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SPECIAL REPORT

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

18 July 2017

[Report in brief](#)



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Acronyms and Abbreviations

AEZs	Agro-Ecological Zones
ASI	Agricultural Stress Index
bbl/d	Barrels per day
CFSAM	Crop and Food Security Assessment Mission
EIU	Economist Intelligence Unit
ESCWA	Economic and Social Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Data programme of FAO Statistics Division
FMD	Foot-and-mouth disease
GDP	Gross Domestic Product
GOSM	General Organization for Seed Multiplication
ha	Hectare
HOBOOB	General Establishment for Cereal Trade and Processing
ICRD	International Committee of the Red Cross
IDPs	Internally Displaced Persons
IS	Islamic State
kg	Kilogramme
LTA	Long Term Average
MAAR	Ministry of Agriculture and Agrarian Reform
mm	Millimetre
MWR	Ministry of Water Resources
mVAM	mobile Vulnerability Analysis and Mapping
NAPC	National Agricultural Policy Centre
NDVI	Normalized Difference Vegetation Index
NGO	Non-Government Organization
NRC	Norwegian Refugee Council
RFSAN	Regional Food Security Analysis Network
SARC	Syrian Arab Red Crescent
SYP	Syrian Pound
t	tonne
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UN/OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNRCO	United Nations Resident Coordinator Office
USD	US Dollar
WFP	World Food Programme

Highlights

- **Crop production:** Production of wheat and barley slightly improved in 2017 compared to previous year due to better rainfall and improved access to agricultural land in some areas. Total wheat production has been estimated at 1.8 million tonnes, 12 percent more than last year's record low harvest but still much less than half of the pre-conflict average of 4.1 million tonnes (2002-2011). Main agricultural constraints continue to be high production costs, lack of inputs and damaged or destroyed infrastructure, including irrigation.
- **Livestock:** Over the past two years, the herd sizes have stabilized albeit at a very low level. Main constraints continue to be high fodder prices, insufficient coverage of veterinary services and access to grazing areas in parts of the country due to the compromised security situation. Improved pasture conditions, benefiting from higher rainfall, should ease pressure from high fodder prices, provided that the access is possible.
- **Displacement:** About two in five people are on the move inside the country. By May 2017, 6.3 million internally displaced people (IDPs) were on the move – most of them multiple times - and 440 000 people were able to return to their home areas benefiting from the improved security situation in parts of the country. At the same time, the fluidity of the conflict has resulted in new displacements, with seven out of 14 governorates facing an increased number of IDPs compared to the beginning of the year.
- **Humanitarian access:** Access continues to be heavily constrained inside Syria, especially in Deir-ez-Zor and Ar-Raqqa. While air-drops have helped to improve the humanitarian situation in Deir-ez-Zor city, the situation in Ar-Raqqa has become critical due to the continuing fighting. Shops have been destroyed and the costs of the standard food basket has increased by 42 percent between May and June 2017. Some of the “besieged areas” now considered “hard-to-reach”.
- **Markets:** Due to the overall improved security situation and opening of supply routes, trade is slowly recovering throughout the country and urban markets appear to function well. Markets in parts of Eastern Aleppo city are slowly starting to recover from a status of full destruction. Food prices continue to be very high compared to two and three years ago, but have slightly decreased at least in parts of the country compared to the previous year.
- **Livelihood trends:** With relatively improving access and market functionality, livelihood opportunities in the formal and informal sector are somewhat improved compared with the previous year. The purchasing power of casual labourers and pastoralists has slightly risen since December last year, but continues to be low compared to 2014 and 2015. IDP households are often receiving lower wages or have less capacity to work. Long working hours and resorting to child labour are important elements of their coping strategy. With many men drafted or abroad, women have a larger burden to bear to sustain their families.
- **Food consumption and dietary diversity:** Over 30 percent of households have to rely on a diet characterised by poor quality and low quantity. The situation is more severe among resident households in hard-to-reach and besieged areas as well as within internally displaced households. Most vulnerable are recently (<1 year) displaced households. Particularly food insecure are female-headed households and households with many children. Overall, however, the situation is slightly improved compared to the previous year.
- **Coping strategies:** Syrians have to resort to food coping strategies to cover the severe food shortages they are facing. Some 50 percent of households have reduced the number of meals and more than 30 percent have restricted the consumption of adults to prioritize children. In the seventh year of the crisis, the large majority of the households have depleted their assets and are no longer able to draw on stocks or other reserves. They resort to child labour or have to withdraw their children from and school to cope.
- **Food assistance needs:** Based on the available data, the mission estimates that 6.9 million Syrians are food insecure in terms of current consumption. In addition, the situation of 5.6 million Syrians would likely be worse off without the food assistance provided. An additional 3.1 million are at risk of food insecurity as they are using asset depletion strategies in order to meet their consumption needs, and only 3.5 million can currently be considered food secure.

INTRODUCTION

A joint FAO/WFP Crop and Food Security Mission (CFSAM) visited the Syrian Arab Republic between 1 May and 31 May 2017 to estimate crop production and assess the overall food security situation.

On arrival in the country, the international members of the CFSAM team spent 12 days in Damascus prior to going to the field. During this period, they held an initial inter-agency meeting (FAO and WFP) to discuss the strategy and itinerary for the CFSAM as well as a number of meetings with the representatives of the Government of the Syrian Arab Republic, international organisations, the food security and nutrition clusters/sectors and representatives of the private sector. Following the field and data collection work, the CFSAM team returned to Damascus for a debriefing session with data collection team leaders. A second round of meetings with the main technical directorates of Ministry of Agriculture and Agrarian Reform (MAAR) followed. Prior to departure from the country, the Mission briefed the Minister of Agriculture and Agrarian Reform and the Deputy Ministers on its main findings.

ASSESSMENT METHODOLOGY

To ensure an impartial and independent assessment of the country's crop production and food security situation, information provided by Government institutions was critically examined, triangulated and cross-checked with direct field observations and compared with information gathered from other sources. These sources included interviews with the staff of governorate agricultural directorates, farmers, millers, traders, livestock owners, displaced, resident and returnee households, and other key informants, as well as satellite imagery, rainfall records and brief governorate reports produced by small teams of national officers. Focus group discussions were held - with women and men separate - with displaced and resident households in all governorates visited in both rural and urban settings. In addition, wholesale and retail food and livestock markets were visited in various locations. Secondary data analysed included mobile WFP Vulnerability Analysis and Mapping (mVAM) data, WFP price monitoring as well as data and information made available by the Syria Food Security Cluster.

Prior to leaving for the field, the core CFSAM team (consisting of international and national staff) held meetings with the Ministry of Agriculture and Agrarian Reform (MAAR), the Ministry of Water Resources (MWR), the Ministry of Local Administration and Environment, the Ministry of Economy and Consumer Protection, the Planning and International Cooperation Commission, and the General Establishment for Cereal Trade and Processing (HOBOOB) in order to collect information and get an overview of the agricultural situation in the country for 2016/17. Representations of international and national organisations in Damascus, such as the United Nations Resident Coordinator Office (UNRCO), UN High Commissioner for Refugees (UNHCR), UNICEF, the UN Population Fund (UNFPA), the UN Office for the Coordination of Humanitarian Affairs (OCHA), the UN Development Programme (UNDP), the Food Security Cluster/Sector (Damascus/Amman) as well as the Nutrition Cluster Sector (Damascus), United Nations Economic and Social Commission for Western Asia (ESCWA) in Beirut, International Committee of the Red Cross (ICRC), Syrian Arab Red Crescent (SARC) and Norwegian Refugee Council (NRC) were also consulted.

Movement of the international team members outside Damascus was less severely restricted this year by the Ministry of Foreign Affairs for security reasons compared to the previous missions, although the original field program to visit 12 out of the country's 14 governorates was downscaled reflecting the ongoing unpredictable security situation and other logistical considerations. The CFSAM core team spent ten days visiting seven governorates¹ (Al-Hasakeh, Aleppo, Tartous, Homs, Hama, Rural Damascus and As-Sweida). Al Ghab plain, a fertile depression under its own agricultural authority lying both in Hama and Idleb governorates was also visited. The visits covered the main cereal producing areas. In all locations, agricultural information concerning the current season from as many sources as possible (including the headquarters of the General Organization for Seed Multiplication (GOSM) in Aleppo) was gathered. Crops and livestock were also inspected.

Simultaneously, small teams of national officers, who had been briefed prior to their departure to the field, visited all governorates except Ar-Raqqa and Damascus to collect specific agricultural information which was then summarised and discussed with the core team on their return to Damascus. Information from Ar-Raqqa, which is under Islamic State (IS) control, was conveyed remotely by MAAR staff based in the governorate.

In the visited governorates, the international and/or national teams held meetings with relevant local 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 understand price trends. In the field they

¹ This, however, was a marked improvement on the situation in 2016, when the core team was granted clearance to visit only two governorates, Homs and Tartous.

interviewed farmers to understand the circumstances surrounding crop production this year and to obtain an estimate of yield. They also observed and inspected standing crops in the field. 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. The focus group discussions with displaced and resident households covered population movements, livelihood trends, changes in food consumption, exposure to shocks and coping behaviour, and changes in market access and functionality.

Crop-cutting using quadrats is an excellent means of calculating 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 little time and is highly visible. Under the current conditions of insecurity, 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 entirely on experienced field observation and rapid crop inspection where possible. Cereal crop inspection included an assessment of plant population, the amount of tillering, 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 inspection at a few sites, expert field observation was considered to provide an acceptably reliable estimate of crop yield under the prevailing difficult circumstances.

Regarding the assessment of crop areas, estimates 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 most reflected the actual situation with regard to crop area in each governorate.

For general triangulation purposes, the team examined rainfall records, satellite imagery (in particular NDVI and soil-moisture stress indices), farm input costs, farm-gate and retail prices of agricultural commodities, and the amount of grain sold by farmers to HOBBOB. It also had access to a pre-CFSAM report entitled 'Assessment of the Current Agricultural Season 2016-2017 in Syria', which was carried out by the FAO-Syrian Arab Republic and MAAR's National Agriculture Policy Centre (NAPC) in March-April 2017.

On their return to Damascus, the core CFSAM team members held a meeting with the technical directors of MAAR in which they discussed the impressions gained during their field visits. These discussions resulted in clarification of inconsistent points and the adjustment of area and production 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 and, where possible, animals were assessed for their condition.

Finally, for the first time, the fisheries sector has been incorporated into the CFSAM report. Therefore, similar to other sectors, discussions were held with Government's officials and farmers to assess the impact of the crisis on the sector as well as to gather basic information on its current situation.

BACKGROUND AND SOCIO-ECONOMIC CONTEXT

General

Conflict in the Syrian Arab Republic, now in its seventh year, continues to weaken the already severe economic and social situation in the country. Although still dire, the speed of economic contraction has somewhat slowed down compared to previous years. The GDP in 2016 contracted by 3.4 percent, less than the 5.3 percent contraction recorded in 2015. A positive GDP growth of 1.8 percent is forecast for 2017 as limited reconstruction efforts are likely to begin, hampered by lack of finances. The World Bank estimates the cost of reconstruction at almost USD 200 billion.² Inflation in 2016 increased to an estimated 43.9 percent, up from 38 percent in 2015, 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

² EIU, Country Report the Syrian Arab Republic, June 2017, accessed 7 July 2017.

beginning of the conflict. The official exchange rate for the USD (US Dollar) against the SYP (Syrian Pound) was set by the Central Bank of the Syrian Arab Republic in June 2017 at SYP 517 per USD³. The official exchange rate has been stabilised since August 2016 at slightly over SYP 500 per USD. In January 2016, USD 1 officially traded for SYP 395. Current exchange rate stabilisation might be temporary as the Central Bank's foreign reserves decreased from USD 20 billion in 2011 to an estimated USD 700 million in 2015. 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.

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 in 2017 was down to about 30 000 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 were processing 50 000 (bbl/d) of crude oil in May 2017 (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 began to adjust to the protracted crisis by moving industrial and trading activity to the relatively safe Government-controlled coastal strip of the country, including an expanded industrial zone outside Tartous. Many large-scale business people also moved their business to neighbouring countries and Egypt. Likewise, farmers with movable assets, such as livestock, also moved to safer areas with their animals. However, in the absence of 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.⁴ Despite a rise of 40 percent in January 2015, the price of bread remains heavily subsidized in Government-controlled areas; it now sells for SYP 35 per kg. After several years of closure, the Government's yeast factory is once again operational.

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 early July 2017, UNHCR reported 122 000 Syrian refugees in Egypt, 242 000 in Iraq, 661 000 in Jordan, 1.01 million in Lebanon and 3.05 million in Turkey, bringing the total to almost 5.1 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 estimated in 2016 that some 400 000 have died in the country. Other estimates indicate that some 470 000 people, including 55 000 children, died in the conflict so far.

Within the country there has been massive population displacement with people fleeing conflict zones and seeking refuge in more secure areas. OCHA reports that as of May 2017, there were 6.3 million people displaced by the conflict in the country, a decrease from 7.6 million internally displaced in late 2014 and early 2015 but an increase compared to last year when 6.1 million people were displaced. Many of the internally displaced have been repeatedly displaced. At the end of June 2017, it has been estimated by the Needs and Population Monitoring Initiative (NPM), that about 440 000 IDPs had returned to their home governorates during the previous six months, mainly to Aleppo and Homs.

The population of the Syrian Arab Republic before the conflict started in 2011 was about 20.7 million people. Under normal circumstances, and using the country's pre-crisis population growth rate, the Syrian Arab Republic's population by 2017 would have been expected to exceed 23 million. However, with out-migration and conflict-related deaths, as of May 2017, OCHA/Population Task Force for Syria estimates this figure to be about 19.06 million, a slight increase from the estimate of 18.6 million made in November 2016.

³ <http://sana.sy/en/?p=108123>

⁴ RFSAN (2016).

The effect of the conflict is visible on the age and sex structure of the Syrian population. Although overall females roughly equal males, there is a significant disproportion of females over males for the active population, and particularly for the 20-34 age groups. One third of all families report at least one absent member since 2011. IDP households account for one third of the total households⁵.

Around 58 percent of the Syrian population resides in cities, with the urban population growing between 2010 and 2015 at 1.4 percent annually. According to the 2017 Humanitarian Needs Overview, it is estimated that 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, healthcare or meeting other basic needs.

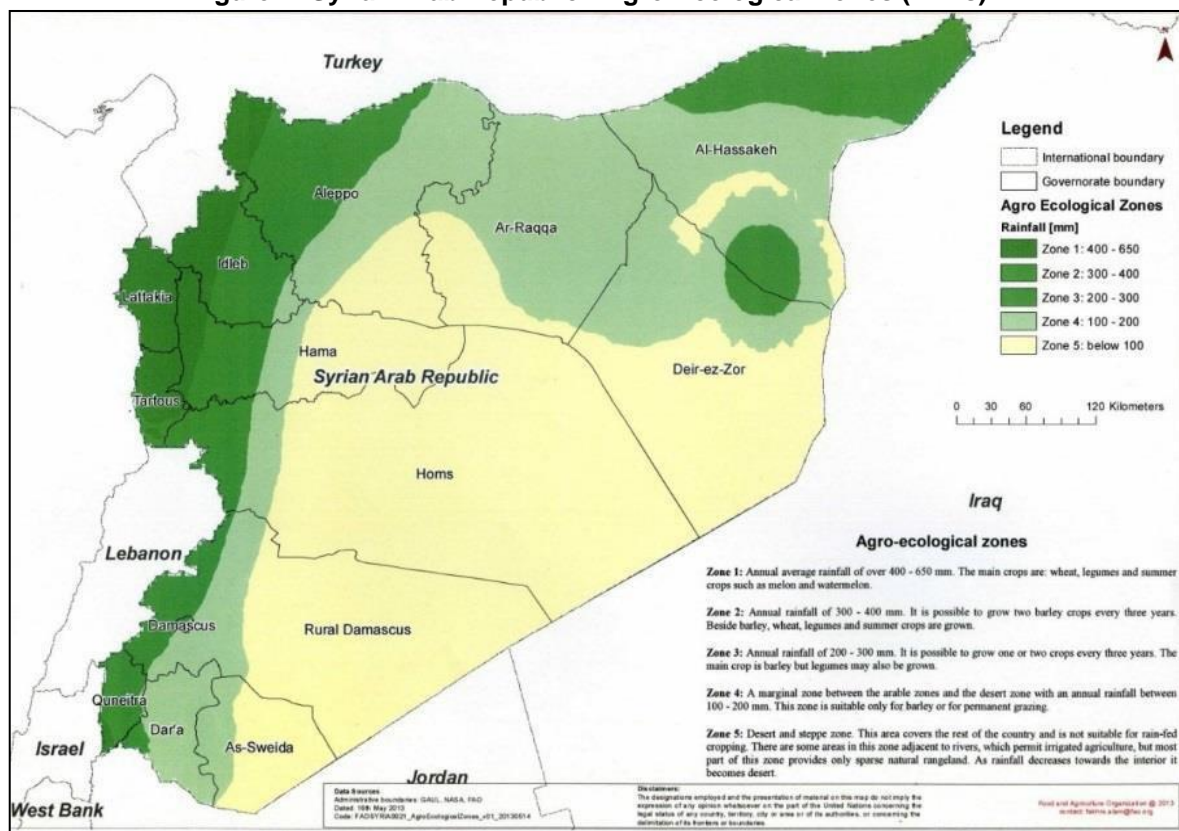
Agriculture

Prior to the beginning of the current crisis in 2011, agriculture played a very important part in the country's economy. In 2010, agriculture contributed 18 percent to its GDP, accounted for 23 percent of its exports, and occupied 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 earned income from agricultural work.

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.

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



Source: FAO.

⁵ Needs and Population Monitoring: Demographic Overview, the Syrian Arab Republic Household Population Survey, npm-syria.org

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). Strategic crops were also produced by private farms according to agricultural plan. Over the years, however, the State withdrew gradually from its productive role, as is shown in Table 1. The table suggests that the proportion of state farmland actually cultivated, which was already less than half by 1970, declined further 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.

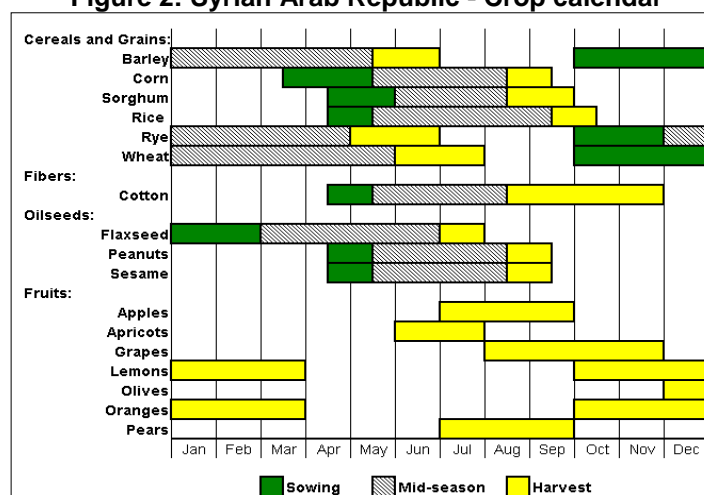
Table 1: Syrian Arab Republic - Land under state farms, 1970 and 2000 (hectares)

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 country 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 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 country 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



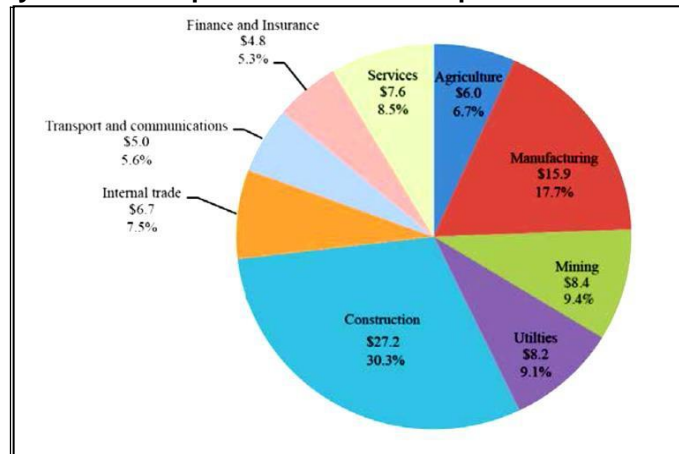
Source: FAO in Emergencies:

<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). ESCWA (2016) 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). According to figures of Syrian Chamber of Agriculture and National Agriculture Policy Centre, in 2015 agriculture exports recorded USD 119 million, which is far below its pre-crisis capacity of USD 2 billion reported in 2011. FAO Agricultural Damage and Loss Assessment (April 2017), in a

comprehensive nationwide assessment estimates that as much as USD 16 billion has been lost in terms of production and damaged and destroyed assets and infrastructure within the agricultural sector. All sub-sectors have been seriously affected.

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



Source: ESCWA, 2016.

After six years of conflict the crisis has brought about some fundamental changes in crop production. Farmers now rely very largely on their own grain harvest for seed for the next season; they apply reduced amounts of fertilizer or no fertilizer at all, and rarely use other inputs such as herbicides and fungicides; they prefer to grow crops that are more tolerant of dry conditions in those areas where irrigation, which was previously available, has become unreliable. There has been a noticeable move away from wheat to the more drought-tolerant barley and also to other cash crops such as cumin, coriander and lentils, and backyard poultry-production and kitchen gardening have become much more prevalent.

CEREAL PRODUCTION

Cereal area, 2016/17

A total of 1.17 million hectares of wheat were planted in 2016/17 (Table 2). This was slightly less than in 2015/16. However, because of the better rainfall this year and some local improvement in civil security, farmers were able to harvest a larger proportion of their crop. There was consequently a three percent increase overall in the harvested area of wheat compared with 2015/16. The average ratio of harvested area to planted area increased from 82 percent last year to 86 percent this year.

The irrigated wheat area has increased in most governorates but notably not in the major producers of Ar-Raqqa, Al-Hasakeh and Deir-ez-Zor. The reductions in these three governorates may be attributable to further deterioration of the irrigation systems, sporadic supply of fuel and electricity, as well as increased civil insecurity in areas under IS control or in areas of potential conflict.

