	0
Lattakia	98.8	1.2	0	0	0	100
Tartous	98.8	1.3	0	0	0	0
Idleb	92	8	0	0	0	0
Der-Ezzor	93.3	6.7	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	96.4	3.6	0	8.3	0	16.7

Citrus marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	100	0	0	0	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	93.2	6.8	0	100	0	0
Hama	98	2	0	0	0	0
Aleppo	100	0	0	0	0	0
Lattakia	81.7	18.3	0	0	0	100
Tartous	86.3	13.8	0	0	0	0
Idleb	95	5	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	96.2	3.8	0	8.3	0	16.7

Apples marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	92.9	7.1	0	0	0	100
Dara'a	100	0	0	0	0	0
Quneitra	85.7	14.3	0	0	0	100
Sweida	94.4	5.6	0	0	0	0
Homs	96.6	3.4	0	0	0	100
Hama	92.2	7.8	0	0	0	100
Aleppo	100	0	0	0	0	0
Lattakia	96.3	3.7	0	100	0	0
Tartous	91.3	8.8	0	100	0	100
Idleb	94	6	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	95.3	4.7	0	16.7	0	50

Olives marketing (2014/15) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	80.1	19.9	0	0	0	100
Dara'a	83.5	16.5	0	0	0	100
Quneitra	57.1	42.9	0	0	0	100
Sweida	96.3	3.7	0	0	0	0
Homs	94.9	5.1	0	0	0	100
Hama	83.3	16.7	0	0	0	100
Aleppo	84.8	15.2	0	0	0	0
Lattakia	84.1	15.9	0	0	0	0
Tartous	81.3	18.8	0	100	0	100
Idleb	47	53	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	82.7	17.3	0	8.3	0	58.3

#### A.4.9.2. Agricultural production current season (2015/16)

Crop area planted and harvested current season (2015/16) (donum)	wheat		barley		lentils		chickpeas		potatoes	
	cultivated	harvested								
R. Damascus	4.56	3.22	3.79	1.37	0	0	.29	.29	1.04	.83
Dara'a	17.77	5.72	27.91	7.27	0	0	1.33	.89	0	0
Quneitra	11.75	10.14	5.89	5.68	0	0	1.04	1.04	0	0
Sweida	28.06	16.50	16.93	8.90	.51	.37	21.06	15.31	0	0
Homs	5.94	5.90	5.61	2.39	.06	.06	.13	.13	1.01	.97
Hama	10.09	10.03	22.93	12.75	2.80	2.80	1.43	1.43	.46	.46
Aleppo	16.12	14.85	7.84	5.29	5.12	4.75	1.88	1.82	1.01	1.01
Lattakia	2.52	2.52	.45	.45	.01	0	.01	.01	.18	.15
Tartous	2.13	2.12	.03	.03	0	0	0	0	0	0
Idleb	10.16	9.53	16.56	10.08	6.22	6.02	8.98	8.08	3	3
Der-Ezzor	8.93	8.56	.38	.38	0	0	0	0	.12	.12
Al-Hasakeh	81.17	81.12	25.42	25.25	9.70	9.70	3.32	3.32	0	0
Total Average	16.6	14.2	11.1	6.7	2	2	3.3	2.7	0.6	0.5

Production current season (2015/16) (tonnes)	wheat		barley		lentils		chickpeas		potatoes	
	harvested	marketed	harvested	marketed	harvested	marketed	harvested	marketed	harvested	market ed
R. Damascus	.81	.70	.61	.19	0	0	.57	.50	.55	.62
Dara'a	.94	.71	.29	.18	0	0	.09	.07	0	0
Quneitra	1.28	.79	.50	.15	0	0	.09	.05	0	0
Sweida	.46	.23	.27	.05	.01	.01	.43	6.78	0	0
Homs	1.44	1.30	.48	.21		0	.01	.01	.99	.98
Hama	2.60	2.37	.99	.56	.40	.26	.18	.17	.28	.25
Aleppo	3.20	2.93	.59	.48	.33	.31	.20	.30	1.82	1.78
Lattakia	.38	.05	.06	.03	0	0	0	0	.12	.12
Tartous	.26	.14		0	0	0	0	0	0	0
Idleb	3.31	3.31	1.84	1.83	.30	.30	.97	.97	.85	.85
Der-Ezzor	1.99	.52	.14	0	0	0	0	0	.12	.10
Al-Hasakeh	18.04	16.70	3.89	2.74	1.12	1.08	.39	.36	0	0
Total Average	2.9	2.5	0.8	0.5	0.2	0.2	0.2	0.8	0.4	0.4

