

# SYRIA

## Agriculture and Food Security Monitoring System (AFSMS)

### Bulletin

March – April 2022



## INTRODUCTION

The Bi-monthly Agriculture and Food Security Monitoring System (AFSMS) Bulletin is an FAO-Syria product and system, which regularly monitor the agricultural and food security situation, including on crop, livestock, pasture condition, water supply and food security from randomly selected sub-districts and communities. The information is collected on a bi-monthly basis (i.e. once every two months), through discussions with key informants (KIs) and input from FAO technical staff in the field.

The AFSMS information portrays the prevailing general situation in the community at the time of each bi-monthly AFSMS data collection cycle and helps FAO and the Food Security and Agriculture (FSA) sector understand the prevailing agriculture situation, seasonal performance and outlook, including preliminary insights on food availability, access and coping mechanisms being adopted by the majority of households, due to the difficult economic situation which could be affecting access and availability of food.

For more information please contact:

**[Jameson Zvizvai](#)**

Agriculture-based Livelihoods  
Coordinator

[Jameson.Zvizvai@fao.org](mailto:Jameson.Zvizvai@fao.org)

**[Jalal Al-Hamoud](#)**

Food Security Officer  
[Jalal.AlHamoud@fao.org](mailto:Jalal.AlHamoud@fao.org)

**[Maher Alabrsh](#)**

Agriculture-based Livelihoods  
Officer

[Maher.Alabrsh@fao.org](mailto:Maher.Alabrsh@fao.org)

# HIGHLIGHTS



The cumulative precipitation of the current season (i.e. from September 2021 to the end of April 2022) was mostly low. The cumulative precipitation that was received during this reporting period slightly exceeded the long-term average (LTA) in Tartous, Latakia, Homs and Quneitra governorates, ranging from 1 % to 11% higher than LTA. While it was low and less than the average in the rest of the governorates, especially in Rural Damascus, Aleppo and the northeastern governorates (i.e. 27% to 70% below LTA). In March 2022, the precipitation was good to very good across all governorates, except for Deir-ez-Zor, where rainfall fell below the average by about 57 %.

In April 2022, the precipitation received was mostly low and less than the LTA, ranging from 16 % to 100 % below LTA across all Governorates.



During the observed period of the current season (March - April 2022), livestock and livestock breeders (especially sheep and goats) suffered severely from critical conditions and shocks. The major challenges include high prices of animal feed locally and globally, and the shortage of pastures due to the poor rainfall season in most of the Badia regions. The growth and development of pastures were evaluated as worse than last year in most of the monitored regions.

Most of the livestock breeders, especially in the northeastern governorates, were forced to sell a number of their animals to obtain fodder for the rest of the herd. Noting that due to the increase in sold numbers (i.e. increased supply) and the decline in the nutritional and health status of sheep and goats, the selling prices of small ruminants decreased in the market, while the prices of feed continued to rise. This forced most livestock breeders to sell more livestock numbers to get the adequate amount of feed needed for the rest of herd.



Although the temperatures exceed LTA by about 4-5 degrees Celsius (C°) during the last three days of March 2022, the daytime temperatures recorded during the month were generally lower than the averages across all governorates. It is important to note that all governorates were exposed to night frost for long periods of time from 10 to 26 March 2022, especially in southern governorates.

In April 2022, the recorded daytime temperatures rose to about 2.6 – 4.6 C° higher than LTA across in all governorates, noting that night temperatures were also moderate in all governorates during April 2022.



Most food commodities namely legumes, vegetables, chicken meat, rice, eggs, sugar and vegetable oil were generally available during the March – April 2022 reporting period. However, most households in the community are facing challenges in terms of accessing the available mentioned food items. The major constraint is that the food items are available but expensive, limiting access especially for vulnerable smallholder farmers (VSFs), livestock keepers and their dependents.



From February to March 2022, the water reserves improved by around 13 - 16 % in the southern, central and coastal governorates, while it decreased in Aleppo and Al-Hasakeh by 3 – 13 %, respectively.