Table 2: Syrian Arab Republic - Wheat areas ('000 hectares) by governorate, 2015/16 and 2016/17

Governorate	Irrigated				Rainfed				Total			
	Planted		Harvested		Planted		Harvested		Planted		Harvested	
	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17
Rural												
Damascus	5	6	5	6	1.2	3	0.5	1.8	6	9	5	8
Dar'a	8	6	8	6	49	61	15	31	57	67	23	37
As-Sweida	0.1	0.2	0.1	0.2	26	29	13	20	26	30	13	21
Quneitra	0.1	0.2	0.1	0.2	0.3	0.5	0.2	0.4	0.4	0.7	0.3	0.6
Homs	6	8	6	8	26	26	23	23	32	34	29	31
Hama	12	14	10	11	9	8	7	6	21	22	17	17
Al Ghab	39	40	39	40	2.1	2.5	1.5	1.8	41	42	40	42
Tartous	3	3	3	3	7	7	4	5	10	10	7	8
Lattakia	0.02	0	0.02	0	2	3	2	2	2.0	2.6	1.8	2.3
Idleb	16	21	16	21	46	43	26	30	62	64	42	51
Aleppo	89	99	89	99	135	147	80	90	224	246	169	189
Ar-Raqqa	110	92	110	92	58	42	35	40	168	134	145	132
Al-Hasakeh	135	103	130	103	337	341	285	294	472	444	415	397
Deir-ez-Zor	70	65	66	65	0	0	0	0	70	65	66	65
Syrian Arab Republic	493	457	482	455	698	712	491	545	1 191	1 170	973	1 001

Sources: CFSAM 2016, and central and governorate-level MAAR.

The area planted to barley, a crop more drought-tolerant than wheat, increased this year by 3.5 percent as farmers sought to limit their reliance on irrigation and the possible risk of poor rainfall (Table 3). Limited access to quality wheat seeds also increased the area planted to barley. In addition, the ratio of harvested area to planted area increased from 68.7 percent last year to 69.4 percent this year, giving an overall increase in harvested area of 4.5 percent (Table 3). Un-harvested areas of cereals, and especially of barley, do not go to waste as they are grazed by livestock. The decision not to harvest is usually made on the basis of the farmer's calculation that the cost outweighs the profit to be expected from harvesting.

Table 3: Syrian Arab Republic - Barley areas ('000 hectares) by governorate, 2015/16 and 2016/17

Governorate	Irrigated				Rainfed				Total			
	Planted		Harvested		Planted		Harvested		Planted		Harvested	
	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17	2015/ 16	2016/ 17
Rural Damascus	0.8	1.4	0.7	1.2	10	9	2.6	3	11	10	3.3	4
Dar'a					12	19	4	12	12	19	4	12
As-Sweida					13	15	6	12	13	15	6	12
Quneitra					0.2	0.3	0.1	0.3	0.2	0.3	0.1	0.3
Homs	0.3	0.4	0.3	0.4	35	36	21	21	35	36	21	21
Hama	6	7	5	6	71	76	60	49	77	82	65	55
Al Ghab					3	6	3	6	3	6	3	6
Tartous	0.03	0.03	0.03	0.03	0.4	0.5	0.3	0.4	0.4	0.5	0.3	0.4
Lattakia					0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2
Idleb												
Aleppo		1.7		1.5	314	302	188	201	314	304	188	203
Ar-Raqqa	12	20	10	18	170	180	85	90	182	200	95	108
Al-Hasakeh	13	13	13	13	390	400	318	315	403	413	331	328
Deir-ez-Zor	16	19	16	19					16	19	16	19
Syrian Arab Republic	48	62	44	58	1 020	1 043	689	708	1 068	1 105	733	766

Sources: CFSAM 2016, and central and governorate-level MAAR.

Factors affecting yields

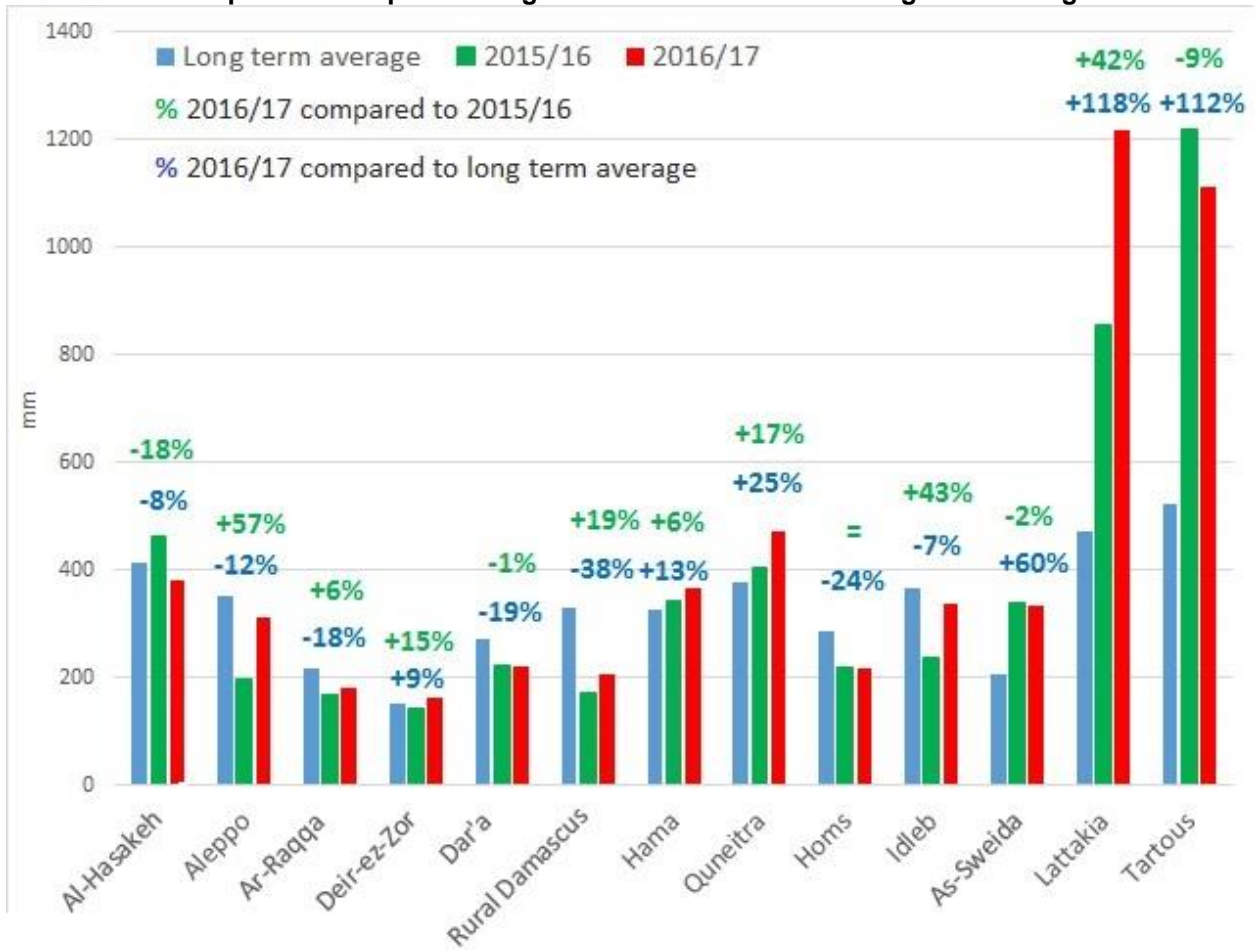
Weather

There was a timely start to the rains in most parts of the country, apart from in Al-Hasakeh in the northeast, where planting was delayed until late December. Accumulated rainfall in 2016/17 (Figure 4) was above the levels of 2015/16 in Aleppo, Ar-Raqqa and Deir-ez-Zor. In Al-Hasakeh, rainfall was below the level of last year (when rains were particularly good) but still near-average. Figures 5, 6 and 7 show the estimated monthly precipitation, the estimated monthly precipitation anomaly as a difference from the Long Term Average (LTA) from 1989 to 2012 and the agricultural stress index⁶ for the country as a whole.

Frost was more frequent than usual this year. Mostly it affected fruit trees on higher ground, but in Al-Hasakeh, where frost episodes often followed rainfalls between January and March, there was some detrimental effect on cereal yield, depending on growth stage.

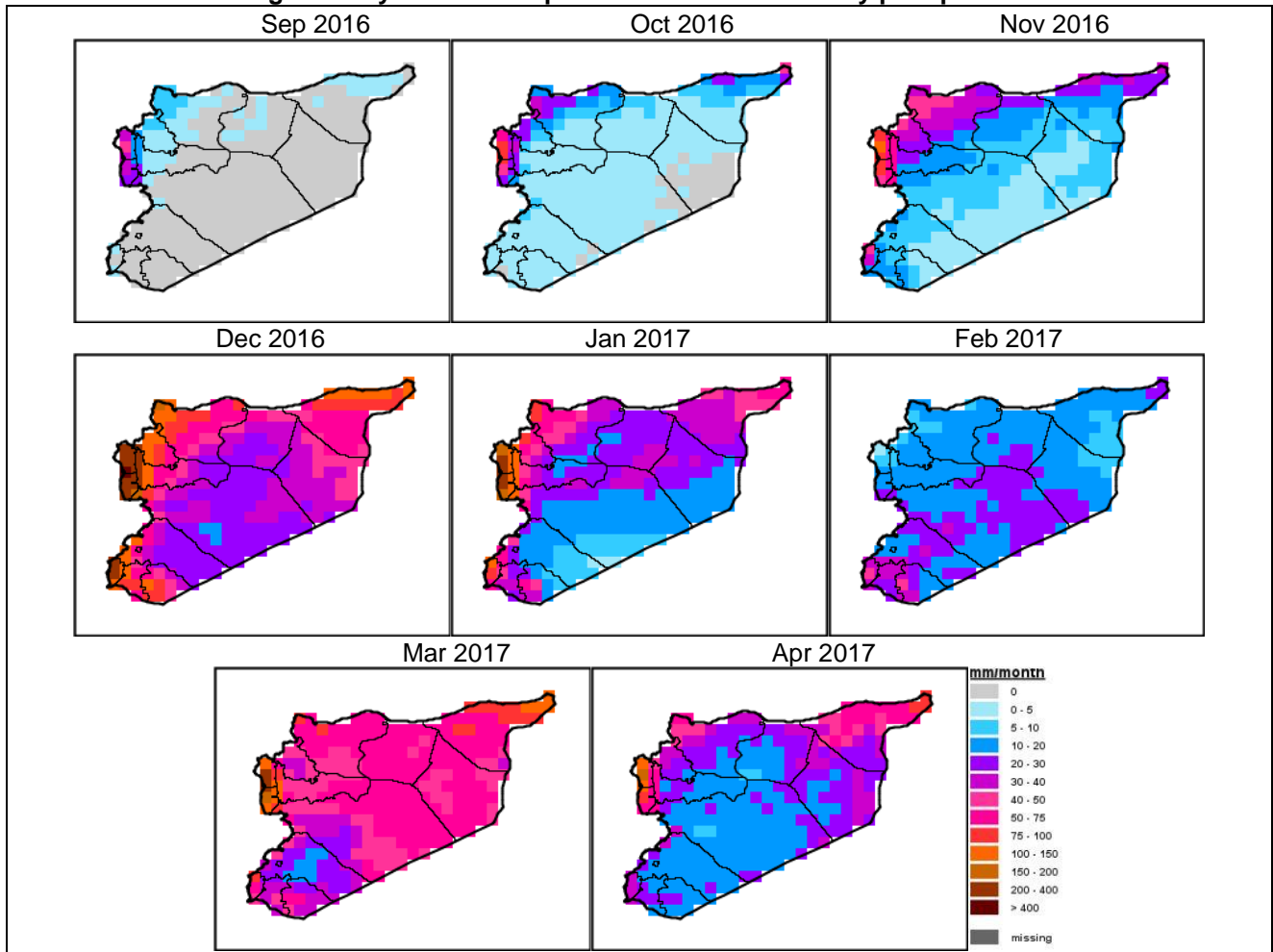
⁶ The Agriculture Stress Index (ASI) is an FAO indicator that highlights anomalous vegetation growth and potential drought in arable land during a given cropping season. ASI integrates the Vegetation Health Index (VHI) in two dimensions that are critical to assess a drought event in agriculture: temporal and spatial. ASI assesses the temporal intensity and duration of dry periods and calculates the percentage of arable land affected by drought (pixels with a VHI value below 35 percent – identified as a critical level in previous studies to assess the extent of the drought). The whole administrative area is classified according to the percentage of arable area affected by drought conditions.

Figure 4: Syrian Arab Republic - Estimated seasonal (September 2016-May 2017) cumulative rainfall compared to the previous agricultural season and the long-term average



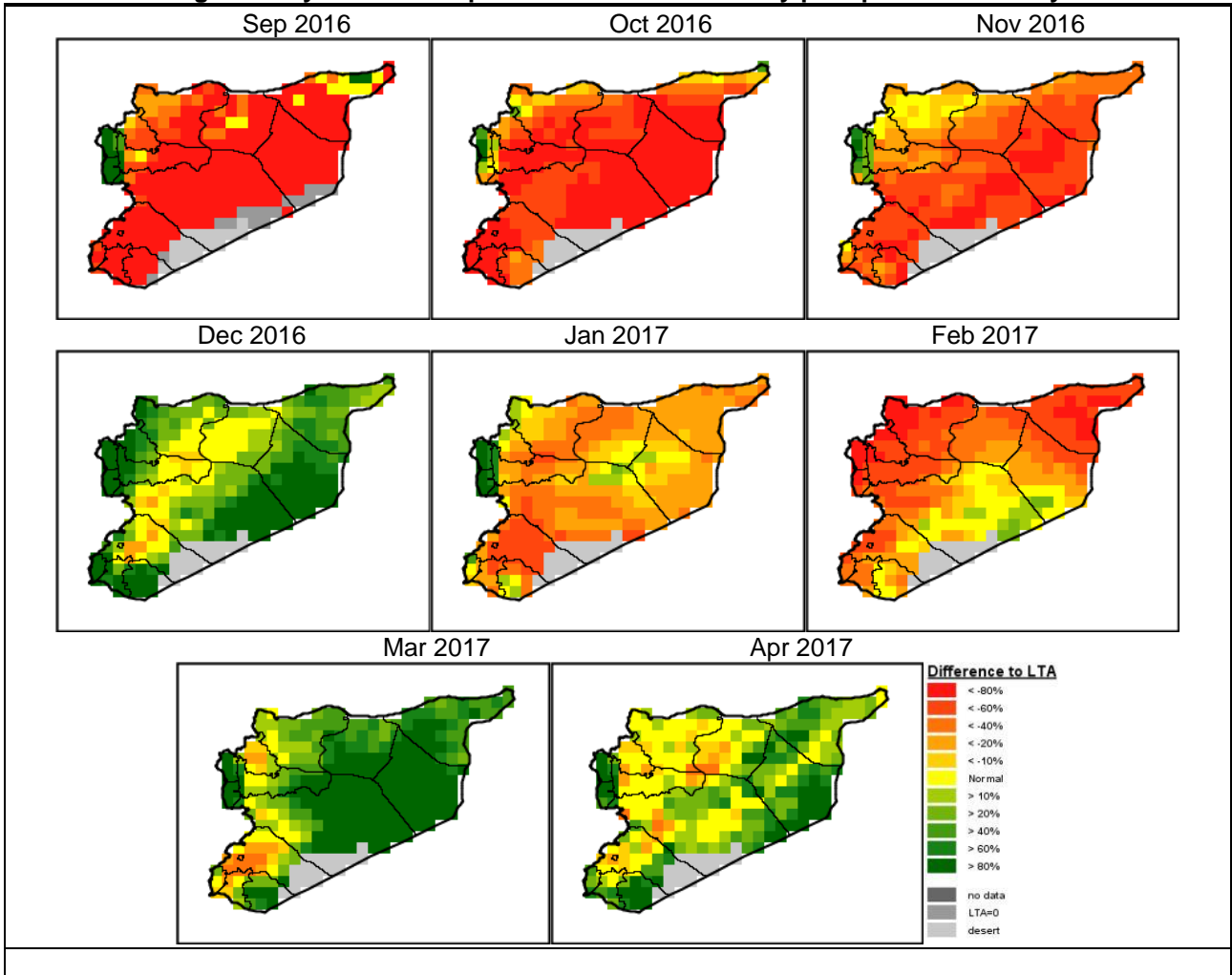
Source: FAO Earth Observation for Crop Monitoring.
<http://www.fao.org/giews/earthobservation/index.jsp?lang=en>

Figure 5: Syrian Arab Republic - Estimated monthly precipitation



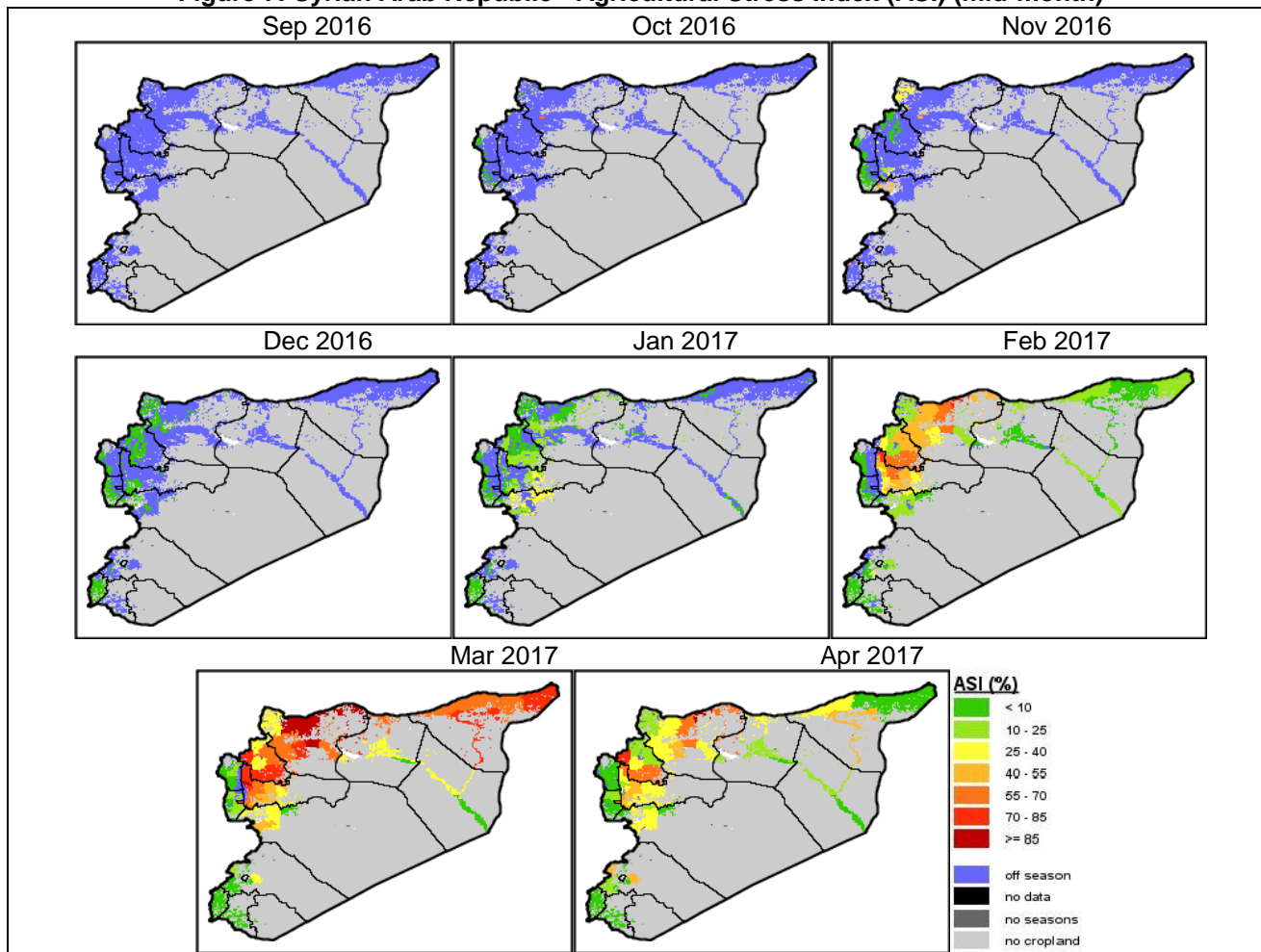
Source: FAO Earth Observation for Crop Monitoring.
<http://www.fao.org/giews/earthobservation/index.jsp?lang=en>

Figure 6: Syrian Arab Republic - Estimated monthly precipitation anomaly



Source: FAO Earth Observation for Crop Monitoring.
<http://www.fao.org/giews/earthobservation/index.jsp?lang=en>

Figure 7: Syrian Arab Republic - Agricultural Stress Index (ASI) (mid-month)



Source: FAO Earth Observation for Crop Monitoring.

<http://www.fao.org/giews/earthobservation/index.jsp?lang=en>

Irrigation

The MWR estimates that the country's annual water requirement in 2016/17 agricultural season was 12 894 billion cubic metres, of which 11 108 billion cubic metres (86 percent) are required for agriculture. Average agricultural water requirement is in the proximity of 17 billion cubic meters. 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 practised. Some areas, such as As-Sweida, report declining underground water levels to be a problem. 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.

Approximately one-third of the country's 4.5 million hectares of cultivated agricultural land is irrigable. Of this, the public irrigation area amounts to 488 000 hectares, with the remainder accounted for by private farmers. About 45 percent of the public irrigation network is located in the Euphrates valley, where much of it is considered to be operating substantially below par as a result of IS occupation. The remaining 55 percent are located in the Orontes valley, in Dar'a Governorate and along the coast. In 2016/17, 319 314 hectares were irrigated from the public network, representing 65 percent of the network's capacity.

It would appear that the decline of the country's irrigation networks and systems may have reached a stable level, and that in certain areas there are even signs of improvement. For instance, the Government has recently liberated from IS control the Babili pumping station at the Tishreen Dam on the Euphrates in Aleppo Governorate; problems still remain with conveying power to the station but these are being addressed and prospects for the coming 2017/18 season, seem optimistic. In the upper Orontes river basin in Homs Governorate, FAO is assisting the Government with repairs to the public irrigation networks. Water-treatment

plants in Aleppo and East Ghouta near Damascus are now being rehabilitated. These were designed to irrigate 22 000 and 18 000 hectares, respectively, with clean water but as yet they have not been re-activated.