Fruit and olive trees cultivated and harvested current season (2015/16) (donum)	citrus		apples		olives	
	cultivated	harvested	cultivated	harvested	cultivated	harvested
R. Damascus	0	0	1.87	.81	3.32	.81
Dara'a	0	0	0	0	4.70	1.81
Quneitra	0	0	1.50	0	7.07	0
Sweida	0	0	1.97	1.97	2.34	1.74
Homs	.47	.35	.31	.31	8.23	7.07
Hama	.01	.01	1.05	.69	7.84	7.02
Aleppo	0	0	0	0	6.34	2.54
Lattakia	2.09	1.65	.84	.15	5.95	3.21
Tartous	1.30	1.26	.73	.16	12.08	8.31
Idleb	.27	.25	1.41	1.41	10.76	9.25
Der-Ezzor	0	0	0	0	0	0
Al-Hasakeh	0	0	0	0	0	0
Total Average	0.3	0.3	0.8	0.5	5.7	3.5

Production current season (2015/16) (tonnes)	citrus		apples		olives	
	harvested	marketed	harvested	marketed	harvested	marketed
R. Damascus	0	0	86.88	.25	2.18	.20
Dara'a	0	0	0	0	.32	0
Quneitra	0	0	0	0	0	0
Sweida	0	0	.30	.30	1.93	.04
Homs	.23	.16	.47	.47	.50	.12
Hama	.04	.03	.53	.50	.52	.34
Aleppo	0	0	0	0	.16	.15
Lattakia	3.93	1.95	0	0	.45	.30
Tartous	8.50	4.51	3.25	2.31	17.03	9.91
Idleb	.14	.14	.83	.83	5.21	5.20
Der-Ezzor	0	0	0	0	0	0
Al-Hasakeh	0	0	0	0	0	0
Total Average	1.1	0.6	7.7	0.4	2.4	1.4

Wheat marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	89.1	10.9	0	100	0	100
Dara'a	97.5	2.5	0	100	0	100
Quneitra	32.1	67.9	0	0	0	100
Sweida	96.3	3.7	0	100	0	0
Homs	97.5	2.5	0	100	0	100
Hama	84.3	15.7	0	100	0	100
Aleppo	67.1	32.9	0	100	0	100
Lattakia	92.7	7.3	0	100	0	100
Tartous	90	10	0	100	0	0
Idleb	78	22	0	0	0	100
Der-Ezzor	86.7	13.3	0	0	0	100
Al-Hasakeh	80.7	19.3	1.1	98.9	0	100
Total Average	82.7	17.3	0.1	74.9	0	83.3

Barley marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	91	9	0	0	0	100
Dara'a	88.6	11.4	0	100	0	100
Quneitra	85.7	14.3	0	0	0	100
Sweida	97.2	2.8	0	0	0	0
Homs	99.2	.8	0	100	0	100
Hama	84.3	15.7	0	100	0	100
Aleppo	87.2	12.8	0	0	0	100
Lattakia	98.8	1.2	0	0	0	100
Tartous	100	0	0	0	0	0
Idleb	89	11	0	100	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	84.5	15.5	0	100	0	100
Total Average	92.1	7.9	0	41.7	0	75

Lentils marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	100	0	0	0	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	100	0	0	0	0	0
Hama	93.1	6.9	0	100	0	0
Aleppo	89	11	0	0	0	100
Lattakia	100	0	0	0	0	0
Tartous	100	0	0	0	0	0
Idleb	94	6	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	92.5	7.5	0	0	0	100
Total Average	97.4	2.6	0	8.3	0	25