The country's irrigation situation has been adversely affected not only by conflict but also 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 averages 393 cu m/sec, but flow is much less regular, dropping on occasion to a mere trickle on the Syrian Arab Republic's side. Negligible flow on the Euphrates River in the Syrian Arab Republic was reported on several occasions during 2015/16, but this year, with better rainfall within the watershed, there have been no such reports. This year's satisfactory rainfall has also resulted in higher water levels in many of the country's dams, which should have a beneficial impact on next season's crop production.

The country used to produce all the flumes required for its irrigation networks, but conflict-related damage to the factory has stopped production, adding to the difficulty of carrying out repairs to broken secondary and tertiary irrigation canals where this is possible. Plans have now been drawn up for the rehabilitation of the flume factory with the intention of improving it to above pre-crisis levels.

The unauthorized drilling of private wells has continued this year, especially in Dar'a, Al-Hasakeh, Homs and Hama governorates, but at a reduced level, largely because of increased fuel prices and the consequent high cost both of drilling and of abstracting water. In contrast to other governorates, fuel in Ar-Raqqa Governorate is reported to be available at lower prices than last year, presumably as a result of IS subsidies, and this appears to have led to increased groundwater abstraction. An increase in the salinity of groundwater, attributed to both excessive abstraction and coastal seawater intrusion into aquifers, has been reported in some areas.

The MWR considers that irrigation water is often used inefficiently, and calculates that, on average, farmers use 270 000 cubic metres of water to irrigate a single hectare. In an effort to ensure that the amount of irrigation water currently available is used more productively, it is urging the formation of water-user associations through which water use would be monitored and regulated. Technically, farmers are obliged to pay for their irrigation water at the rate of SYP 3 500 per hectare per year, but according to the MWR none do.

The MWR also suspects that many vegetable producers in the coastal governorates use the drinking-water network to irrigate the crops in their greenhouses. In collaboration with FAO, the MWR has begun to encourage, through instruction in a number of schools, the re-use of 'grey water' for small-scale farming and kitchen gardening.

Inputs

The current crisis has resulted in a substantial reduction in the availability and 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 dwindling 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 has resulted not only in lower productivity but also in farmers' curtailing, or in some cases abandoning, their enterprises for purely economic reasons.

Seeds

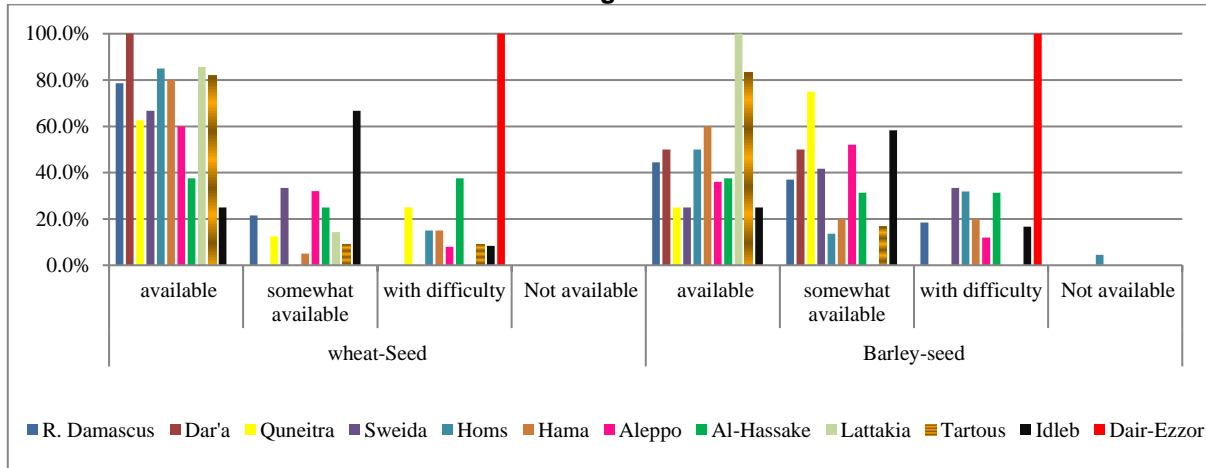
The GOSM is the Government body responsible for the production and distribution of seed of improved cereal varieties to farmers. Seed of approved crop varieties is produced under contract by selected out-growers, but since 2012 the number of out-growers has fallen dramatically. Before 2012, GOSM used to provide farmers with more than 300 000 tonnes of clean certified seed. In 2012, GOSM was able to purchase some 280 000 tonnes of wheat seed from out-growers, but for the 2016/17 season this amount had fallen to 38 000 tonnes. Of this, only 23 400 tonnes were distributed to farmers and the remainder was retained for the 2017/18 season. This does, however, represent a slight improvement on the previous two years, 2014/15 and 2015/16, when only 17 000 and 23 000 tonnes, respectively, of wheat seed were distributed. With increased security in many areas, GOSM hopes to be able to provide 100 000 tonnes of seed for the 2017/18 wheat crop.

The seed produced by out-growers is of varieties that have not changed for several years, meaning that there may be a progressive decline in their genetic resistance to pests and diseases, although there is as yet no conclusive evidence of this. GOSM's inability to provide out-growers with adequate amounts of herbicide and

the marked reduction in the number of operational screening centres add hugely to the difficulty of obtaining clean seed. Out of a pre-crisis total of 30 seed-processing units, only two remain functional under GOSM's control - one in Hama and the other in Dar'a; between them, these two units are capable of screening 100 tonnes of out-grower seed per day. There have been reports this year of contamination of wheat seed with barley seed, though it is unclear whether the contamination occurred before or after release of the seed by GOSM.

With a shortage of clean certified seed, most farmers must either buy seed in the market or use seed retained from the previous season's harvest. Figure 8 indicates farmers' perceptions of the availability of cereal seed in the different governorates. Seed purchased in the market is frequently of poor quality with a low germination percentage, and retained seed provides an increasingly heterogeneous crop with each successive cycle.

Figure 8: Syrian Arab Republic - Availability of cereal seed as perceived by farmers in different governorates



Source: Assessment of the Current Agriculture Season 2016/2017.

Fertilizers

The use of fertilizers has declined significantly since 2011, with many farmers applying no fertilizer at all to their crops. During the second half of 2016, this situation was further exacerbated when the only functioning fertilizer factory in Homs was attacked and damaged by anti-Government forces, to the extent that it ceased operations. Its main products were urea and superphosphate. Consequently, urea had to be imported, but with the difficulties associated with international sanctions, delivery was delayed until as late as March 2017 in some governorates.

Fuel

The price of diesel for farm operations is, in principle, subsidized by the Government, but in many parts of the country subsidized diesel is not available. MAAR estimates that Government-subsidized fuel satisfies only 10-20 percent of the country's agricultural needs. Largely because of the devaluation of the Syrian Pound, the price of Government-subsidized diesel rose from SYP 135/litre in January 2016 to SYP 180/litre in June 2016. Where Government-subsidized fuel is not available, farmers must depend on poorer-quality and usually more expensive fuel, some of which may emanate from IS-controlled areas.

Crop protection materials

Overall, the cost of crop protection has approximately doubled over the last 12 months. For instance, a commonly used herbicide that costs SYP 1 750/litre in 2016 now costs SYP 4 100/litre, a commonly used insecticide now costs SYP 8 500/litre, up from SYP 6 000 in 2016, and the price of a commonly used fungicide has risen to SYP 9 000/litre from SYP 3 000/litre in 2016. In addition to these price increases, the quality of some crop protection materials on the open market is frequently poor.

Mechanization

Prior to the current crisis, agriculture was highly mechanized. The crisis has resulted in damage and destruction to much of the country's farm machinery, as well as theft, a shortage of essential replacement parts, inadequate maintenance, and high operational costs resulting from increases in the price of fuel. MAAR estimates that there has been a reduction of more than 60 percent in the number of operational tractors since 2011. Over the

past year, the farm-machinery situation has not significantly worsened, apart from the continued wear and tear, and concomitant reduction in efficiency, of machinery that is still operational, and the high cost of fuel.

In line with the increased costs of machinery maintenance and operation, the cost of hiring machinery for agricultural operations has increased. For instance, in As-Sweida it now costs SYP 1 800 to plough one dunum compared with SYP 1 500 last year. In Al Ghab the cost of land preparation has risen from SYP 2 000/dunum to SYP 3 000/dunum, while the cost of harvesting has risen from SYP 5 000 to more than SYP 6 000/dunum. MAAR estimates that on average the cost of cultivating one hectare of irrigated wheat has risen by 37 percent over the last 12 months, and that the cost of cultivating one hectare of rainfed wheat has risen by 45 percent.

In areas of Aleppo Governorate that were until recently occupied by anti-Government factions, MAAR increased Government control has resulted in a perceived increase in the use of combine harvesters, some of which may have been kept housed while circumstances prevented their use.

Labour

As might be expected, considering the country's current demographic flux, there is significant local variation in farm labour availability and cost. In general, the cost of basic manual farm labour has increased since 2015/16, but this increase covers a wide range. In the Aleppo Governorate, for instance, a small increase in the availability of farm labour has been registered, mirroring the slight improvement in the Governorate's level of security, but the cost of farm labour has nevertheless increased in 2017. In the areas where other employment opportunities exist, farm labour comes at relatively high cost. In Tartous, the cost has risen by about 40 percent to about SYP 2 500/day. In Al Ghab, basic farm labour now costs SYP 500/hour, double last year's cost of SYP 250/hour. In contrast, the cost of farm labour in As-Sweida has risen only marginally from SYP 2 500/day last year to SYP 3 000/day this year. MAAR estimates that, on average, the cost of basic manual farm labour has increased from SYP 1 400 to SYP 2 000/day.

The quality of farm labour is said by some governorate directorates to have deteriorated as a result of more skilled workers moving elsewhere or joining the army. In As-Sweida, farmers used to depend seasonally on semi-skilled labour from Al-Hasakeh, but with the current limitations on movement between the two governorates they must now depend on unskilled labour from among the IDPs that have moved there from neighbouring governorates.

Pests and diseases

The incidence of crop pests and diseases in 2016/17 was generally low, and similar to that of 2015/16. Sunn pest (*Eurygaster integriceps*) was reported on cereals in several governorates, notably Aleppo, Ar-Raqqa, Al-Hasakeh, Deir-ez-Zor, Hama, Rural Damascus and Quneitra. However, the infestation in each case was either controlled or below the economic threshold. Sunn pest is a notifiable pest which, under normal circumstances, is controlled free of charge by Government. As a result of the ongoing crisis this was not possible in parts of Al-Hasakeh where many farmers had to carry out their own control measures. Limited armyworm infestations were reported in Al-Hasakeh, Homs and Hama governorates; the damage was relatively small. The occurrence of armyworm in Homs is apparently a recent phenomenon. The incidence of field mice in cereals was common, especially in Al-Hasakeh, Hama, Al Ghab, Rural Damascus and Dar'a. In most governorates the resulting damage was reported to be minor and at normal levels, but in Al-Hasakeh the damage this year was said to be slightly higher than usual. Bird damage to the standing wheat crop was reported from Rural Damascus, and a minor infestation of wheat rust was reported from Deir-ez-Zor. Weeds continue to be a major problem in cereals, largely because of the high and ever-increasing cost of controlling them.

American bollworm infested some of As-Sweida's chickpea crop. Pests and diseases of fruit trees were generally controlled but at a higher cost than last year. Olive psyllid and olive moth were reported in Quneitra. Ar-Raqqa reported damage to winter vegetables by aphids and mole crickets, and Al Ghab reported late blight on potatoes (*Phytophthora infestans*). In Al-Hasakeh, part of the lentil crop was damaged by blight (possibly *Ascochyta* sp).

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 pesticides, and sometimes the impossibility of harvesting the crop. In some areas, fields are inaccessible to farmers due to land mines. However, compared with last year, there appears to have been a slight improvement in security in some areas such as parts of Aleppo and

Al Ghab. Grazing restrictions remain considerable as a result of civil insecurity, with parts of the Badia abandoned for the last several years. At the same time, this allowed over-grazed areas in Badia to recover. In summary, large tracts of agricultural and grazing land across the country continue to be unused, but the overall situation is no worse than it was last year. The return of IDPs and some immigration suggest a slight improvement in the security situation and a possible improvement in the access to agricultural land.

Cereal production, 2016/17

Yields

Although the use of certified seed, fertilizers and other inputs remained low in 2017 compared with pre-crisis years, it was not markedly different to most of the crisis years. Relative to 2015/16, however, 2016/17 saw more rainfall which led to small increases in average cereal yields (Table 4). At 1.79 tonne/hectare the average wheat yield shows an increase of 9 percent over last year's 1.65 tonne/hectare, while this year's average barley yield of 1.01 tonne/hectare is 3 percent higher than the 0.98 tonne/hectare of 2015/16. Yields of irrigated wheat and barley, at 2.6 and 1.6 tonne/hectare, respectively, are still low compared to pre-crisis levels and yields attained elsewhere, but it should be borne in mind that irrigation schedules were often inadequate and poorly regulated because of the country's current circumstances, and that in most cases there were shortages of the inputs compounded by the effects of inadequate water availability.

Table 4: Syrian Arab Republic - Average cereal yields (tonne/hectare) by governorate, 2015/16 and 2016/17

Governorate	Wheat				Barley			
	Irrigated		Rainfed		Irrigated		Rainfed	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
Rural Damascus	2.7	2.7	0.7	0.9	1.1	1.0	0.6	0.7
Dar'a	2.7	2.6	0.6	0.8			0.7	0.9
As-Sweida	2.0	2.0	0.4	0.5			0.4	0.7
Quneitra	1.1	1.5	0.7	0.7			1.2	1.1
Homs	2.5	2.4	1.3	1.3	1.3	1.5	0.7	0.8
Hama	2.8	3.1	1.3	1.6	1.5	2.1	1.0	1.1
Al Ghab	3.0	3.3	2.1	2.2			2.5	2.8
Tartous	2.6	2.3	1.4	1.3	1.6	1.6	1.0	1.0
Lattakia	2.7		1.2	1.5			1.4	1.6
Idleb	2.2	2.6	0.6	0.9			1.6	1.8
Aleppo	1.5	1.8	0.7	1.2	2.0	2.2	0.5	0.7
Ar-Raqqa	2.5	3.2	1.1	1.2	2.0	2.0	0.9	1.0
Al-Hasakeh	2.5	2.6	1.1	1.2	2.1	2.2	1.2	1.1
Deir-ez-Zor	2.0	2.3			1.8	1.5		
Syrian Arab Republic	2.29	2.57	1.01	1.14	1.71	1.65	0.94	0.96

Sources: CFSAM 2016, central and governorate-level MAAR, farmers, and field observation.

Note: Averages computed from unrounded data.

Production

With increases in both harvested area and yields resulting from better rainfall and a slightly improved security situation, cereal production in 2016/17 is estimated to be higher than that of the previous year. At 1.793 million tonnes, wheat production shows a 12 percent increase (Table 5), while at 777 000 tonnes barley shows an 8 percent increase (Table 6).

Table 7 shows cereal production parameters over the last ten years and Figures 9 and 10 illustrate these parameters for wheat and barley, respectively. Although wheat production is marginally better this year than last, it remains at only 56 percent of the average production achieved in the four years prior to the crisis, 2008-2011. Barley production, on the other hand, is the third highest of the ten-year period on account of its increased yield and increased harvested area. In 2008, the country suffered from exceptionally poor rainfall and, in some areas, drought.

Table 5: Syrian Arab Republic - Wheat production ('000 tonnes) by governorate, 2015/16 and 2016/17

Governorate	Irrigated		Rainfed		Total	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
Rural Damascus	12	17	0.3	2	13	18
Dar'a	22	16	9	25	31	41
As-Sweida	0.3	0.4	5	9	5	10
Quneitra	0.1	0.3	0.1	0.3	0.3	1
Homs	15	19	29	29	44	48
Hama	28	35	8	9	36	44
Al Ghab	116	130	3	4	120	134
Tartous	8	7	6	6	14	14
Lattakia	0.1		2	4	2	4
Idleb	35	55	16	27	51	82
Aleppo	134	179	56	108	190	287
Ar-Raqqa	275	294	39	48	314	342
Al-Hasakeh	325	267	325	353	650	619
Deir-ez-Zor	132	150			132	150
Syrian Arab Republic	1 103	1 170	498	623	1 601	1 793

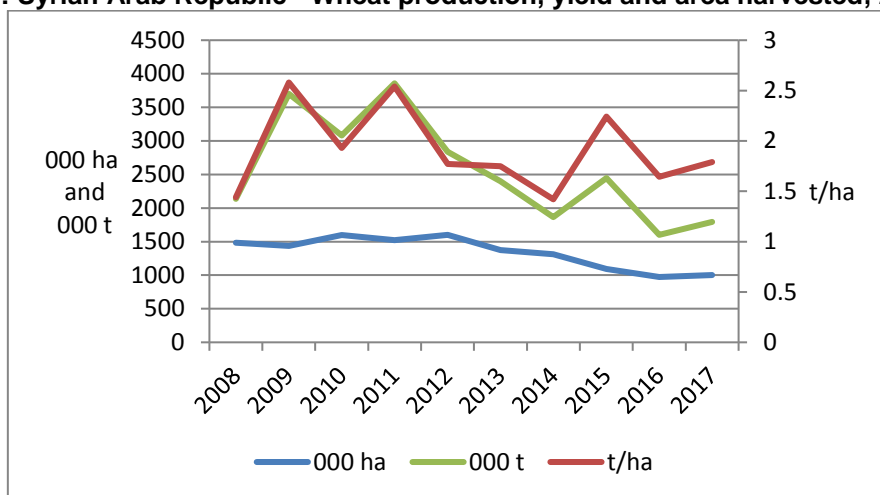
Table 6: Syrian Arab Republic - Barley production ('000 tonnes) by governorate, 2015/16 and 2016/17

Governorate	Irrigated		Rainfed		Total	
	2015/16	2016/17	2015/16	2016/17	2015/16	2016/17
Rural Damascus	0.7	1.2	1.4	2	2	3
Dar'a			3	10	3	10
As-Sweida			2	9	2	9
Quneitra			0.2	0.3	0.2	0.3
Homs	0.4	0.5	15	17	15	17
Hama	7	12	60	54	67	66
Al Ghab			9	16	9	16
Tartous	0.05	0.05	0.3	0.4	0.3	0.4
Lattakia			0.2	0.3	0.2	0.3
Idleb						
Aleppo		3	94	141	94	144
Ar-Raqqa	20	36	80	86	100	122
Al-Hasakeh	27	29	382	347	409	375
Deir-ez-Zor	28	28			28	28
Syrian Arab Republic	75	96	647	681	722	777

Table 7: Syrian Arab Republic - National cereal production parameters, 2008-2017

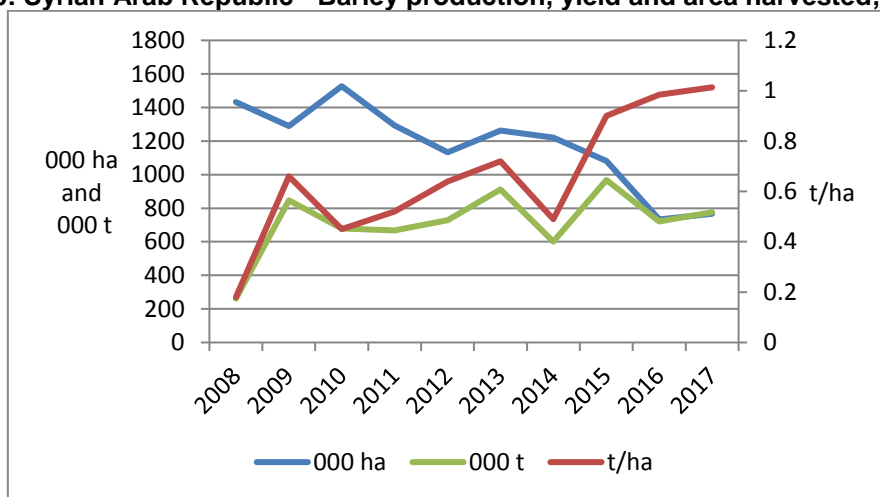
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Wheat	'000 ha	1 486	1 437	1 599	1 521	1 601	1 374	1 313	1 092	973	1 001
	t/ha	1.44	2.58	1.93	2.54	1.77	1.75	1.42	2.24	1.65	1.79
	'000 t	2 139	3 702	3 083	3 858	2 840	2 400	1 865	2 445	1 601	1 793
Barley	'000 ha	1 433	1 290	1 527	1 293	1 133	1 263	1 221	1 081	733	766
	t/ha	0.18	0.66	0.45	0.52	0.64	0.72	0.49	0.90	0.98	1.01
	'000 t	261	846	680	667	728	911	600	968	722	777

Figure 9: Syrian Arab Republic - Wheat production, yield and area harvested, 2008-2017



Sources: FAOSTAT (2008-2014) and CFSAMs (2015-2017).

Figure 10: Syrian Arab Republic - Barley production, yield and area harvested, 2008-2017



Sources: FAOSTAT (2008-2014) and CFSAMs (2015-2017).

OTHER CROPS

Food legumes

The area harvested of the principal food legumes such as chickpeas, lentils, peas and fava beans decreased by 8 percent in 2017 compared to 2010 (Table 8). Although the area harvested slightly recovered compared to previous years, there has been a reduction in the total pulses production. Although pulse crops have always played a minor role in Syrian agriculture, their importance in the present farming system as a source of nitrogen cannot be underestimated. Due to increased competition of pulses/food legume crops with cereals as well as vegetables, fruit and specialty crops, both for limited land and scarce irrigation resources, the present cropping pattern of cultivating pulses mainly under rainfed conditions is likely to continue for the foreseeable future.

Table 8: Syrian Arab Republic - Legume area ('000 ha), 2010-2017

Crops	2010	2011	2012	2013	2014	2015	2016	2017
Lentils	131	140	130	114	111	114	98	123
Chickpeas	68	74	84	76	45	45	69	56
Fava beans	17	17	15	15	20	12	12	19
Peas	4	4	4	3	4	3	3	5
Total	220	235	233	208	180	175	182	203

Sources: FAOSTAT for 2010-2014; MAAR for 2015, 2016 and 2017.