Chickpeas marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	96.2	3.8	0	0	0	100
Dara'a	94.9	5.1	0	0	0	100
Quneitra	85.7	14.3	0	0	0	0
Sweida	84.1	15.9	0	100	0	0
Homs	100	0	0	0	0	100
Hama	95.1	4.9	0	0	0	100
Aleppo	93.9	6.1	0	0	0	100
Lattakia	100	0	0	0	0	0
Tartous	100	0	0	0	0	0
Idleb	93	7	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	96.3	3.7	0	0	0	100
Total Average	94.9	5.1	0	8.3	0	58.3

Potatoes marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	96.2	3.8	0	0	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	94.9	5.1	0	0	0	0
Hama	94.1	5.9	0	0	0	100
Aleppo	93.3	6.7	0	0	0	0
Lattakia	97.6	2.4	0	0	0	100
Tartous	100	0	0	0	0	0
Idleb	99	1	0	0	0	0
Der-Ezzor	97.8	2.2	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	97.7	2.3	0	0	0	16.7

Citrus marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	100	0	0	0	0	0
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	100	0	0	0	0	0
Homs	96.6	3.4	0	100	0	0
Hama	99	1	0	0	0	0
Aleppo	100	0	0	0	0	0
Lattakia	81.7	18.3	0	0	0	100
Tartous	87.5	12.5	0	0	0	0
Idleb	96	4	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	1	3.3	0	8.3	0	16.7

Apples marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	94.2	5.8	0	100	0	100
Dara'a	100	0	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	94.4	5.6	0	0	0	0
Homs	99.2	.8	0	0	0	100
Hama	91.2	8.8	0	0	0	0
Aleppo	100	0	0	0	0	0
Lattakia	100	0	0	0	0	0
Tartous	97.5	2.5	0	0	0	100
Idleb	93	7	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	97.5	2.5	0	8.3	0	33.3

Olives marketing (2015/16) (percentage)	Marketed to local market		Marketed to government		Marketed to farm gate trader	
	no	yes	no	yes	no	yes
R. Damascus	91.7	8.3	0	0	0	100
Dara'a	98.7	1.3	0	0	0	0
Quneitra	100	0	0	0	0	0
Sweida	98.1	1.9	0	0	0	0
Homs	96.6	3.4	0	0	0	100
Hama	90.2	9.8	0	0	0	100
Aleppo	95.7	4.3	0	0	0	0
Lattakia	90.2	9.8	0	0	0	0
Tartous	86.3	13.8	0	100	0	100
Idleb	50	50	0	0	0	100
Der-Ezzor	100	0	0	0	0	0
Al-Hasakeh	100	0	0	0	0	0
Total Average	91.5	8.5	0	8.3	0	41.7

#### A.4.10. Income sources

Household income sources (% composition)	Crop production	Livestock production	Paid agricultural labour	Government al work	Self Employed	Private sector work	Trade	Donations and assistance	Remittances	Other
R. Damascus	40	19	3	10	13	4	3	2	2	4
Dara'a	27	13	9	36	9	3	1	1	1	0
Quneitra	41	24	4	22	10	0	0	0	0	0
Sweida	41	25	8	9	7	0	1	0	2	7
Homs	41	20	1	24	6	1	1	1	1	4
Hama	50	14	7	18	7	2	2	1	0	0
Aleppo	61	12	6	7	4	5	3	1	0	1
Lattakia	40	11	2	36	9	0	1	0	0	1
Tartous	42	7	2	45	3	0	0	0	0	0
Idleb	25	31	10	18	4	1	6	1	1	3
Der-Ezzor	22	23	13	2	0	4	3	8	25	0
Al-Hasakeh	66	18	2	4	4	2	2	1	1	0
Total Average	41.4	18	5.5	19.2	6.3	1.9	2	1.4	2.7	1.7

Gender composition of income sources (percentage)	Crop production		Livestock production		Paid agricultural labour		Governmental work		Self Employed	
	male	female	male	female	male	female	male	female	male	female
R. Damascus	71.3	22.1	32.1	14	8.3	2	15.5	4.6	17	2.7
Dara'a	59.4	18.3	8.4	18.3	13.1	2.4	36.2	9.4	13.1	1.6
Quneitra	58.6	41.4	38.6	40	7.1	0	60.7	7.1	35.7	0
Sweida	62	35.2	18.3	39.6	20.1	1.4	22.3	3.8	15.4	1.4
Homs	69.3	22.2	23.6	27.1	4.7	1.3	38.7	1.9	11.9	0
Hama	71.5	24.6	20.4	21.7	12.4	12.1	29.8	8.4	17.9	3.6
Aleppo	71.1	28.2	21.2	26	21.9	3.1	30.3	0.9	10.2	0.7
Lattakia	64.8	34	21.3	16.3	6.6	0.7	54.9	11	18.6	2.1
Tartous	58.5	33.8	11	17.8	4.6	0.6	47.1	22.3	13.7	4
Idleb	55.7	39.4	28.8	52.2	31	20.1	47.6	11.4	18.1	0.9
Der-Ezzor	35.3	62.4	22.2	68.9	25	55	11.1	0	2.1	2.3
Al-Hasakeh	84.9	32.2	27.5	32.4	83.9	42.7	9.4	1.3	89.5	27.9
Total Average	63.5	32.8	22.8	31.2	19.9	11.8	33.6	6.8	21.9	3.9

Gender composition of income sources (percentage)	Private sector work		Trade		Donations and assistance		Remittances		Other	
	male	female	male	female	male	female	male	female	male	female
R. Damascus	10.3	0.2	7.7	0	9.1	4.3	3.9	1.9	1	0.3
Dara'a	3.9	0	1	0.3	5.1	1.3	3.8	0	0	0
Quneitra	3.6	0	0	0	0	0	0	0	0	0
Sweida	0	0	2.8	0	0	0.9	3.7	0	15.9	0
Homs	1.7	0	4.8	0.3	0	0.8	2.5	0	2.5	1.7
Hama	3.2	0.7	3.9	0	8.8	3.1	0	0	0	0
Aleppo	12.3	3.2	12	0.8	6.7	0	2.4	0	1.2	0
Lattakia	0	0	3.7	1.2	0	1.2	0	0	0.6	0.6
Tartous	0	0	0	0	0	0	0	0	0	0
Idleb	2	0	25.1	0.9	2.8	10.2	3	1	10.3	7.7
Der-Ezzor	38	2	28.4	0.4	78.3	10.6	91.6	4	0	0
Al-Hasakeh	100	0	94.1	0	85.7	75	90.6	37.5	0	0
Total Average	14.6	0.5	15.3	0.3	16.4	9	16.8	3.7	2.6	0.9

Was any of above income sources affected by current situation? (Percentage of respondents)		
	yes	no
R. Damascus	62.8	37.2
Dara'a	89.9	10.1
Quneitra	92.9	7.1
Sweida	91.6	8.4
Homs	66.9	33.1
Hama	82.4	17.6
Aleppo	77.4	22.6
Lattakia	98.8	1.2
Tartous	56.3	43.8
Idleb	87.0	13.0
Der-Ezzor	93.3	6.7
Al-Hasakeh	76.7	23.3
Total Average	81.3	18.7