Potatoes

The majority of potatoes in the Syrian Arab Republic are planted as a summer crop in April and harvested in August. The so called “fall crop” is planted in August and harvested in November. According to MAAR, 14 270 hectares were planted this year. In 2016, potatoes were planted on 21 868 hectares yielding only about 500 000 tonnes. Some 12 000 hectares were planted as a fall crop, mostly in Aleppo and Hama governorates. The rest was grown as a summer crop mostly in Dar’a Governorate and Rural Damascus. The yield of the spring-planted crop is usually higher than that of the fall crop. Potato production in the country is now down to about two-thirds of its pre-crisis levels, largely because of reduced availability and high costs of seed potatoes as well as all the required inputs and consequently reduced area planted. Depending on the availability of funds, GOSM imports between 10 000 and 15 000 tonnes of certified seed potato each year from Europe.

Vegetables

Due to favourable climatic conditions, commercial vegetable production has, until recently, been very profitable and hence, important in the coastal governorates of Tartous and Lattakia where vegetables are grown in plastic tunnels/green houses. Tartous alone is estimated to have 135 000 plastic tunnels, each of 400 m² (50 x 8 m); 124 000 of these are in working condition but currently 120 000 are in active production. 4 000 plastic tunnels are thought to have been abandoned because of the high costs of inputs and hence, minimum economic returns/profit margins are available to the producers. Notwithstanding these difficulties, FAO with UNHCR has supported the erection of 4 000 new plastic tunnels this year to support vegetable production in internally displaced and other vulnerable households.

Although tomatoes, cucumber, eggplants, and capsicum are the most common crops cultivated in these plastic tunnels, tomato crop is the most important and major economic crop. Vegetable production was also this year adversely affected by the high production costs as well as by shortages and frequently poor quality of inputs (fertilizers, pesticides, and seed) as well as frost in April. Although fuel is more readily available as compared to last year, the pumping of ground water is still 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 is under control except soil-borne ones. Solar radiation is the major means of sterilizing the soil, but its success rate is only about 60 percent.

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 as well as chemical fertilizers and pesticides which are banned or restricted under international trade sanctions.

The stringent restrictions by Lebanon’s Ministry of Agriculture on the importation of Syrian fruits and vegetables have eased this year and this would positively affect the profit margins of Syrian producers during 2017.

Fruit trees

Fruit production, like other crops, has suffered from input shortages and extremely high production costs. However, the fuel required for land preparation, irrigation, harvesting, and transportation is more readily available to farmers this 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 of olives per year (approximately 200 000 tonnes of olive oil), making it the world’s fourth largest producer. MAAR estimates that olive production had fallen to only 800 000 tonnes by 2016.

Citrus production, on the other hand, appears not to have been significantly affected by the crisis, possibly because most citrus is produced in the very secure coastal governorates of Tartous and Lattakia. 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, rising costs of fuel as well as its availability 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 minimal economic returns.

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 just eight days of work for the only remaining functional sugar beet factory, which has a capacity of 3 600 tonnes per day. In 2016, there was a further reduction in area down to 252 hectares. It was limited to land where contracts had already been drawn up between MAAR and producers. Since the production from such a small area would not justify operating the factory, the produce was used as fodder. For 2017 total area under sugar beet was 604 hectares, 509 hectares in Al Ghab, 94 hectares in Hama, and one hectare in Aleppo. Again, all will be used for fodder rather than for processing

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 fuel 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 Ar-Raqqa, Al-Hasakeh, Deir-ez-Zor 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 shortages of irrigation water 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 further dramatic reductions. In 2016, 16 000 hectares were harvested, but the bulk of this (12 000 hectares) was in IS-controlled Ar-Raqqa Governorate. This year the area is further reduced to 9 835 hectares to 8 000 hectares in Ar-Raqqa, 1 740 hectares in Al-Hasakeh, and 55 hectares in Al Ghab. In Hama Governorate, where one of the country's two remaining operational ginneries is situated (the other is in Homs Governorate), the total harvest of seed cotton (from Al Ghab) is expected to be no more than 100 tonnes.

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 recovered since then to a total of almost 7 000 hectares, 4 814 hectares of which are in Tartous. Lattakia, Aleppo, Al Ghab, Homs and Hama also report production.

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 in some markets and undersupply in others. In the wholesale market of Tartous, it is estimated that the amount of waste of highly perishable vegetable and fruit products has doubled since the beginning of the crisis because of the high cost and the transportation impediments (e.g., several checkpoints along the route which may demand that a truck be un-loaded before proceeding) on the way to large markets such as Damascus.

Before the crisis, the country was a significant exporter of agricultural products such as sheep, fruit and vegetables. This has now ceased. The Government 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.

Prior to the crisis, the country had more than 140 grain-collection centres that would purchase grain from farmers. Now only 29 of these remain under Government control, the others having been either destroyed, damaged or appropriated by opposition forces. In some cases, warehouses have become targets of attacks. According to HOBBOB, the Government had 36 siloes in 2010, with a grain-storage capacity of 7 million tonnes. Since 2016, only six of these siloes remain operational. Approximately 80 percent of Government-purchased grain is now stored in open structures which are protected from rain and are regularly fumigated. 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

has increased substantially compared to the pre-crisis levels, reflecting the shortage 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 only some 30 percent of the 1 516 extension services units previously active across the country 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, the export subsidies fund, and the climate-change-effect compensation fund. The agricultural-production subsidies fund before the crisis amounted to SYP 10 million. The export-subsidies fund has stopped, but tax and customs exemptions for registered exporters are still in place. Before the crisis, the Government extended credit to farmers at favourable rates with generous repayment periods. This credit system is no longer available, further stunting agricultural investment.

In May 2017 the Government set the wheat purchasing price at SYP 140 (USD 270 per tonne at the official rate of SYP 517.43 per USD) and barley at SYP 110 per kg (USD 210 per tonne), about 10 percent above the levels set in December 2016 and some 40 percent higher than purchasing prices last season.

LIVESTOCK

Livestock production activities, which used to be an important sector of domestic agricultural economy have considerably been disrupted. Indeed, before the crisis, the sector accounted for 35 to 40 percent of the value of agricultural production and about one third of agricultural exports and employed about 20 percent of the labour force in rural areas. Sheep, which comprised the majority of the livestock population, could generate approximately USD 450 million per year due to exports, with the Syrian Arab Republic being a significant exporter of sheep to the Kingdom of Saudi Arabia and the Gulf States. 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. Cattle and goat populations, regardless of being smaller, were also an important source of employment. Fisheries, although usually considered to play a minor role in the national economy, accounted for an estimated 0.38 percent of agricultural GDP and were traditionally a source of living for poor and more-or-less illiterate people in coastal and lacustrine areas. In addition, both livestock and fisheries sectors, contributed substantially to the nutrition of the poor, especially that of rural women and children, and were an important livelihood for women, as well as food security of the rural population.

The overall impression of the Mission was that the livestock situation appeared now to be stabilized at a low level. Given the information collected from the field through interviews and discussions with farmers, traders and other key informants, it is clear that the situation, although not deteriorating at the speed observed in the early years of the crisis, has not yet substantially improved compared to the last two years. Observations also indicated that there were considerable disparities among various governorates, partly reflecting the variety of security situations across the country. Similar to the last two years, 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.

For the first time, the CFSAM in the Syrian Arab Republic incorporated the fisheries sector into its exercise. Although the sector represents a small portion of the Syrian Arab Republic's economy, it is a major source of livelihood for the poorest segments of the population in the coastal areas. The Mission estimated that, based on the information received, the sector has suffered similar problems as the livestock sector during the present crisis. This related mainly to the drop in the number of fishing vessels and catches from both marine and fresh waters.

Livestock numbers

The last comprehensive agricultural census that took place before the start of the crisis in 2010 put the main livestock species of the country at 18 million sheep, 2.3 million goats, 1.1 million cattle, 7 million buffaloes and 26.2 million poultry. After many years of conflict, it is evident that the Syrian Arab Republic's livestock population has shrunk considerably. As always, the challenge is to accurately assess the existing numbers in the absence of a reliable census that cannot be conducted under the continuing conflict conditions. Alternatively, approximate estimates 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. But again, given the deteriorating veterinary services and damage to the supply chains, any extrapolations is likely to be inaccurate and to be subject to conflicting results. As such, the Mission chose to take the MAAR figures for guidance and based the livestock figures in this report on the percentage

decreases from the last pre-conflict census. In any case, as indicated above, the proposed figures in this report should not be regarded as necessarily exact, but rather as best estimates under the prevailing circumstances.

Therefore, based on the Mission's observations, the numbers of main livestock species are currently estimated to have declined by roughly 45 percent for sheep, 30 percent for goats, 40 percent for cattle and 56 percent for the poultry compared to pre-crisis levels in 2011. The main reasons given to explain this decline are the sale of animals for income generation, in addition to the increased costs of maintenance (especially for poultry) and the losses either by death (due to poor living conditions, or because they are killed) or theft. Observations also indicated that the rate of decline is not uniform across the country which partly reflects the security situation between the governorates. At the same time, the variations between the last three years (2015-2017) were relatively small. This was reflected in the focus-group discussions as well as discussions held with the field teams during which a large share of respondents indicated slightly increasing or stable livestock numbers during the 2016/17 period.

Given the fact that the numbers of the main livestock species of the country have remained relatively constant over the last three years, from 2015 to 2017, it is the Mission's belief that the livestock population has now stabilized. In any case, this situation should not reach a level below the current one as the threshold has already been hit. If this happens, the recovery of the stocks may likely take a long time if action is not taken urgently.

The numbers of the main livestock species, as estimated before the start of the crisis and their evolution from 2015 to 2017 are summarized in Table 9 and described below.

Table 9: Syrian Arab Republic - Livestock numbers (million), 2011-2017

	2011 census	2015 estimates	2016 estimates	2017 estimates
Sheep	18	10.8	10.5	9.8
Goats	2.3	1.4	1.4	1.58
Cattle	1.1	0.77	0.75	0.65
Poultry (chicken)	26.2	13.1	10.5	11.5

Sources: FAOSTAT: 2011 figures and CFSAM estimates: 2015-2017.

Sheep and goats

Small ruminants, particularly sheep are the most important animal species in the country. They are the largest in number and continue to generate substantial foreign exchange earnings, even in the absence of official trade.

Many reports indicated slightly increasing or stable numbers of both species during this year in most governorates. On the basis of the decline rate mentioned above, and building on the last two CFSAM reports, the current population (2017) of sheep and goats may be in the order of 9.8 million and 1.58 million heads, respectively. Compared to the past two years, this represents an approximate decrease of about 6 percent for sheep and an increase of around 12 percent for goats. Generally among consumers, sheep meat is preferred to goat meat. Higher slaughter rates and more smuggling of sheep are likely to hinder herd recovery. There have been great fluctuations between governorates partly due to the security situation across the country. The largest increases in numbers of both species were experienced in the governorates of As-Sweida and Tartous, mainly due to the arrival of displaced population looking for safer places and to some returnees who have restarted their businesses. For instance, in Tartous, increases in numbers of around 7 percent for sheep and 17 percent for goats were indicated. On the other hand, the largest declines were reported in the governorates of Ar-Raqqa and Deir-ez-Zor due to selling to provide feed for the remaining animals, smuggling and slaughtering under pressure of the armed groups. Particularly, Ar-Raqqa alone accounted for more than 50 percent and 30 percent of the decline in numbers of the total national sheep and goat populations, respectively.

Cattle

The country's cattle population has always been relatively small at around one million under pre-conflict circumstances. Since 2011, when cattle numbers were estimated at some 1.1 million heads, the country has seen a decline of 30 percent to about 0.77 million heads. This population has fluctuated over the past three years with an estimate of around 0.650 million heads in 2017, which is a slight decrease (about 13 percent) compared to that of 2016. Just like small ruminants, the situation differs largely between governorates reflecting security conditions. The largest decrease was again observed in Ar-Raqqa that accounted for more than 30 percent of the decline in the current number of the total national cattle population.

Poultry

Within the livestock sector, poultry is the hardest hit by the crisis, resulting in a decrease in the supply of poultry meat and eggs. This consequently induced high prices for what used to be the most widely available protein. The country's poultry population, mostly raised in intensive production systems and numbering about 26.2 million birds before the crisis, dropped to about 13.1 million birds by 2015, which is a decline of around 50 percent. Owing to conflict-related constraints, there has been no recovery in the industrial type of production. The 2017 population of poultry is estimated at about 11.5 million birds. Unlike sheep and cattle populations, this represents a slight increase of numbers (around 9 percent) compared to 2016. A large share of the reports related this situation mostly to the increases of poultry production for own consumption as backyard farming to improve the food, nutrition and income situation of households.

Other livestock species

Less numerous livestock species, such as buffaloes and camels, are equally suffering from the effects of the crisis. As a result, it is assumed that their numbers have drastically fallen as they were killed during shelling, slaughtered to feed the residents of besieged areas or smuggled across borders for sale in neighbouring countries.

Animal nutrition

Although grazing of natural vegetative cover (pastures, rangelands, etc.) as well as cultivated green and crop stubbles provide a major proportion of the total nutritional requirements for livestock, supplementary feed also contributes as a source of feeding animals. The principal agricultural stubbles are those of wheat, barley and cotton. On the other hand, the main feeds and concentrated feed mixes of concern to the livestock sector are barley, maize, wheat bran and cotton seed cake.

Feed and fodder supply is seasonal both in terms of quality and quantity; thus making their availability and cost a major constraint to increasing the livestock production and profitability. Indeed, procurement of feeds and fodder accounts for a high percent of the cost of production of all categories of livestock. This is particularly true in the current situation as traditional movements of livestock have been disrupted and the main system for animal herding have been severely weakened. In the past, small ruminants were seasonally moved to available water and grazing areas. Indeed, throughout the field visits, the issue of feed supply emerged as one of the main concerns of farmers. They have argued that due to limited access to pastures, compounded by poor rainfall in some areas, and smuggling of feed ingredients, the costs of feed commodities have steadily increased.

Nonetheless, the livestock conditions at the time of the Mission across most of the visited sites were generally satisfactory, except for some localized areas where the effects of the crisis are more evident. In these areas, reports indicate that, despite the pasture availability, their access is limited due to insecurity. Moreover, because of the harvesting period, the flocks were unable to access cultivated areas to graze on crop stubbles. Consequently, flocks, mainly sheep and goats, were frequently seen grazing alongside the road on sparse natural vegetation or sometimes on weeds growing on the fallow land under the supervision of the herdsmen. But it was understood the situation was only temporary and livestock would have moved over to plots once the main crops were harvested. These plots are rented to farmers and constitute a significant alternative to feed the sheep and goat herds for some period before the winter.

As already indicated, livestock feed commodities (barley, maize, soya, wheat, etc.) are expensive and their availability differs across governorates reflecting the security conditions. At the same time, their cost exhibited some fluctuations over the year but generally with an upward trend as compared to the previous year. For instance, the average prices of barley, the principal livestock concentrate, rose from SYP 120/kg in 2016 to SYP 140/kg in 2017. This was also the case of wheat bran the price of which rose from SYP 110/kg in 2016 to SYP 200/kg in 2017, as well as for the fodder (hay) price which went sharply from SYP 30/kg in 2016 to SYP 140/kg in 2017. The price of compound poultry feed increased from SYP 175/kg in 2016 to SYP 250/kg in 2017. The production costs of milk and dairy products have therefore become very high due to increased feed prices and transport costs.

Regarding livestock watering, the Mission noticed that in some areas, watering is insufficient or very expensive. Indeed, in most visited sites, the Mission observed that water is often supplied by water tankers; thus passing on the cost of transport compounded by insecurity or road transportation to the farmers.

Animal production

In general, the livestock sector achieved substantial success prior to the crisis, driven by Government attention and supporting policies. Before the crisis, the Government established several artificial insemination centres, encouraged the formation of dairy cooperatives, and expanded extension services. In addition, during that period, veterinarian field clinics providing free animal vaccinations were also established. Consequently, the sector was performing very well and accounted for 35 percent of the value of agricultural production and about one-third of agricultural exports.

Owing to conflict related constraints, this situation has reversed as the potential of the sector, in terms of quantity and quality, has fallen at a very high rate since the onset of the crisis. In the areas under the control of the Government, it is estimated that, the production of milk, meat and eggs has dropped annually by at least 2.5 percent, 2.4 percent and 9 percent, respectively, from pre-crisis levels. Reports indicate that the average price of milk went from SYP 150/kg in 2016 to SYP 200/kg in 2017.

The reduction in the number of animals, the insecurity conditions, the difficulty in marketing and the increased feed cost were frequently cited among the main causes of this drop in animal production. This has discouraged the producers from restarting their businesses as they feel that the sector is no longer profitable. Similarly, in the animal markets, traders and butchers have argued that animals are expensive because of a number of factors including the high prices of animal feed and uncontrolled export of livestock. For instance, prices of sheep sold in the market rose by nearly 10 percent as compared to last year, but still cannot cover the cost of maintenance.

Animal health

Traditionally, common epizootic livestock diseases that are reported and generally monitored and controlled in the country include foot-and-mouth disease, lumpy skin disease, sheep pox, sheep enteroxemia, pasteurellosis, sheep listeriosis and Newcastle disease. Before the crisis, the veterinary sector, performed well in terms of veterinary supplies and services, but since the crisis it has nearly collapsed, and the Government is only able to serve the handful of areas that it still controls. A noticeable consequence of the crisis on the livestock sector is the shrinking of the numbers of technically skilled staff. This has caused a breakdown in the field veterinary services. For instance, reports indicate that the number of technical staff has decreased by up to 30 percent from the pre-crisis level as some were killed or joined the armed groups or left the country. This means that, in the course of the crisis, in addition to the destruction of key infrastructures, including vaccine production plants, the country has lost many of its skilled workers. This has resulted in weak livestock support services and a scarcity of well-trained animal health workers and animal husbandry specialists. Because of this, the crisis is negatively affecting animal health services and livestock herders. The crisis and associated sanctions have also limited livestock owners to access to animal health services and quality animal production inputs.

Despite these unfavourable conditions, there have been no official reports of major epizootic livestock diseases thanks to the Government's annual vaccination campaign programs free of charge. This somehow reflects the situation on the ground, at least in the visited sites, as the Mission did not observe any major ongoing clinical signs of epizootic diseases, apart from some isolated cases of mange mites (scabies) in some sheep flocks. Yet, it is not clear whether the observed situation was a direct response to the Government's vaccination programs or to some epidemiological factors such as decreases in livestock density, changes of traditional movement and herding patterns, or changes in environmental conditions.

In any case, this situation should not be taken for granted given that the country does not have an efficient surveillance and reporting system in place for animal diseases. In addition, there are no adequate laboratory diagnostic facilities and there is also insufficient professional and public awareness. Moreover, meat inspection that should take place in abattoirs is not performed consistently. Despite the efforts of the Government to fill the gaps, this represents a significant animal disease surveillance and monitoring concern. Consequently, the possibility of under-reporting should not be completely excluded. Indeed, as in previous years, some local suspicions of infectious diseases were mentioned by the enumerators and field teams in some governorates that were not visited by the core team. In Ar-Raqqa, cases of pox, FMD and pasteurellosis in sheep were mentioned while in Dar'a, cases of infectious bronchitis, Infectious bursal disease (IBD, Gumboro) and Newcastle disease in poultry were noticed.

However, it is understood that the incidence levels of all these pathologies were not unusually high and they were fully controlled. Nonetheless, this situation, when combined with serious political instability, which causes a lack of co-operation among various actors in the country, can undermine regular and proper disease surveillance and reporting. Consequently, significantly unfavourable epizootiological conditions could occur in

the country that might unexpectedly cause major problems at any time. Therefore, further investigations are recommended to collect more information.

Furthermore, pesticides residues in some areas that were besieged by the armed rebels, especially the Islamic opposition groups, were reported as being of particular concern for potential animal poisoning. This is an important issue as it may render food unfit for human consumption; thus impairing food security and public health.

Fisheries

Although the fisheries sector represents a small portion of the Syrian Arab Republic's service-oriented economy, it is a major source of livelihood for the poorest segments of the population in the coastal areas. Indeed, it is reported that this sector represents the major income earning and employment opportunity for these populations.

For the first time, the CFSAM report included fisheries sector in its analysis. Fishery resources, which include coastal waters, inland waters and aquaculture potential, play a minor role in the Syrian Arab Republic's economy as they contribute only around 0.38 percent to agricultural GDP. However, when viewed in the light of the status of income supply, it becomes clear that the sector is a source of livelihood of many vulnerable people. The sector, most of which is dominated by artisanal fisheries, was traditionally a source of living for poor communities in coastal and lacustrine areas.

The total area of inland waters is estimated at about 163 500 hectares, comprising rivers, and natural and artificial lakes. They are mainly located in the south and southeast of the country. On the other hand, the country has a coastline of 183 km with good artificial ports and continental shelves. Small-scale fisheries dominate both in the marine (which comprises some 1 200 licensed coastal fishing vessels) and in inland waters (with around 1 283 small fishing boats). Marine waters are modest in their production due to the absence of upwelling or major currents which bring nutrients to the region. Consequently, landings from marine fisheries have been traditionally low.

The literature available on the total fish catches (marine and freshwater), prior to the crisis, shows an estimate of about 2 956 tonnes per year, of which 84 percent are from the marine. It is assumed that currently, these catches, which in 2015 were estimated at about 30 percent below the pre-crisis average, did not increase in 2017. In fact, the scarce and disparate reports that are available indicate a total catch of about 1 700 tonnes mainly in Tartous and Homs.

The main factors currently affecting the sector include insecurity along the waterways, loss and lack of fishing equipment and overexploitation in some areas leading to the exhaustion of fish stocks as well as the scarcity of expertise in several fisheries and aquaculture fields. Reports also indicate that the quality of water in the major rivers is deteriorating, owing to pollution from chemicals and effluents, and the quantity, particularly in some of the smaller rivers, has been drastically reduced because of upstream pumping for agriculture.

With Government prioritizing the sector, it is expected that some national fish farms will be rehabilitated in the near future to help the most vulnerable families improve their access to food, nutrition and income.