If YES, what are the reasons? (percentage)	Marketing difficulties		Presence of armed groups		Herd lost		Job lost		Migration	
	no	yes	no	yes	no	yes	no	yes	no	yes
R. Damascus	74.4	25.6	86.5	13.5	89.7	10.3	98.7	1.3	94.2	5.8
Dara'a	87.3	12.7	41.8	58.2	94.9	5.1	94.9	5.1	78.5	21.5
Quneitra	100	0	46.4	53.6	89.3	10.7	100	0	100	0
Sweida	90.7	9.3	53.3	46.7	84.1	15.9	89.7	10.3	98.1	1.9
Homs	78.8	21.2	90.7	9.3	95.8	4.2	100	0	91.5	8.5
Hama	82.4	17.6	61.8	38.2	91.2	8.8	99	1	91.2	8.8
Aleppo	54.9	45.1	57.3	42.7	78	22	99.4	.6	81.1	18.9
Lattakia	79.3	20.7	98.8	1.2	91.5	8.5	98.8	1.2	93.9	6.1
Tartous	61.3	38.8	100	0	100	0	100	0	100	0
Idleb	20	80	28	72	68	32	80	20	90	10
Der-Ezzor	44.4	55.6	8.9	91.1	35.6	64.4	68.9	31.1	8.9	91.1
Al-Hasakeh	65.2	34.8	67.4	32.6	87.2	12.8	98.9	1.1	65.8	34.2
Total Average	69.9	30.1	61.7	38.3	83.8	16.2	94	6	82.8	17.2

#### A.4.11. Assistance

Seed assistance (percentage)	Was it sufficient?		Seed assistance from the government		Seed assistance from UN		Seed assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	1.9	98.1	0	100	98.1	1.9	100	0
Dara'a	1.3	98.7	0	100	100	0	100	0
Quneitra	0	100	–	–	96.4	3.6	100	0
Sweida	0	100	–	–	100	0	100	0
Homs	5.1	94.9	0	100	87.3	12.7	100	0
Hama	1	99	0	100	85.3	14.7	98	2
Aleppo	6.7	93.3	0	100	72.6	27.4	88.4	11.6
Lattakia	0	100	–	–	100	0	100	0
Tartous	1.3	98.8	–	–	97.5	2.5	100	0
Idleb	9	91	–	–	88	12	100	0
Der-Ezzor	2.2	97.8	–	–	77.8	22.2	100	0
Al-Hasakeh	13.9	86.1	0	100	89.8	10.2	100	0
Total Average	3.5	96.5	0	100	91.1	8.9	98.9	1.1

Food basket assistance (percentage)	Was it sufficient?		assistance from the government		assistance from UN		assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	8.1	91.9	0	100	70.5	29.5	91.7	8.3
Dara'a	3.7	96.3	0	100	79.7	20.3	92.4	7.6
Quneitra	0	100	–	–	21.4	78.6	100	0
Sweida	10	90	0	100	94.4	5.6	98.1	1.9
Homs	25	75	0	100	82.2	17.8	95.8	4.2
Hama	4.5	95.5	0	100	65.7	34.3	95.1	4.9
Aleppo	11.8	88.2	0	100	91.5	8.5	78	22
Lattakia	0	100	0	100	87.8	12.2	97.6	2.4
Tartous	12.5	87.5	–	–	96.3	3.8	100	0
Idleb	22.6	77.4	–	–	89	11	47	53
Der-Ezzor	0	100	0	100	91.1	8.9	100	0
Al-Hasakeh	36.4	63.6	0	100	94.7	5.3	93	7
Total Average	11.2	88.8	0	100	80.4	19.6	90.7	9.3

Training assistance (percentage)	Was it sufficient?		assistance from the government		assistance from UN		assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	0	100	0	100	0	100	–	–
Dara'a	0	100	0	100	–	–	–	–
Quneitra	–	–	–	–	0	100	–	–
Sweida	–	–	–	–	–	–	–	–
Homs	–	–	–	–	–	–	–	–
Hama	100	0	0	100	–	–	–	–
Aleppo	16.7	66.7	0	100	0	100	–	–
Lattakia	–	–	–	–	–	–	–	–
Tartous	100	0	–	–	–	–	–	–
Idleb	50	50	–	–	0	100	0	100
Der-Ezzor	–	–	–	–	–	–	–	–
Al-Hasakeh	–	–	–	–	–	–	–	–
Total Average	44.4	52.8	0	100	0	100	0	100