Challenges

A large array of factors contribute to the decline of the livestock assets and infrastructure. Overall, similar to the past two years, the main constraints facing the livestock sector identified by the Mission remain practically unchanged and include among others:

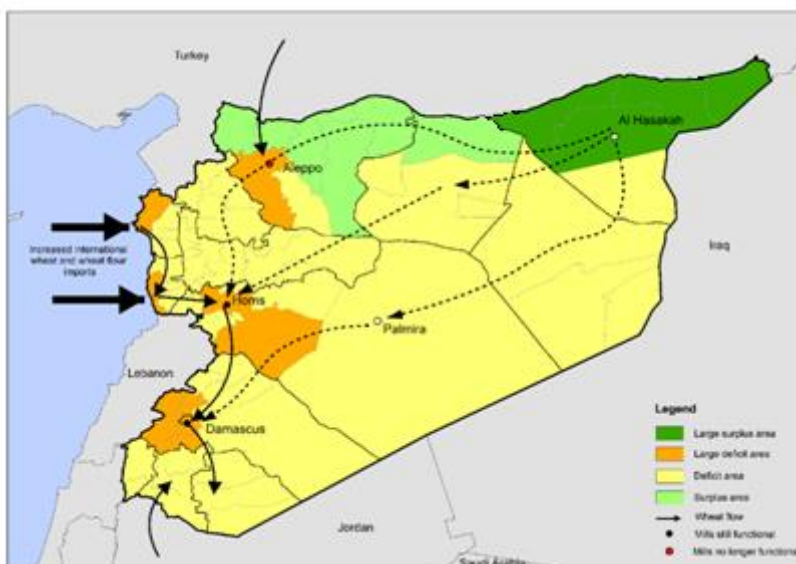
- Feed supplies are decreasing while market prices are increasing.
- Shortage of animal feeds and limited access to pastures.
- High cost of purchased feeds and fodders on which most livestock have depended in recent years.
- High price of animals and animal products, but which do not covers the production costs. As a result, many farmers are hesitating to restart their businesses.
- Weak livestock support services and scarcity of well-trained animal health workers and animal husbandry specialists.
- Limited means to increase animal productivity with the current limited availability and quality of livestock production services.
- Limited supply chains and cold chain disruptions due to power shortages and insecurity affecting both inputs and outputs, including transportation bottlenecks.

LOCAL FOOD MARKET CONDITIONS

Wheat market

The breadbasket of the country extends along the north and northeast, with Hasakeh Governorate alone accounting for one-third of aggregate wheat production. This breadbasket is distant from the western governorates of the country, where final demand for wheat is concentrated (see Figure 11). The conflict has led to the destruction of vital storage and milling infrastructure. Storage capacity, which was about 3.5 million tonnes before the conflict, is currently estimated at no more than 450 000 tonnes, and about 80 percent of wheat stocks is currently stored in open spaces. Milling capacity, which was about 3.8 million tonnes per year before the crisis, was estimated at 2.8 million tonnes per year in 2015, recording only a slight recovery since then. In addition, due to the conflict, the wheat market has become highly fragmented: the transfer of wheat between surplus-producing areas to deficit zones has dramatically slowed down from 2012 until 2016, causing critical trade distortions and disruptions. In 2015, due to disruptions of trade flows towards deficit areas, about 200 000 tonnes of wheat had accumulated in Al-Hasakeh Governorate. Subsequently, trade flows improved as Palmyra and Aleppo (among the main throughways from Hasakeh to Damascus, see Figure 11) were brought back under Government control in March and December 2016, respectively. However, despite the recent improvements, trade continues to be hampered by a volatile security situation which poses considerable security risks and inflates transaction costs for traders and transporters. High fuel prices⁷, increasing transport costs, exert additional pressure on wheat prices.

Figure 11: Syrian Arab Republic - Domestic wheat flows, 2015



Source: WFP Market and Price Monitoring.

Food prices

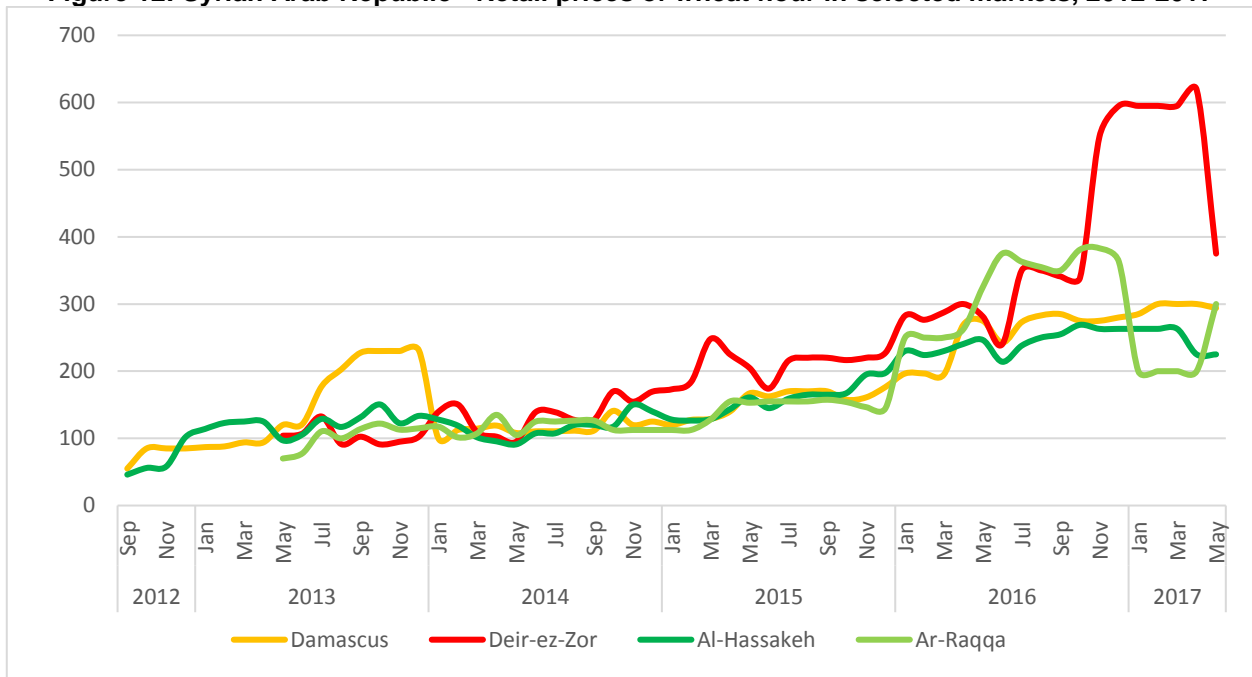
Prices of cereals and agricultural commodities

Prices of wheat flour, the main staple, have increased substantially since the start of the conflict in 2011 until mid-2016, surging, albeit irregularly, both in markets located in surplus producing areas (Hasakeh, Raqqa) and in markets located in deficit areas (Deir-ez-Zor, Damascus). Since the last quarter of 2016 wheat flour prices are mostly stable both in the capital Damascus (the main deficit market) and in Al-Hasakeh, located in the main wheat producing area. The stabilization of wheat flour prices is due to the increase in national production compared to 2015, to the improvement of trade flows and to a relatively stable exchange rate between the Syrian Pound and the US Dollar, which relieved inflationary pressures. In May 2017, wheat flour retail prices in Damascus were just 7 percent higher than their year-earlier levels and similar to the quotations in September 2016. In Al-Hasakeh, prices declined by 15 percent between March and May as the 2017 harvest increased supplies and in May 2017 they were 9 percent lower than 12 months earlier. In Ar-Raqqa and in Deir-ez-Zor markets, by contrast, prices of wheat flour are extremely volatile due to intense fighting and severe market disruptions. Notably, in Deir-ez-Zor, a besieged area, prices surged by 60 percent from October to November

⁷ In May 2017, the average price of diesel was SYP 340 per litre, almost five times the average price in May 2013.

2016 as the fighting increased in intensity, remained firm at record levels in the following months and declined by 40 percent between April and May due to food assistance operations. Overall, despite the recent improvements in trade flows and humanitarian access, wheat flour prices remain at exceptionally high levels also in areas not exposed to active conflict, due to high production costs, high fuel prices, currency devaluation and high general inflation. Notably, in both Damascus and Al-Hasakeh markets, wheat flour prices in May were eight and six times the pre-conflict levels, respectively, and the average wheat price on local markets, at USD 495/tonne, was more than twice the price of wheat on the international market, USD 200/tonne.

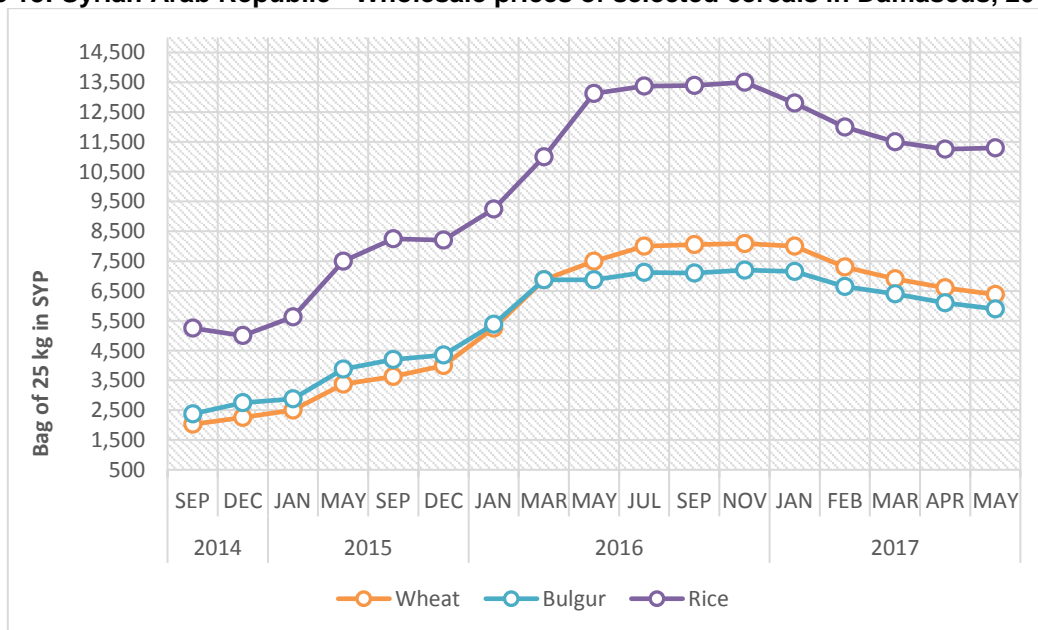
Figure 12: Syrian Arab Republic - Retail prices of wheat flour in selected markets, 2012-2017



Source: WFP.

In the capital, Damascus, wholesale prices of wheat, bulgur⁸ and rice followed similar patterns, levelling off in the second semester of 2016 and declining in the first semester of 2017. In May 2017, prices of the three food commodities were 15 percent lower than in the same month of the previous year but up to twice their levels of two years earlier.

Figure 13: Syrian Arab Republic - Wholesale prices of selected cereals in Damascus, 2014-2017



Source: WFP.

⁸ 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 members 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. In May 2017, the average cost was SYP 31 980, 9 percent less than in the same month of the previous year but more than twice than two years earlier. Across all monitored markets, the highest price of the food basket was recorded in Deir-ez-Zor Governorate. Here, the food basket price, at SYP 55 200, despite having sharply declined by more than 30 percent in May compared to the previous month due to food assistance distributions and being 51 percent lower than 12 months earlier, was more than 70 percent higher than the average cost and still 33 percent higher than 24 months earlier. Prices declined by 15-45 percent between January and May 2017 in Aleppo, Al-Hasakeh and Rural Damascus markets due to the relatively improved security situation and functionality of supply routes. Also in these markets, however, prices of the food basket were lower or around their year-earlier levels but up to twice that of 24 months earlier.

Table 10: Syrian Arab Republic - Price of a standard basket of dry goods

Governorate	Price May 2017 (SYP)	Price 6 months changes (%)	Price 12 months changes (%)	Price 24 months changes (%)
Deir-ex-Zor	55 200	-20	-51	+33
Idleb	35 025	+13	+5	n.a.
As-Sweida	32 870	+5	+24	+111
Hama	31 605	0	+15	+100
Tartous	30 950	+2	+2	+101
Lattakia	30 270	-2	+2	+99
Aleppo	30 010	-45	+9	+119
Damascus	30 000	-1	+12	+93
Homs	29 980	+9	+24	+97
Rural Damascus	29 620	-15	-18	+88
Ar-Raqqa	29 150	+3	+10	+94
Quneitra	29 148	+3	+10	n.a.
Dar'a	27 475	+5	+6	+67
Al-Hasakeh	26 435	-33	-34	+73
Average	31 980	-9	-9	+113

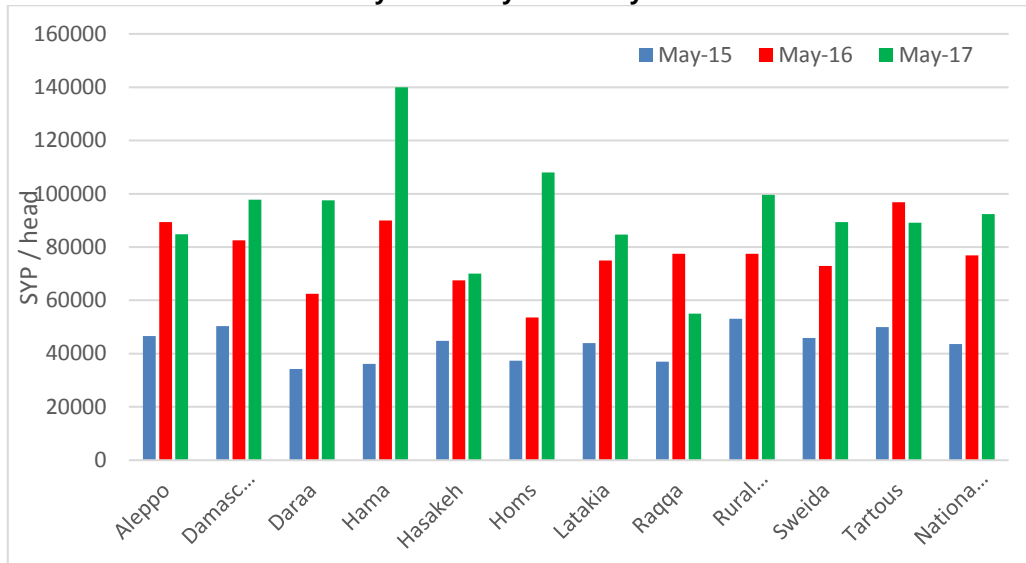
Source: WFP.

Livestock prices

Over the last 24 months, livestock numbers are estimated to have stabilised at very low levels, with numbers of cattle, sheep and goats currently estimated to be 30-45 percent lower than their pre-crisis levels and poultry numbers estimated to be less than half their 2011 levels. Despite the stabilization of numbers, however, prices of livestock sharply increased over the last 24 months, mainly due to high feed prices and market disruptions. As Figure 14 shows, national average price of sheep in May 2017 were more than two times higher than two years earlier. However, it must be noted that over the last 12 months prices have increased at a slower rate⁹, partly due to improved market functionality and trade flows.

⁹ The average rate of increase between May 2016 and May 2017 was 20 percent, compared to 76 percent between May 2015 and May 2016.

Figure 14: Syrian Arab Republic - Prices of goats (two year old, male), May 2015-May 2016-May 2017

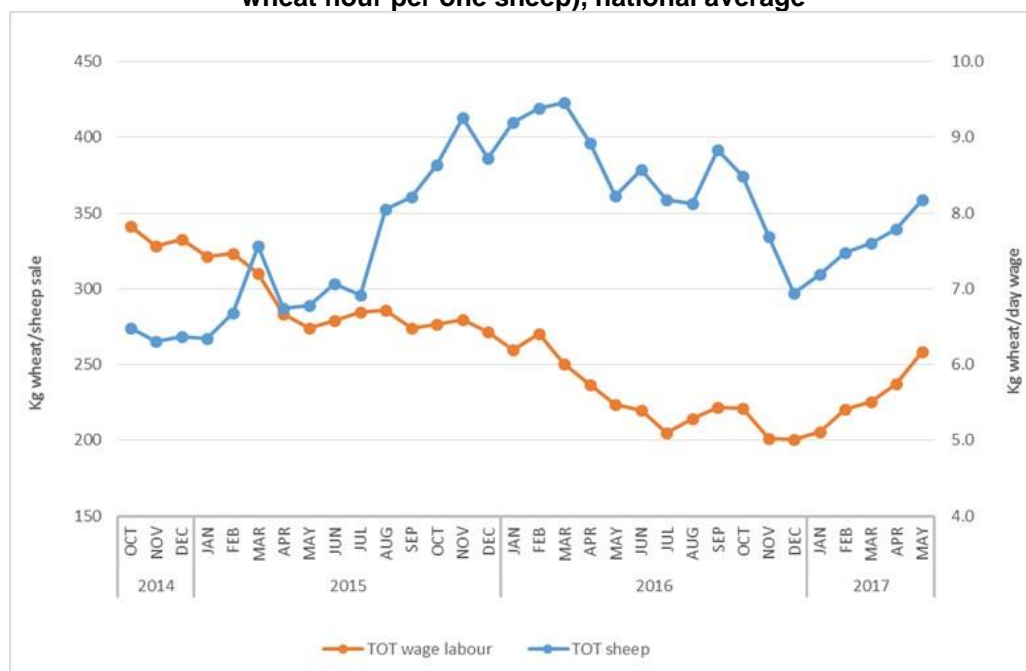


Source: WFP Price Monitoring.

Terms of trade

Since the start of the crisis, farm labour wage rates have increased across the country due to manpower shortages. The increase in wage rates, however, was outpaced by the sustained increase of cereal prices, and as a result purchasing power of casual labourers (measured in terms of trade) followed a decreasing trend. This trend was reversed in December 2016, when cereal prices relatively stabilized, and between December 2016 and May 2017 terms of trade for casual labourers against wheat flour improved. A day of work in May 2017 could buy 6.2 kg of wheat flour, compared to 5 kg in December 2016. Despite the recent improvements, however, terms of trade and purchasing power of casual labourers at the time of the mission remained low, 14 percent lower than 24 months earlier and 24 percent lower than in October 2014. The stabilization of cereal prices in recent months resulted also in improved terms of trade for pastoralists: in May 2017 one sheep was exchanged for about 359 kg of wheat flour, 21 percent more than in December 2016. Terms of trade for sheep against wheat flour in May 2017 were one percent lower than 12 months earlier but 24 percent higher than two years earlier, as a result of the sharp increase in sheep prices between May 2015 and May 2016, which outpaced the increase in cereal prices.

Figure 15: Syrian Arab Republic - Terms of trade (wheat flour per one day of casual labour, wheat flour per one sheep), national average



CEREAL SUPPLY/DEMAND SITUATION

Population

Population developments were described in the background and socio-economic context of the report. With losses and uncertainty associated with a conflict situation, it is difficult to estimate the level of inward migration and population growth. In the absence of any more substantiated estimate, and on the assumption that births and returns to the country will for the time being be balanced by deaths and departures, a figure of 19.1 million by the end of 2017 has been assumed; this figure has been used for the food balance sheet in this report.

National cereal balance sheet

The national cereal balance sheet for the Syrian Arab Republic's 2016/17 harvest (2017/18 marketing year) is presented in Table 11. The following assumptions have been made:

- By the middle of the 2017/18 marketing year (31 December 2017), the human population of the Syrian Arab Republic is estimated to be 19.1 million (see above).
- Cereal production in 2016/17 comprises 1.793 million tonnes of wheat and 777 000 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 2017 amounted to 500 000 tonnes.
- The closing stock of wheat by 30 June 2018 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/capita/annum has been used to reflect the generally reported reduction in daily household consumption).
- A sheep/goat population of 11.4 million, and a cattle population of 650 000.
- 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. Out of 11.5 million chickens, about 2.7 million are fed 100 g wheat daily.
- The planned cereal area for the 2018 harvest will be similar to that of 2016/17. 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 is expected to import 0.9 million tonnes of wheat¹⁰.
- Commercial companies are expected to import 200 000 tonnes of wheat.
- For 2017/18, some 135 tonnes of wheat and wheat products (i.e. wheat flour and bulgur) will be received as in-kind food assistance by WFP. Food assistance by other organizations would decrease the uncovered shortfall.

Table 11: Syrian Arab Republic - National cereal balance sheet, 2017/18 marketing year

	Wheat	Barley
Total Availability	2 293	777
Production	1 793	777
Opening stock	500	0
Total Utilization	4 109	1 301
Food use	3 247	0
Feed use	100	934
Seed	393	250
Losses, field and post-harvest	269	117
Closing stock	100	0
Import Requirement	1 816	524
Anticipated Government imports	900	0
Anticipated commercial imports	200	0
Food assistance	135	0
Uncovered shortfall	616	524

¹⁰ In February 2017, the Syrian Arab Republic state buyer signed contracts with the Russian Federation for 1.2 million tonnes of wheat, some of which entered in the previous marketing year (<http://www.reuters.com/article/us-syria-wheat-idUSKBN1620Z0>)

HOUSEHOLD FOOD SECURITY SITUATION

Food security situation and trends

The food security trend analysis is based on multiple data sources. A key information source is WFP mobile Vulnerability Analysis and Mapping (mVAM) data that was collected throughout 2016 and 2017¹¹. Other data sources included the household survey, key informant interviews and focus group discussions conducted during the CFSAM. The household survey covered 1 381 crop and livestock producers across all governorates. Focus group discussions – separate with women and men – were held with IDP, returnee and residents households in Al-Hasakeh, Tartous, Homs, Aleppo, Rural Damascus and As-Sweida, in addition to key informants from all governorates. In addition, representatives from UN agencies, NGOs, government agencies, the food security and nutrition sectors, and the business community were consulted in Damascus, Amman and Beirut.

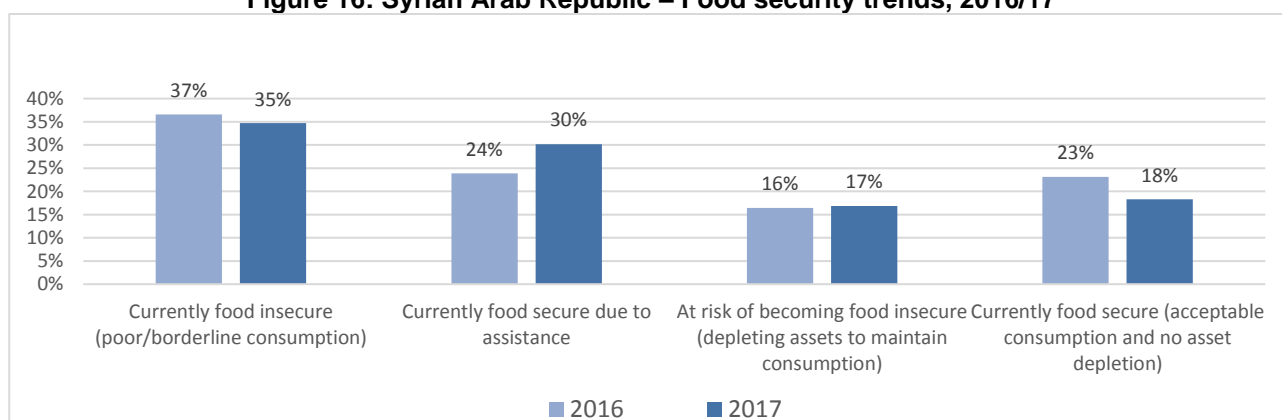
Table 12: Syrian Arab Republic – Number of interviews

Interviews (mVAM)		January-May 2017	March-December 2016
Accessible	IDPs	590	909
	Resident	1 013	2 078
	Returnee	49	64
Besieged	IDPs	30	48
	Resident	17	35
	Returnee	0	3
Hard-to-reach	IDPs	274	580
	Resident	401	768
	Returnee	38	50
Total		2 414	4 535

The analysis presented in this section focusses on trend analysis and any reference on prevalence and reference to number of people in need is only indicative. Comprehensive food security surveys are currently being conducted and will become available in the third quarter of 2017.

Based on mVAM data, it is estimated that overall approximately 35 percent are currently food insecure (poor and borderline food consumption). An additional 30 percent are at risk of becoming food insecure if current assistance levels drop. Finally, 17 percent are at risk because they maintain their consumption levels through the depletion of assets, and only 18 percent can be considered currently food secure. There is a mixed trend compared to the situation in-mid 2016. One one-hand, current food security has improved due to increasing access to humanitarian assistance; on the other hand, the overall proportion of households with acceptable food consumption who are not relying on assistance or depleting assets has decreased.

Figure 16: Syrian Arab Republic – Food security trends, 2016/17



¹¹ In cases where the same households were interviewed more than once during the same year, duplicated cases were randomly removed. Data was weighted by population size and displacement status. Governorates with very small sample size was too small were removed from the analysis. The governorates covered by the mVAM survey are Al-Hasakeh, Aleppo, As-Sweida, Damascus, Hama, Homs, Lattakia, Rural Damascus and Tartous. Results shown for Deir-ez-Zor, Idlib, Dar'a and Quneitra are only indicative due to small sample sizes. Numbers for Ar-Raqqa are based on the 2017 HNO.

Table 13: Syrian Arab Republic - Food security status, January-May 2017 (percent)

	Currently food insecure (poor/borderline consumption)	Currently food secure because of the assistance provided	At risk of becoming food insecure (depleting assets to maintain consumption levels)	Currently food secure (acceptable consumption and no asset depletion)
Aleppo	34	39	13	14
Al-Hasakeh	32	10	36	22
<i>Ar-Raqqa</i>	81		19	
As-Sweida	19	19	33	29
Damascus	20	32	21	27
<i>Dar'a</i>	18	50	24	8
<i>Deir-ez-Zor</i>	23	38	0	38
Hama	38	27	16	18
Homs	30	36	16	18
<i>Idleb</i>	78	0	11	11
Lattakia	34	25	22	19
<i>Quneitra</i>	40	60	0	0
Rural Damascus	28	39	19	14
Tartous	34	25	15	27
Total^{1/}	35	30	17	18

Sources: mVAM 2017 except for Ar-Raqqa (HNO 2016/mid-term review), figures only indicative for Ar-Raqqa, Dar'a, Deir-ez-Zor, Idleb and Quneitra.

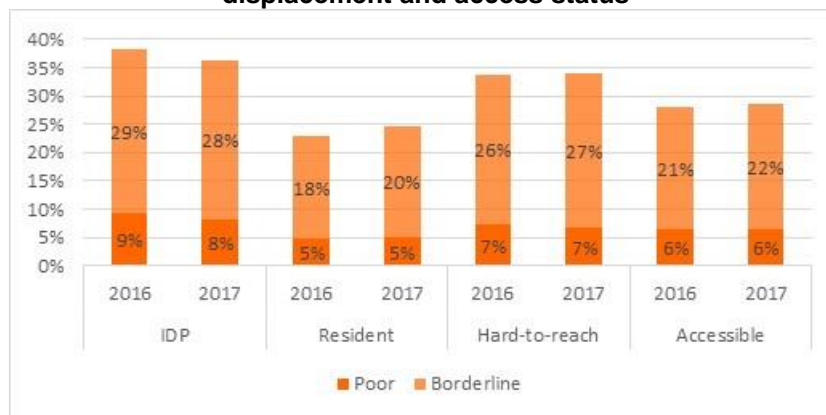
1/ Total excludes figures from Ar-Raqqa.

Across governorates, there have been relative improvements in current consumption levels in Aleppo, Al-Hasakeh, Dar'a and Deir-ez-Zor. The situation in Damascus, Rural Damascus and Hama has stabilized, while the situation in all other governorates deteriorated compared to the previous year. Whereas the role of humanitarian assistance expanded across all governorates, As-Sweida has been an exception with less households benefitting from assistance. The use of coping strategies to maintain consumption has particularly increased in Dar'a, As-Sweida and Lattakia.

Food consumption

Nearly every third household in the areas covered in 2017 had poor or borderline food consumption with higher proportions among displaced households and in the hard-to-reach areas. While not statistical representative, the situation continues to be more severe in besieged areas with more than 10 percent of households falling into the poor food consumption category. Compared to the previous year, overall food consumption levels have largely remained the same, however it should be noted that IDPs showed a slightly positive trend, while resident households have a slightly negative trend.

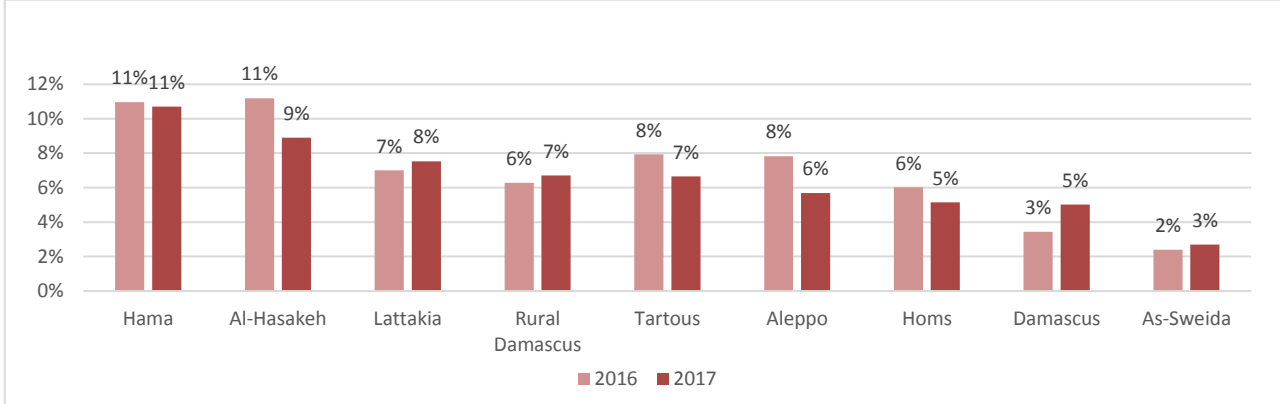
Figure 17: Syrian Arab Republic – Food consumption by displacement and access status



The situation differs by governorate with increasing numbers of household with unacceptable consumption levels in Tartous, Lattakia, Homs, As-Sweida and Hama. Tartous, Lattakia and As-Sweida are largely safe and less affected by the crisis but are bearing a high proportion of the IDP burden from other governorates. Aleppo

remains one of the governorate most affected but the situation has slightly improved compared to the previous year due to the relatively improved access and security situation. Similarly, in Al-Hasakeh the situation seems to have slightly improved due to better access, slightly higher production levels and relatively lower food prices, however, 9 percent of households continue to have poor food consumption, the second highest level following Hama.

Figure 18: Syrian Arab Republic – Households with poor food consumption by governorate (2016/17)

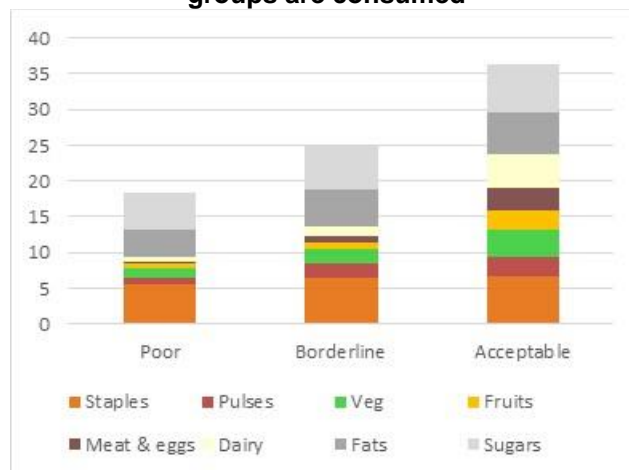


Based on field observations and key informant interviews, resident households in Al-Hasakeh, those returning to Aleppo as well as IDPs in Homs, Hama, As-Sweida and Tartous are among the most vulnerable. The most severe cases were observed in Aleppo shelters and As-Sweida informal camps where many displaced households reported that access to food and safe drinking water is a daily challenge.

Quality of the diet and the long-term impact on nutrition and health

Poor and borderline food consumption is associated with limited access to food in terms of both limited quantity and quality. Households with poor food consumption show very poor dietary diversity; their consumption is mainly based of staples, oil and sugar with very limited access to vegetables. This was confirmed through field observation by the mission. Diets of most of the most vulnerable households largely consist of potatoes and commodities provided as food assistance. Diets become extremely unvaried when rations run out, and primarily consist of breads and fried potatoes. A diet lacking quantity and quality increases the risk of acute (wasting), chronic malnutrition (stunting) and micro-nutrient deficiencies.

Figure 19: Syrian Arab Republic – Number of days food groups are consumed



Key informants from Al-Hasakeh indicated that the majority of poor vulnerable households are consuming two to three meals of small servings. Those owning a cow are able to consume bread with yoghurt when seasonally available. During the lean season, meals mainly consist of starches and oil. IDPs and returnee households interviewed in Aleppo, Tartous, Homs and As-Sweida consume one to two meals. Their main diet is comprised of starches (potatoes, bulgur wheat, bread, rice more seldom), oil and sugar beside limited consumption of vegetables, and eggs on very few occasions Many households are using thyme to give flavour to the food. Access to nutritious food groups including animal protein, fruits and dairy products is reported to be very limited

for most of the displaced and poor vulnerable households in all visited locations. Meat is very expensive and most “people have not eaten or seen meat for a long time”.

Looking closer at some of the macro- and micro-nutrients consumed by the interviewed households overall, nearly none has regular access to hem iron. Iron deficiency is one of the main causes of anaemia with documented long-term impacts on people’s productivity and quality of life.

Protein plays a key role in growth and is crucial for the prevention of wasting and stunting which takes place largely within the first 1 000 days. Vitamin A deficiency, if tackled before the age of five, can reduce mortality and infectious diseases such as measles, diarrhoea and malaria. Limited access to Vitamin A and protein rich foods affects every fourth or fifth household interviewed. Households with poor food consumption are particularly affected with none of the households having regular access.

Figure 20a: Syrian Arab Republic – Consumption of macro- and micro-nutrients overall (May 2017)

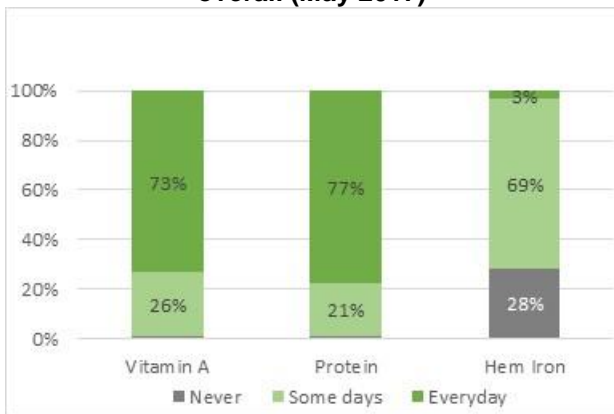
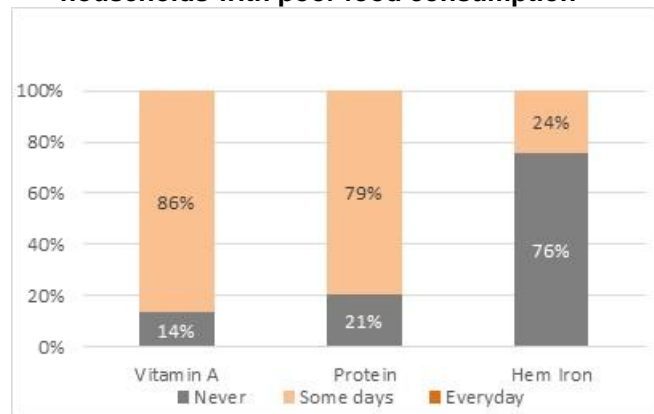


Figure 20b: Syrian Arab Republic – Consumption of macro- and micro-nutrients of households with poor food consumption

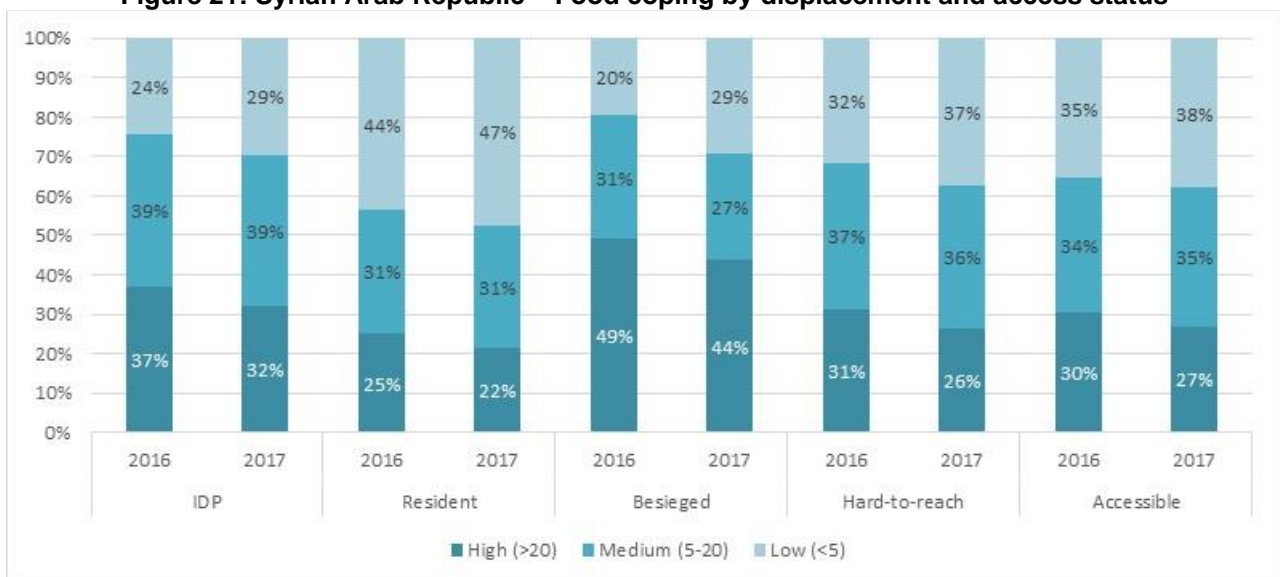


Food coping strategies

The reduced Coping Strategy Index (rCSI) measures the stress level a household is facing when exposed to food shortage. The higher the stress, the higher is the index. It is comprised of 5 food coping strategies: 1) rely on less preferred and less expensive food, 2) borrow food or rely on help from relatives or friends, 3) limit portion size at meals, 4) restrict consumption by adults in order for small children to eat, and 5) reduce number of meals eaten in a day.

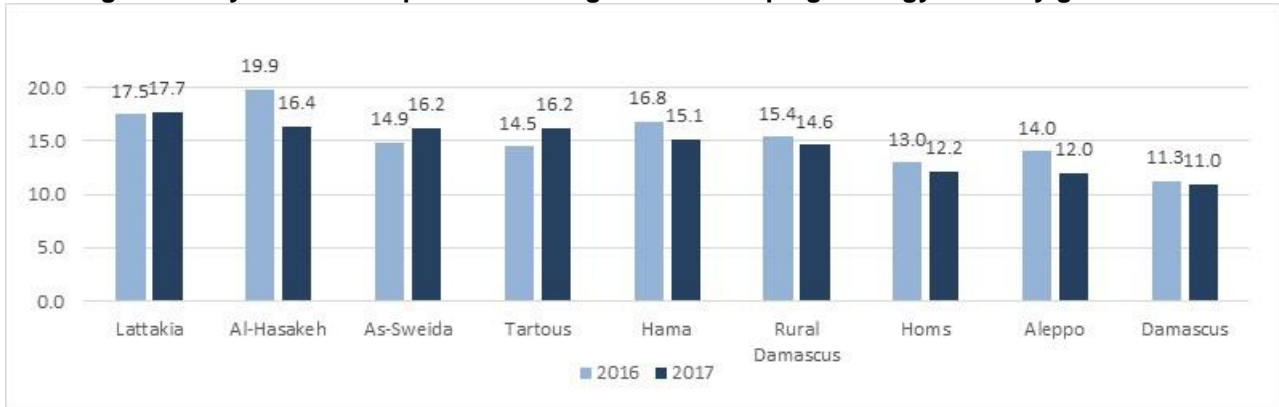
Among all households interviewed, 27 percent adopt high degree of coping to meet food shortages, a slight decrease from 2016 (31 percent). The situation continues to be more severe in besieged areas with 44 percent adopting a high level.

Figure 21: Syrian Arab Republic – Food coping by displacement and access status



There are differences by governorate with Lattakia, Tartous and As-Sweida showing increasing, while all other governorates shows slightly decreasing trends, including Aleppo and Al-Hasakeh.

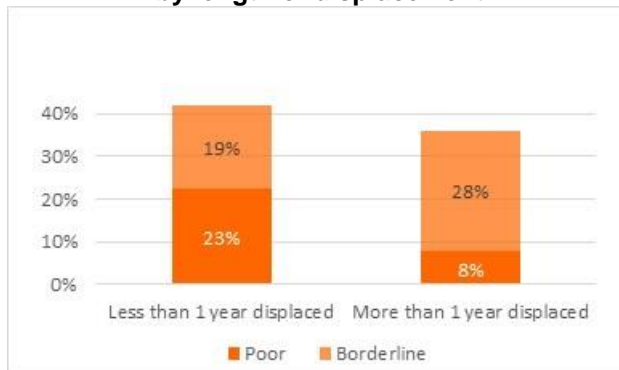
Figure 22: Syrian Arab Republic – Average reduced coping strategy index by governorate



Profile of the most vulnerable groups

Displacement due to conflict continues to be the main driver of vulnerability to food insecurity in the Syrian Arab Republic. About every third Syrian household is currently internally displaced. Displaced households are much more likely than resident households to have poor and borderline food consumption and adopt food and livelihood coping strategies. Moreover, among the displaced, households that have been displaced more recently are worse off compared to those who have been displaced for a longer period of time.

Figure 23: Syrian Arab Republic – Food consumption by length of displacement



Based on the mission observations and key informant interviews, the most vulnerable groups include IDPs living in rural areas and informal camps followed by those living in shelters in urban areas and returnees who lost all their assets and have to restart their livelihoods in the midst of destroyed houses. In addition, the situation continues to be particularly dire in the besieged areas affected by ongoing battle and cross-line fighting, as well as in Ar-Raqqa and Deir-ez-Zor.

Other vulnerability factors include the sex of the household head and the household size. Female-headed households are more likely to have unacceptable food consumption and adopt food coping strategies. Large households and those that are renting or living as guest with others are much more vulnerable than smaller households and those owning their house. Similar to the previous year, overall, there is very little differentiation between households living in urban and rural areas

Figure 24: Syrian Arab Republic – Food consumption by demographics and housing

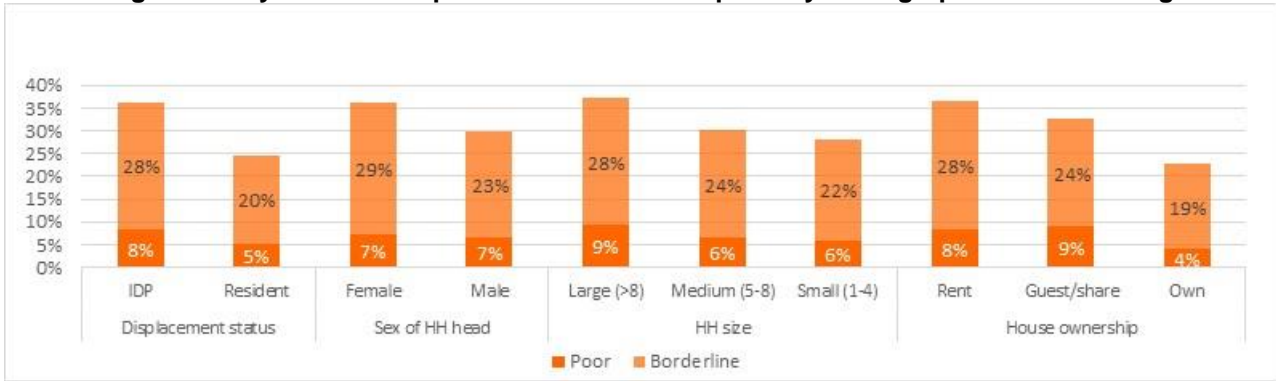
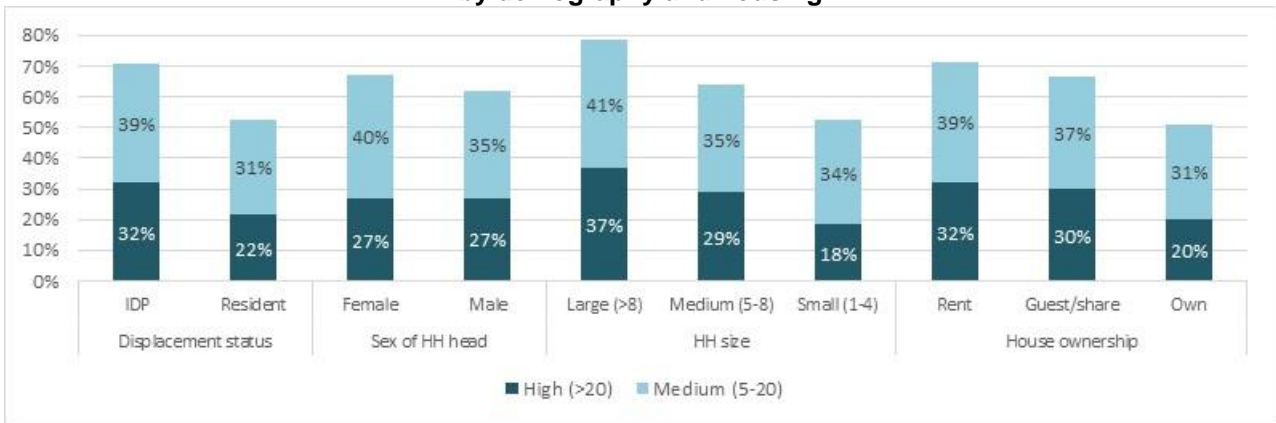


Figure 25: Syrian Arab Republic – Reduced Food Coping Strategies (rCSI) by demography and housing



In terms of livelihood activities, households depending on support from others and casual labourers are much more likely to fall into the poor and borderline food groups and apply food coping strategies. Households relying on crop or livestock production or small businesses are among the better off.