Production tools assistance (percentage)	Was it sufficient?		assistance from the government		assistance from UN		assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	0	100	0	100	99.4	.6	100	0
Dara'a	–	–	–	–	100	0	100	0
Quneitra	–	–	–	–	100	0	100	0
Sweida	–	–	–	–	100	0	100	0
Homs	–	–	–	–	100	0	100	0
Hama	–	–	–	–	100	0	100	0
Aleppo	0	100	–	–	100	0	100	0
Lattakia	–	–	–	–	100	0	100	0
Tartous	0	100	–	–	100	0	100	0
Idleb	100	0	–	–	88	12	100	0
Der-Ezzor	–	–	–	–	100	0	100	0
Al-Hasakeh	100	0	–	–	98.9	1.1	100	0
Total Average	40	60	0	100	98.9	1.1	100	0

Fertilizer assistance (percentage)	Was it sufficient?		assistance from the government		assistance from UN		assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	50	50	0	100	100	0	100	0
Dara'a	–	–	–	–	100	0	100	0
Quneitra	–	–	–	–	100	0	100	0
Sweida	–	–	–	–	100	0	100	0
Homs	–	–	–	–	100	0	100	0
Hama	–	–	–	–	100	0	100	0
Aleppo	0	100	–	–	100	0	100	0
Lattakia	–	–	–	–	100	0	100	0
Tartous	0	100	–	–	100	0	100	0
Idleb	100	0	–	–	94	6	100	0
Der-Ezzor	–	–	–	–	100	0	100	0
Al-Hasakeh	0	100	–	–	100	0	100	0
Total Average	30	70	0	100	99.5	0.5	100	0

Feed assistance (percentage)	Was it sufficient?		assistance from the government		assistance from UN		assistance from NGOs	
	yes	no	yes	no	yes	no	yes	no
R. Damascus	60	40	0	100	–	–	–	–
Dara'a	0	100	0	100	0	100	0	100
Quneitra	0	100	–	–	0	100	–	–
Sweida	37.5	62.5	–	–	0	100	–	–
Homs	0	100	0	100	0	100	0	100
Hama	0	100	–	–	0	100	–	–
Aleppo	0	100	0	100	–	–	–	–
Lattakia	–	–	–	–	–	–	–	–
Tartous	–	–	–	–	–	–	–	–
Idleb	0	100	–	–	0	100	–	–
Der-Ezzor	–	–	–	–	–	–	–	–
Al-Hasakeh	25	75	0	100	0	100	0	100
Total Average	13.6	86.4	0	100	0	100	0	100

#### A.4.12. Nutrition

Percentage	Have there been times in the last 7 days when you or a member of your family has not had enough food to eat?		If yes, how many days?
	yes	no	
R. Damascus	14.1	85.9	3
Dara'a	60.8	39.2	6
Quneitra	3.6	96.4	5
Sweida	91.6	8.4	7
Homs	7.6	92.4	5
Hama	29.4	70.6	5
Aleppo	18.3	81.7	4
Lattakia	51.2	48.8	6
Tartous	35	65	2
Idleb	50	50	3
Der-Ezzor	64.4	35.6	6
Al-Hasakeh	18.5	81.5	2
Total Average	37	63	5

Adaptation to lack of food (number of days)	Eat cheaper food	Fewer meals	Smaller portions	Adults eat less and children more	Borrow food	Send family members to eat with other relatives	Sell animals	Sell land	Sell productive assets	Other
R. Damascus	4	0	0	4	4	0	0	1	1	6
Dara'a	6	3	2	5	1	0	0			1
Quneitra		0	0	7		0	0			
Sweida	7	2	6	7		0	1	5	5	5
Homs	5	0	0	3	1	0	0		1	
Hama	4	0	0	2	3	0	0	7	1	
Aleppo	4	1	1	4	1	0	0			2
Lattakia	6	1	3	7	1	0	0	1	1	5
Tartous	2	0	0		1	0	0	2		
Idleb	4	0	0		3	0	0			
Der-Ezzor	6	4	4	6		0	0			
Al-Hasakeh	2	0	0	2	1	0	0		1	
Total Average	5	1	1	5	2	0	0	3	2	4