Livelihood activities and trends

According to the WFP 2015 Food Security Assessment, regular salaries and pension from Government employment are the main income sources for half of the population, followed by skilled and casual labour providing an income to 20 percent of Syrians. About 8 percent of the population reported crop and livestock production as their main income source. However, these results are hiding the large share of households producing to complement their main income source and those depending on agricultural labour or sharecropping.

Figure 26a: Syrian Arab Republic – Food consumption by income source

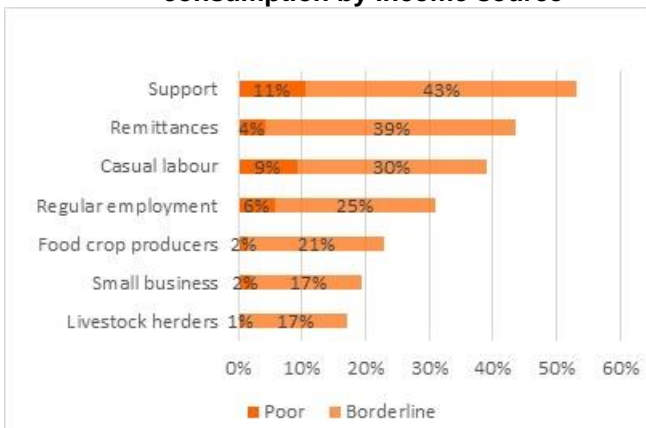
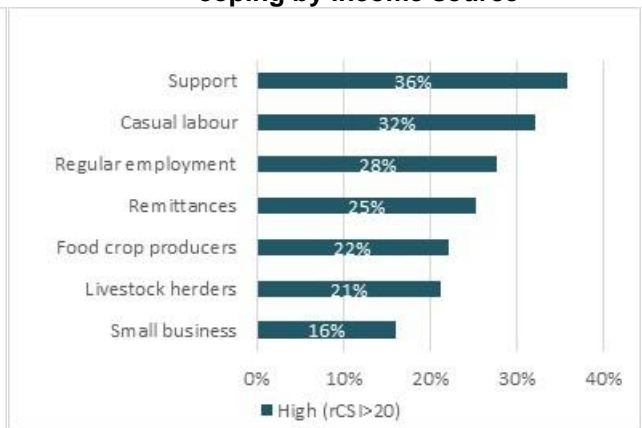


Figure 26b: Syrian Arab Republic – High food coping by income source



Nevertheless, it does provide an indication that the agricultural sector has been heavily affected by the crisis. Most rural households now are no longer able to make a living on agriculture alone because of low productivity and incomes, and poor access due to insecurity. Prior to 2011, agriculture was the main source of employment for 47 percent of the population.

Livelihood trends vary highly by region with slight improvement in areas where the active fighting has ceased and overall access has improved such as in Aleppo and Homs City. Where early recovery activities are taking place, there is an increasing demand for skilled and unskilled labour, however parts of the most active population groups are no longer present as they were displaced elsewhere. Child labour and early dropouts of school continues to be a major coping strategy of displaced households.

Income activities and food sources

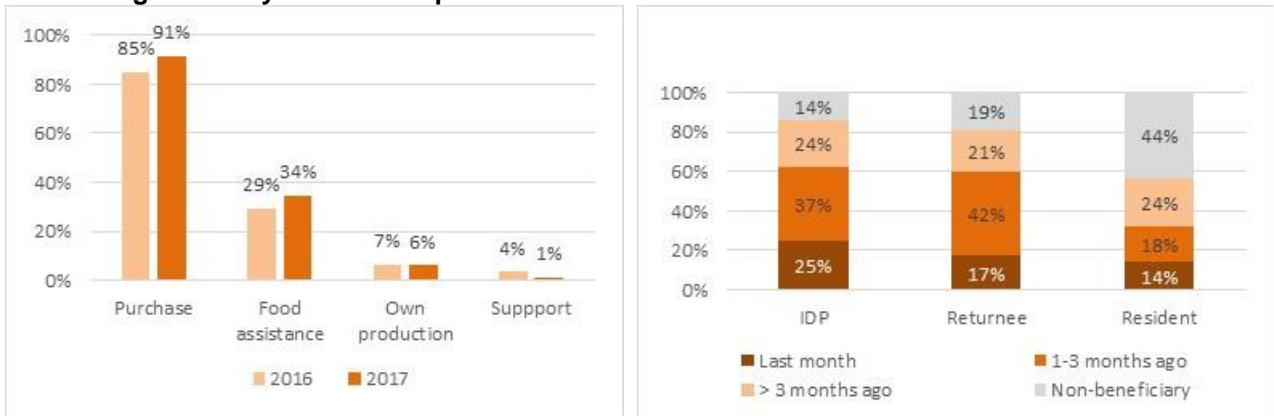
With relatively improving trends in access and market functioning, livelihood opportunities in the formal and informal sector have slightly increased compared to the previous year. However, main challenges for livelihood interventions continue to be security and the difficult access to areas controlled by different militia. There is also an indication that the Terms of Trade for casual labourers as well as pastoralists have slightly improved since December last year but overall purchasing power continues to be lower compared to 2014 and 2015 (see Figure 15 in market section).

It is worth mentioning that the average wage for the displaced population in some locations of Tartous and As-Sweida, is lower than that of the residents. Consequently, displaced households are working longer hours, and many are forced to withdraw their children from school and send them to work.

Households rely slightly less on support and remittances, in particular households benefitting from remittances have decreased, an indication that their relatives' capacity to transfer money from neighbouring countries is decreasing.

Based on key informants in rural areas of Al-Hasakeh, Homs and Tartous, the main income source for casual labourers is linked to agriculture and is therefore seasonal. In some areas, working days do not exceed 20-30 days per season. This adds high pressure during the lean season on many rural households, including IDPs that are mainly depending on agricultural labour to sustain their families. Moreover, as the wage is calculated by area covered and not per working hour, many poor and vulnerable groups (including children) have to work for long hours, around 12 hours or more per day, and it sometimes takes 1.5 days to earn a full daily wage. A change in gender relations has been observed across the country; for example, in Al-Hasakeh, it was estimated that before the crisis 60 to 70 percent were female workers, while now they make up 80 percent of the agricultural work force. Also child labour has increasingly become common.

Figure 27: Syrian Arab Republic – Main food sources and food assistance received



In terms of main food source, overall purchases have increased, however more than 50 percent of households reported relying on purchases on credit as one of their coping strategies. In rural areas, about 10 percent rely on their own production. The figure is relatively low, as only few are owners of the land while the remaining majority are working as daily labourers or sharecroppers. Reliance on food assistance has increased compared to the previous year: in particular, IDPs and returnees rely heavily on food assistance. The food security status of these most vulnerable groups would be worse without the assistance provided.

Market access

Food prices have exhibited an upwards trend 2015 mainly due to the depreciating Syrian Pound (as discussed in the market section). This put a lot of pressure on households, and made those without regular access to incomes highly vulnerable.

Compared to the previous year, the cost of the standard minimum food basket¹² has increased across most governorates with the exception of Deir-ez-Zor city, Al-Hasakeh and Rural Damascus where the costs dropped significantly. There has been a reduction in the costs of the food basket since December 2016 attributed to the relatively enhanced security situation, and functionality of supply routes but prices remain much higher compared to two years ago (see Table 10 in market section).

Figure 28a: Syrian Arab Republic – Cost of a minimum food basket in May 2017, SYP

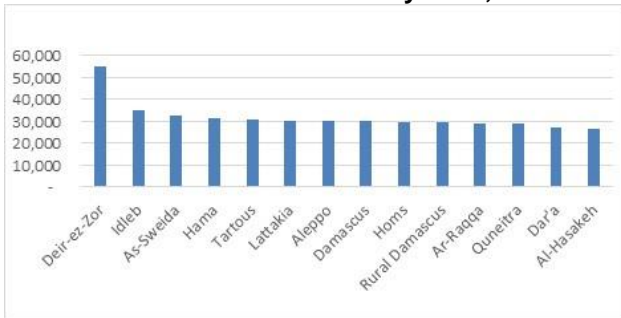
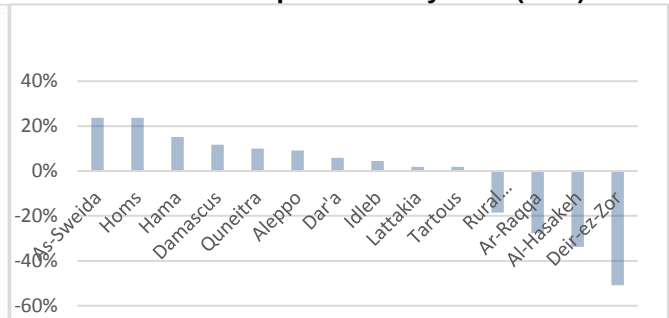
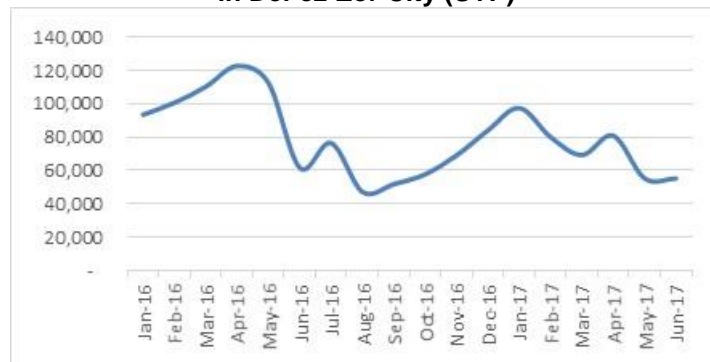


Figure 28b: Syrian Arab Republic – Change of a food basket compared to May 2016 (SYP)



In Deir-ez-Zor city, the cost of the standard food basket has reduced from a previous record high of SYP 122 609 in April 2016 to SYP 55 200 in May/June 2017. This is mainly related to the ongoing air-drop operation as the overall security continues to be very poor and the status of besiegement continues.

Figure 29: Syrian Arab Republic – Cost of a standard food basket in Dei-ez-Zor City (SYP)



The CFSAM mission found that markets in Qamishly and in Al-Hasakeh, have continued to operate and have shown remarkable resilience in the face of protracted conflict with a large variety of fresh and dry food commodities available. Despite countless challenges, supply chains tend to regenerate quickly following any shocks and/or any seasonal shortfalls. “The bulgur market is about 50 percent from local production and 50 percent comes from Turkey”, a main trader in Qamishly stated. He can produce 100 tonnes of bulgur per day but currently only produces 20 tonnes due to electricity problems and continuous cuts. Despite generally improving supply routes, access continues to be the main constraint that producers and traders are facing in the northeastern Syrian Arab Republic as the situation remains volatile and transport costs high, including irregular payments at check-points along the way.

Markets in urban areas visited during the missions were overall well-functioning. According to various macro- and micro market assessments conducted by WFP, there is scope to expand cash-based transfers in most of the urban areas covered. WFP is currently planning to expand its retailer network from 24 to 54, including in Aleppo and Hama City.

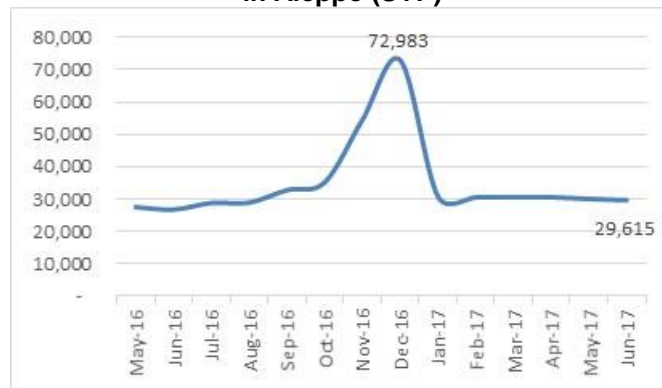
¹² The costs of a standard basket of dry goods providing 1,930 kcal per day for a family of five during a month. The basket includes 37 kg of bread, 19 kg lentils, 5 kg of sugar and 7 kg of vegetable oil.

Markets in West and East Aleppo City

In West Aleppo, the markets are very active and there is a large number of wholesalers for both dry and fresh food commodities. The meat and dairy products are mainly sourced from within Aleppo and the surrounding rural areas. The majority of retailers appear to have financial resources to increase their current capacity significantly. Overall, the market functionality in West Aleppo is very good.

East Aleppo is now accessible, however vast parts of it have either been completely destroyed or are severely damaged. In some areas there are no civilians, while in other areas some civilians are still living in their heavily destroyed houses. Due to the cease of violence, some families have started to return and the population is likely to increase over time. Some small shops and street markets have been re-established in the midst of ruins and there are signs of an improving trend, which is also reflected in the food price trends.

Figure 30: Syrian Arab Republic – Cost of a standard food basket in Aleppo (SYP)



The transportation sector is functioning well and there is a regular transport service within Aleppo, while the road to Aleppo from Damascus, Tartous, Homs and Lattakia is closed at night-time and sometimes closed due to security reasons. At the time of the assessment, there were no food commodities' movement restriction to/from the different markets within the locality, and traders are allowed to move the commodities/quantities without facing major difficulties.

Female traders are not present in the local markets due to reasons that mainly related to the culture of the people in the area.

Source: Macro and Micro Supply Chain & Retail Logistics Capacity Assessment Report, Aleppo City 23-27 February 2017, WFP food price monitoring and CFSAM observations.

Exposure to shocks and coping capacity

Exposure to shocks is highly dependent on the livelihood. Based on the CFSAM household survey, crop producers mainly reported to be affected by loss of crop production, lack of marketing opportunities, access to land, and insecurity and displacement. In Homs, a focus group reported that nothing was left when people returned as all the olive trees were burned resulting in a major reduction on olive oil production compared to before the war. Also in Aleppo, most trees were cut down for heating in the winter. Other shocks and constraints reported during the field mission were expensive agricultural inputs, absence and long periods of electricity cuts, poor quality fuel, and damages and poor maintenance of the water irrigation systems. Lack of water was one of the main problem identified by households in Al-Hasakeh, Aleppo and As-Sweida. Households have to buy diesel for pumps which add an extra unaffordable cost for poor vulnerable households. For example, in Al-Hasakeh, the cost of pumped water increased by an average of 30 percent compared to the previous year. In some areas, drought was also cited as a cause of lowered ground water levels, in particular in parts of Al-Hasakeh and As-Sweida. Livestock herders were mainly concerned about lack of marketing opportunities and reductions in the herd size. Households relying on regular or informal employment most frequently reported reduced wages and low purchasing power.

IDPs were mainly concerned about regular access to food due to high living costs. Some were also facing increasing resentments by host communities and exposure to crime and violence. Returnees and those

considering returning were particularly concerned about the security situation in their home locations and the damages of their homes and other infrastructure.

In the seventh year of the crisis, most households have depleted their assets and are no longer able to cope with further shocks. This is particularly the case for IDPs and returnees but also residents have largely depleted their assets.

Figure 31a: Syrian Arab Republic – Selling assets

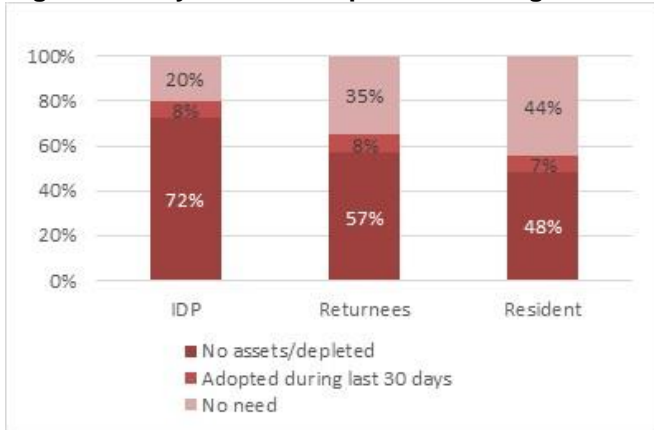
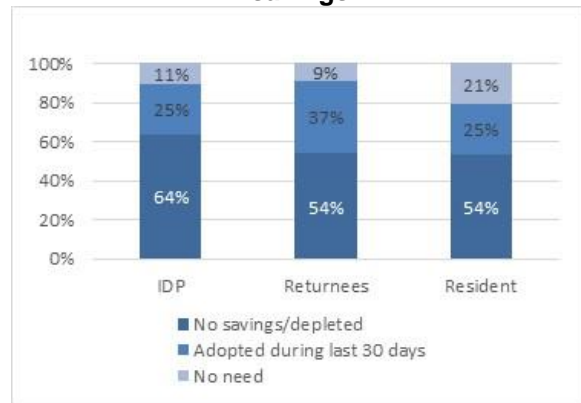


Figure 31b: Syrian Arab Republic – Spending savings



A large proportion of the displaced households and returnees interviewed during the field visits reported to adopt crisis and emergency strategies to meet their basic needs. In Homs and Aleppo, there were many cases of returnees living in their destroyed houses to avoid paying rent, as their limited income is barely enough to feed their children. Many IDPs were keeping children out of school in order to work, and many adults were working long hours and in multiple jobs. Out-of-school children continue to be a major problem though back-to-school campaigns¹³ have showed some positive results. At the end of 2016, 1.75 million school-aged children (5-17 years) were out of school down from 2.12 million in the previous year. However, one in three children continues to be out of school (32 percent), and one in three schools damaged, destroyed or occupied for other purposes across the country¹⁴.

Humanitarian access and displacement

Access continues to be heavily constrained across Syria, especially in Deir-ez-Zor, the southern districts of Al-Hassakeh and Ar-Raqqa. Some of the previous 'besieged areas' are now considered 'hard-to-reach'.

Continuous fighting in Ar-Raqqa City

Displacements from and within Ar-Raqqa Governorate continued due to intense fighting between different parties to the conflict, resulting in the displacement of some 190,000 people since 1 April. In Ar-Raqqa City, the security situation has also significantly deteriorated. The conflict blocked most supply routes to the city and severely disrupted market functionality. Many shops have been destroyed or are completely closed. As a result, food prices have soared, adding more pressure on physical and economic food access for the many households trapped inside the city. The standard food basket has increased from SYP 29 148 to SYP 42 695 by 46 percent from May to June 2017.

There are increasing fears that civilians may remain trapped in urban areas, as a result of fighting with apparent reported heavy restrictions on civilians attempting to flee the area. Freedom of movement for IDPs outside the city also remains a key protection concern, despite continuous advocacy efforts.

¹³ Countrywide advocacy, campaigns, community mobilization and the enhanced capacity of partners in targeting out-of-school children through a Self-Learning Programme, Curriculum B, and remedial and catch-up programmes contributed to increase access to formal and non-formal learning opportunities, including for 480 000 children in hard-to-reach and besieged areas. The sector also supported light school rehabilitation, the establishment of prefabs and temporary learning spaces for a growing population of displaced children. To promote access and retention, vulnerable children were supported with teaching and learning materials (3.6 million), school meals programmes (400 000), transportation and cash schemes (3 000).

¹⁴ Brussel Conference Education Report: Preparing for the Future of Children and Youth in Syria and the Region through Education: London One Year On, April 2017.

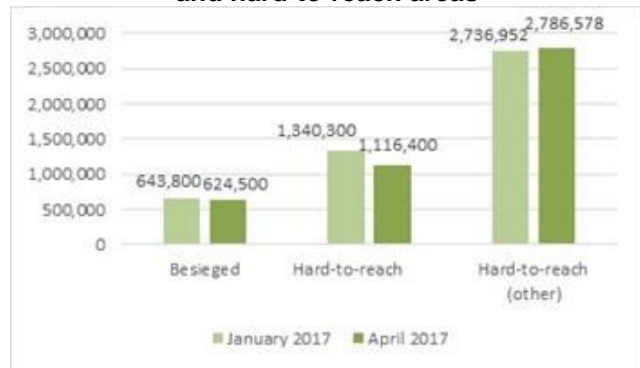
Hard-to-reach area

An area that is not regularly accessible to humanitarian actors for the purposes of sustained humanitarian programming as a result of denial of access, including the need to negotiate access on an ad hoc basis, or due to restrictions such as active conflict, multiple security checkpoints, or failure of the authorities to provide timely approval.

Besieged area

An area surrounded by armed actors with the sustained effect that humanitarian assistance cannot regularly enter, and civilians, the sick and wounded cannot regularly exit the area.

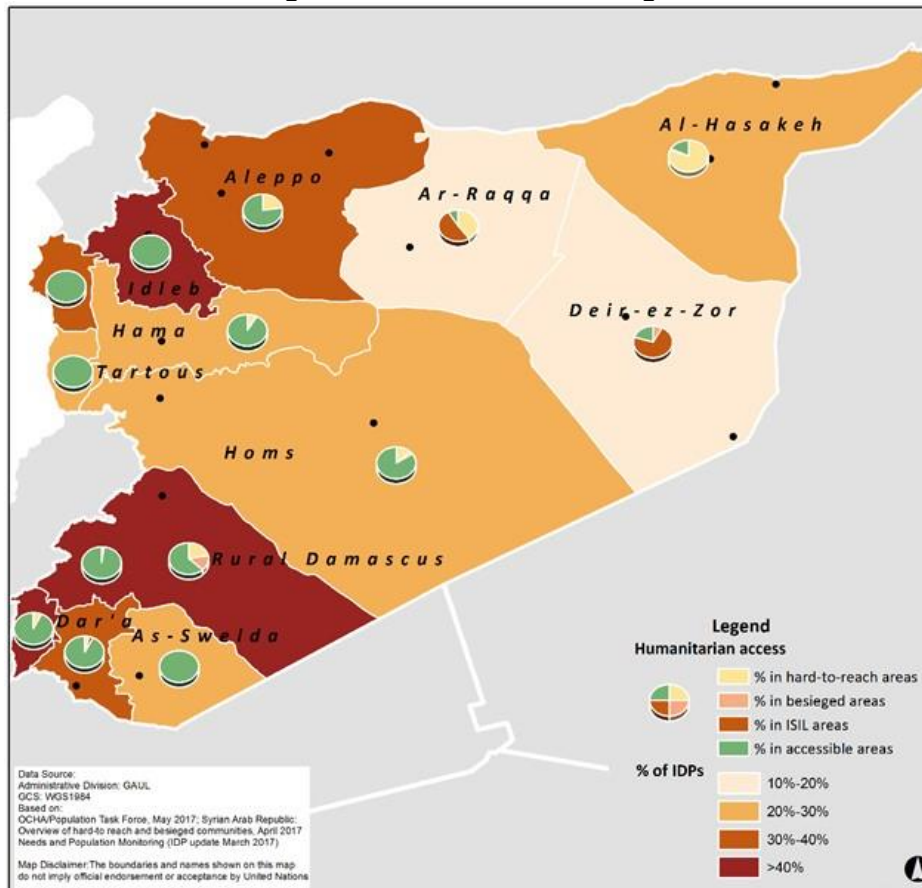
Figure 32: Syrian Arab Republic – Population living in besieged and hard-to-reach areas



Source: OCHA Humanitarian Response Plan, 2017.

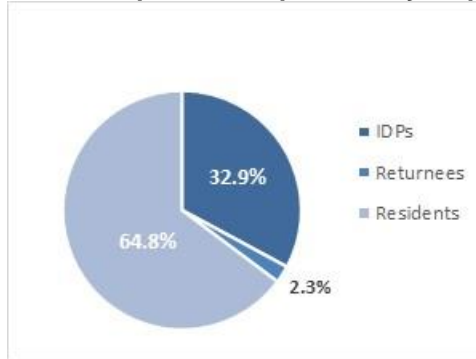
No humanitarian assistance has reached Ar-Raqqa City at the time of the assessment. Idleb is only accessible through the cross-border operation and the besieged city of Deir-ez-Zor City only through high-altitude airdrops implemented at a high cost. Since December 2015, Al-Hasakeh Governorate has been cut-off from the rest of the country and neighbouring countries making humanitarian assistance only feasible through humanitarian airlifts. However, as of mid-June 2017, overland transport was restored with trucks being able to move from Damascus and Homs via Aleppo to Qamishly.

Figure 32: Syrian Arab Republic – Proportion of Internally-Displaced People (IDPs) and living in hard-to-reach and besieged areas



A large proportion of the population is on the move inside the Syrian Arab Republic; about 6.3 million are internally displaced with the largest proportions in Quneitra, Idleb and Rural Damascus, followed by Lattakia, Dar'a, Damascus and Aleppo. Most households have been displaced multiple times. Evacuations from besieged and hard-to-reach areas in Damascus and Homs were ongoing during the time of the mission.

Figure 33: Syrian Arab Republic – Population by displacement status

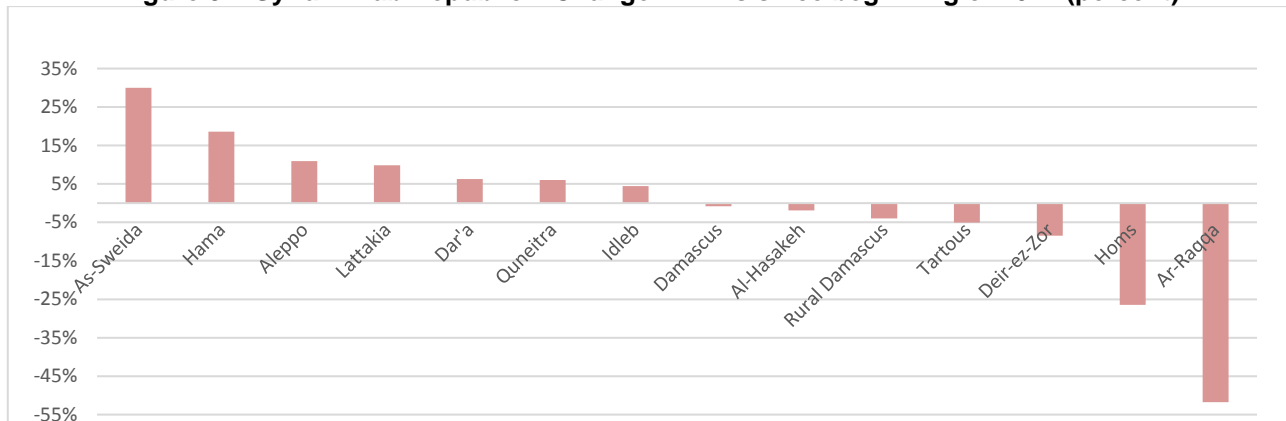


Source: Based on NPM data.

It is estimated by the Needs and Population Monitoring (NPM)¹⁵ initiatives that since the beginning of the year, 440 000 IDPs have returned to their homes in addition to 31 000 who returned from other countries. There is an increasing return to areas taken over by the government (in particular Aleppo Governorate). Some of the conflict-affected areas are now inhabited by the displaced populations due to a relatively lower cost of living, which may potentially create tension when original inhabitants return. As the crisis is shifting its geography, there is continuous new displacement in areas under dispute.

Illustrating the shifting geography of the conflict, there are major shifts by governorates since the beginning of the year. In particular, As-Sweida, Hama, Aleppo and Lattakia have observed increasing numbers of IDPs, while numbers reduced in Deir-ez-Zor, Homs and Ar-Raqqa.

Figure 34: Syrian Arab Republic – Change in IDPs since beginning of 2017 (percent)



The lasting conflict has also left a mark on the gender distribution. Prior to the war, the Syrian population used to have a very stable and male dominated population in terms of sex composition (104.5 males for 100 females for the whole 1981-2011 period). According to NPM (2016), the sex ratio dropped dramatically since 2011 to 96 males per 100 females. In particular, the productive age group of 20-34 is affected by this shift which can be explained by gender differentiated out-migration and impacts of the war. The imbalance will have implications on the labour markets and reconstruction activities. While there is an increased burden on women, it may also provide opportunities for women for an increased participation in the work force.

Food assistance and estimated assistance requirements

Overview of assistance

WFP food assistance represents the primary source of income and plays a key role to sustain lives and livelihoods for every second household and for over 62 percent of displaced households in the current context of the Syrian Arab Republic. WFP food assistance represents a crucial source of in-kind income for a large number of households. Analysis found that households receiving higher levels of WFP assistance on a regular basis are more likely to be food secure, and focus group and key informant discussions indicate that it is a major factor in ensuring sustained access to food. A positive sign is that food assistance reaches besieged and hard-to-reach areas where the needs are higher, though assistance is not provided on a regular basis due

¹⁵ Source: <http://npm-syria.org/>.

to access restrictions. Overall coverage is good in both rural and urban areas but assistance reaches rural IDPs and returnees with less regularity, which was also confirmed during the field mission.

Figure 35a: Syrian Arab Republic – Food assistance received by accessibility

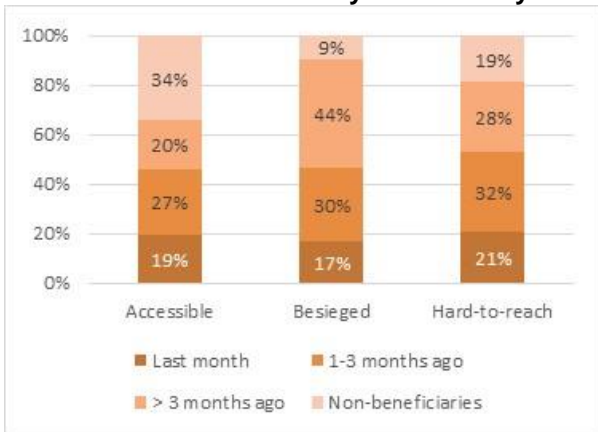
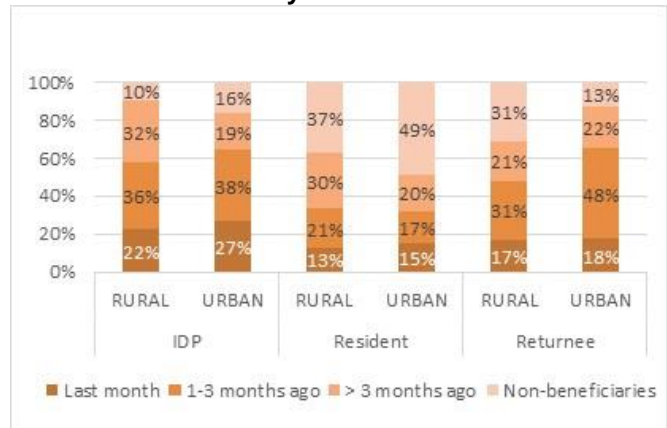
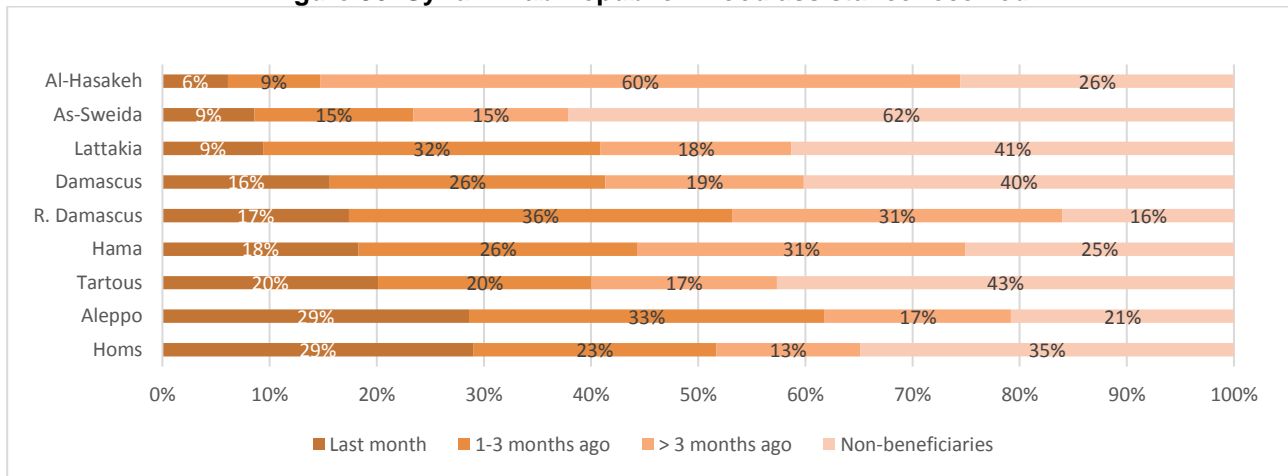


Figure 35b: Syrian Arab Republic – Food assistance received by rural/urban and IDP status



Distribution of assistance differs by governorate reaching generally good coverage, however there appears to be a coverage gap in Al-Hasakeh, As-Sweida, Hama Lattakia and Tartous when compared to the needs identified by the mission team (see Figure 36). In Al-Hasakeh, there have been temporary access constraints in many areas including the Kurdish controlled areas, while As-Sweida, Hama and Lattakia have received an increased number of IDPs compared to the previous year (see Table 14) and assistance allocated may have been underestimated to meet increasing needs. Key informants indicated that higher vulnerability of IDP households is linked to their income opportunities and to the regularity and level of assistance they were able to access.

Figure 36: Syrian Arab Republic – Food assistance received



Food assistance needs

Based on the available data, the mission estimates that at least 6.9 million Syrians are food insecure in terms of current consumption. In addition, the situation of 5.6 million Syrians would likely be worse off without the food assistance provided. An additional 3.1 million are at risk of food insecurity as they are using asset depletion strategies in order to meet their food consumption needs, and only 3.5 million can currently be considered food secure.

There are several food security and livelihood assessments ongoing to update the comprehensive baseline data collected in 2015. The new available information coming up in the third quarter of 2017 and the dynamic nature of the situation on the ground in the Syrian Arab Republic could lead to changes in the estimated number of people in need.

Table 14: Syrian Arab Republic – Estimated number of people in need (mid-2017)

	Currently food insecure (poor/borderline consumption)	Currently food secure because of the assistance provided	At risk of becoming food insecure (depleting assets to maintain consumption levels)	Currently food secure (acceptable consumption and no asset depletion)
Aleppo	1 178 122	1 321 724	439 598	480 627
Al-Hasakeh	289 836	87 262	324 118	193 224
Ar-Raqqa	424 150	n.a	n.a	99 492
As-Sweida	60 999	60 999	109 155	96 314
Damascus	378 047	600 258	392 476	516 568
Dar'a	166 309	451 411	213 826	71 275
Deir-ez-Zor	248 692	414 486	-	414 486
Hama	548 820	397 974	237 501	266 386
Homs	449 894	541 774	237 620	262 966
Idleb	1 560 033	n.a	226 092	226 092
Lattakia	369 669	266 829	236 255	208 460
Quneitra	37 638	56 456	-	-
Rural Damascus	93 648	1 216 883	597 576	450 899
Tartous	268 446	194 392	114 167	209 820
Estimated total	6 874 303	5 610 449	3 128 384	3 496 609

Sources: mVAM 2017 except for Ar-Raqqa (HNO 2016/mid-term review), figures only indicative for Ar-Raqqa, Dar'a, Deir-ez-Zor, Idleb and Quneitra. Population figures based on NPM May 2017 population update (<http://npm-syria.org/>).

As of May 2017, various Food Security Sector partners reached on average 5.4 million people every month with regular monthly food baskets reaching 77 percent of the targeted 7 million people under Sector Objective 1. In addition, about 1 million people have been reached with livelihoods and agriculture assistance representing 19.5 percent of the targeted 5.1 million under Sector Objectives 2 and 3 of the 2017 Humanitarian Response Plan¹⁶.

In 2017 and 2018, WFP aims to reach 5.74 million people across different programme modalities. This includes a planned distribution by WFP of 175 650 tonnes of grain (rice and wheat) over the next 12 months (July 2017 to June 2018) and scale up cash-based transfers to USD 2 million per month.

WFP will continue to adopt a significant relief component to address the critical food needs of the most vulnerable populations. Relief assistance will be undertaken in the form of General Food Assistance (GFA) to critically food insecure families through the provision of monthly food rations, targeting up to 4.5 million food insecure people on a monthly basis.

WFP's response will also include a recovery component, by providing livelihood assistance to 600 000 people. Livelihood activities will aim to protect and restore livelihoods and food security, contribute to revitalizing the local economy and strengthen resilience to ongoing and future shocks. Each assisted household will be assisted for a period of up to six months, during which households are expected to develop sustainable livelihoods and the ability to purchase or produce sufficient food to meet their needs. It is anticipated that GFA beneficiaries will gradually transition into the recovery component, particularly returning IDPs and refugees, who will receive an initial assistance package for a minimum of six months, depending on their vulnerability levels. The recovery component will include activities related to livelihoods, focusing on alleviating the shocks on household food security by addressing the immediate needs, restore and build assets and infrastructure, and strengthen local capacities.

Nutrition-specific interventions will include a preventative supplementary feeding programme to avert acute malnutrition and micronutrient deficiencies targeting around 240 000 children from 6 to 23 months in addition to a targeted supplementary feeding programme to treat cases of moderate acute malnutrition in children 6 to 59 months. Furthermore, 30 000 pregnant and lactating women and girls (PLWG) will benefit from a community based management of acute malnutrition (CMAM) programme as well as a nutrition-sensitive cash-based

¹⁶ Response against target are overlaying each other for both sector objective 1 and sector Objective 2 and 3 as defined in the HRP 2017 against the overall People in Need figure of 9 million.

programme. Another key activity is the school meal programme which is part of the interagency back-to-school "No Lost Generation" campaign targeting about 750 000 children.

WFP utilizes various access corridors, including cross-border and cross-line, to reach affected populations in need. Airlifts and airdrops are means of last resort to areas not accessible by land. Commodities sourced externally are shipped to the ports of Latakia, Tartous and Beirut, and then transported to WFP facilities where individual commodities - including those sourced locally - are packed into household food rations and dispatched using commercial and partner transport to final delivery points. This system is complemented by cross-border delivery of pre-packed rations from Turkey and Jordan to areas in southern and northern Syrian Arab Republic.

RECOMMENDATIONS

After seven years of conflict, the once prosperous national agricultural sector has been devastated by the loss of cultivated land, the destruction of farm machinery and irrigation structures, the shortages and high costs of farm inputs and fuel, a severely damaged infrastructure, the compromised power supplies and by the movement of farmers away from insecure areas. Despite the challenges, agriculture remains a functioning pillar of the Syrian Arab Republic's economy.

While the conflict in the country remains to be reconciled, the state of agricultural production as assessed by the CFSAM in May 2017 revealed that compared to the previous years of conflict, crop production and livestock figures in the last agricultural season stabilised after several years of decline, albeit the production levels remain well below pre-conflict levels.

Initial returns of internally displaced signal an improvement in the security situation in parts of the country. A recovery in industrial production in post-conflict scenarios usually takes longer due to higher demands of industrial reconstruction fuelled by higher energy intensity, stable supply of inputs and energy. Agriculture, therefore, is likely to attract returnees.

Based on the field observations and secondary data review, the CFSAM mission recommends the following overall actions to enhance the overall food security situation and resilience in the Syrian Arab Republic:

General food assistance: WFP food assistance has been a lifeline for conflict-affected households across the country. GFA will be required to continue in the near to medium term to support IDPs and facilitate return. The introduction of seasonal assistance during the most difficult period of the year, winter season and pre-harvest, could be considered but would require a more detailed seasonal analysis.

Livelihood activities: As much as possible, expand livelihood activities – with a focus on areas with high return. Explore joint programming opportunities, maintaining food security as a key objective for joint projects, for example in the livestock sector and activities aiming to support women and promote gender equality.

Cash-Based Transfers (CBT): As far as operationally feasible, move to CBT; especially, in urban and peri-urban settings with functional markets. Given the relatively high costs and operational limitations of expanding the current voucher programme at a large scale, consider the implementation of a small-scale cash pilot project, for example, within the livelihood programme.

Targeting: Emphasis should be given to targeting and selection processes inside the country and cross-border operations with continuous monitoring of the approach and capacity-strengthening of SARC and NGO partners to implement needs-based targeting based on demographic and socio-economic vulnerability criteria. Cost efficiency should be taken into account.

Coverage and rotation cycle: While the overall coverage of food assistance can be considered good in such a complex and challenging context, it appears that IDPs in less crisis affected governorates (e.g., As-Sweida and Lattakia) receive assistance with less regularity. Similarly IDPs in rural areas receive assistance less regularly compared to those in urban areas. It is recommended to refocus GFA towards rural IDPs, and urban IDPs outside official shelters through adjustments in the rotation cycles.

Back-to-school: Despite improving trends, out-of-school children continue to be a major problem with one in three children out of school. To address the issue of school drop-out and child-labour, it is recommended to consider the expansion of the back-to school programme, e.g. by adding a back-to-school component among the most vulnerable IDPs/returnees and link it to the GFA (e.g., by providing a conditional top up to households with school-aged children).

School meal programme: It is recommended to conduct a review of the comprehensive and multi-faceted school meals programme to establish an evidence base for future programme design, and potentially inspire other countries in similar settings.

Nutrition: Expand the treatment programme and strengthen regular nutrition assessments and surveillance by the sector. Increase coverage and strengthen monitoring of the nutrition prevention programme to ensure it reaches children (6-23 months) of vulnerable households benefitting from general food assistance. Also expand the cash based nutrition programme for pregnant and lactating women to increase access to a healthy and balanced diet.

Local procurement: Scale up local procurement of food assistance commodities but with a realistic target to ensure the national supply chain can cope with the demand. Explore options to develop local supply chain including food storage facilitation, milling, silos and smallholder productivity.

To boost the agricultural sector, the Mission has recommended specific investments in two priority areas:

1. Address the immediate needs through rapid interventions to support food security and strengthen absorptive capacity of vulnerable populations:
 - Support cereal production by providing seeds and other required agricultural inputs (directly or using distribution centres).
 - In the absence of reliable laboratories and research centres, provide kits and mobile units to test quality of seeds and other 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, potatoes, mushroom production, beekeeping, etc.).
 - Provide livestock producers with feed, animal assets, breeding material, vaccines and regular veterinary drugs.
 - Increase support for backyard vegetable and poultry production through distribution of quality seeds and chicks.
 - 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.
 - Increase support for fisheries through re-equipping fishermen.
 - Support the use of local resources for the production of the needed inputs (compost, plant protection means, etc.) to compensate the non-availability of some of the production inputs.
 - Increase support for the use of renewable energy (solar power, biogas units, etc.) to provide the needed energy for domestic use using environmental-friendly methods.
2. Provide basis for sustainable longer term solutions to facilitate and strengthen the viability of agricultural livelihoods and food security resilience of the population, particularly returnees by providing an enabling environment for agricultural production and facilitating the supply of necessary inputs for crop and livestock production:
 - Rehabilitate the seed production and distribution systems along the value chain, including seed potato multiplication facilities to improve access to drought tolerant and disease resistant varieties.
 - 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.
 - Rehabilitate the fertilizer production sector, while considering other sources of nutrients available in domestically, such as compost production, animal manure, and food waste management.
 - Rehabilitate the feed system, by the establishment of feed processing unit, and the introduction of fodder crops in the crop rotation.
 - Provide some credit lines to farmers using alternative collaterals, such as part of forward contracting, to allow investments in agricultural assets and farm machinery.
 - Establish agriculture based micro enterprises in rural areas facilitating local marketing.
 - Consider adding value to basic produce as energy supplies becomes more reliable with continuing reconstruction, such as 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.
 - Rehabilitate veterinary services, including rehabilitating domestic vaccine production.
 - Rehabilitate research services, able to test and control quality of agricultural inputs on the market, and to improve local varieties and breeds.
 - Rehabilitate fisheries and aquaculture sector.
 - Improve capacity development by investing in farmers' training.
 - Support information management systems (drought early warning) to enable decision makers to design proper evidence-based response.

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