By comparing the water stocks and level in March 2022 with the same period last season, there are indications that the water stocks and level for current season is 6 – 24 % lower in all governorates, except for the coastal governorates. In the coastal governorates, the water stock and level increased by 22 % over the last season. It is important to note that the levels of water stocks in Al-Hasakeh, Dar'a, Rural Damascus and As-Sweida is still critical and less than 25% of the dams' full ca-



Erratic weather patterns associated with increased temperatures and generally low rainfall amounts, continue to pose unique challenges for wheat producers and sector partners who are striving to ensure food and nutrition security in Syria. Wheat crop, like the other crops during the current season, was exposed to severe weather anomalies. The weather anomalies include low precipitation, poor temporal and spatial distribution of precipitation and the below average temperatures and severe frost which was experienced in most governorates during March 2022. Generally and from an agronomic perspective, the wheat flowering and grain filling stages must not coincide with frosty conditions to avoid crop sterility and the frost that occurred in March 2022 could affect overall yield in the affected locations.

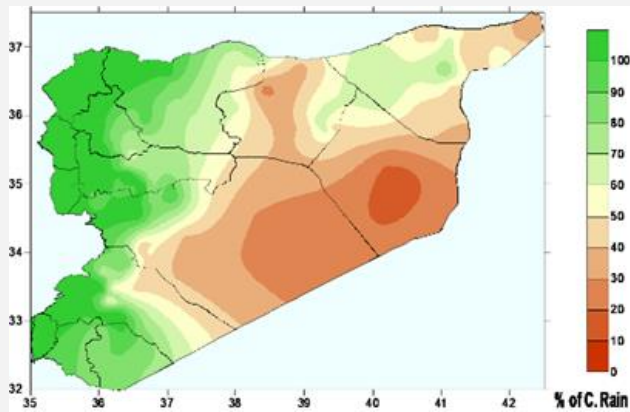
On the other hand, in April 2022 there was a shortage of precipitation (i.e. dry spell), a rise in temperature, and a large disparity between day and night temperatures across all governorates. The flowering and early grain filling stages are some of the critical growth stages in wheat production.

# GENERAL AGROMETEOROLOGICAL CONDITIONS

## 1. Precipitation

### 1.1. Cumulative Precipitation

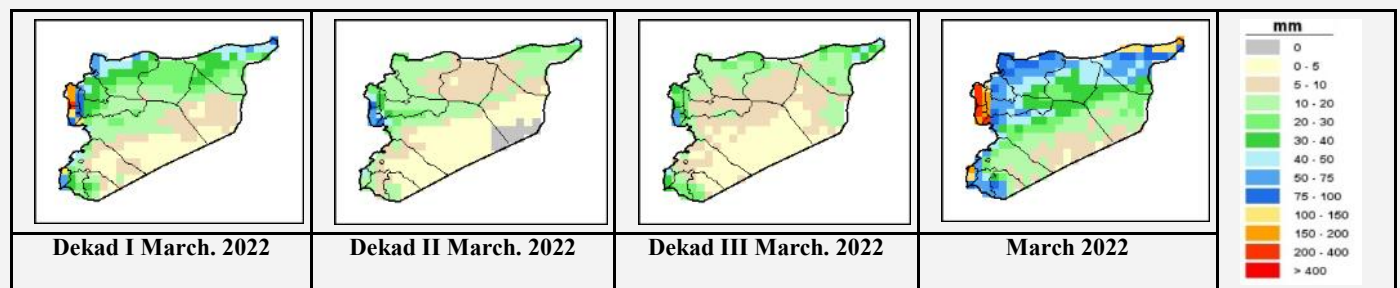
Cumulative rainfall up to the end of April 2022 for the current season was good in Homs\Tartous, Qunaitera and Latakia governorate (1 %, 5% and 11% above the LTA respectively). While it was slightly less than LTA in Hama and Dara, (5% and 10 % below average respectively). Moreover, it was weak to very weak in the rest of the governorates, especially in Aleppo Damascus & Rural Damascus and the northeastern governorates, where recorded rainfall was less than LTA by 28% in Rural Damascus and Aleppo, 49 % in Al-Hasakeh, 55 % in Ar-Raqqa and 70 % in Deir ez-Zor.



**Figure No. 1;** Deviation of the cumulative precipitation from Long Term Average (LTA), April 2022 (%)

**Source:** Analysis of the data of the official daily rainfall bulletins,

It is important to realize that although the cumulative amounts of precipitations until the end of April of the current season may seem acceptable to good in many governorates, especially the coastal and central regions. However, their temporal distribution during the season was not entirely appropriate, as rainfall was heavy in short and limited periods, while it was scarce in the rest of the times.



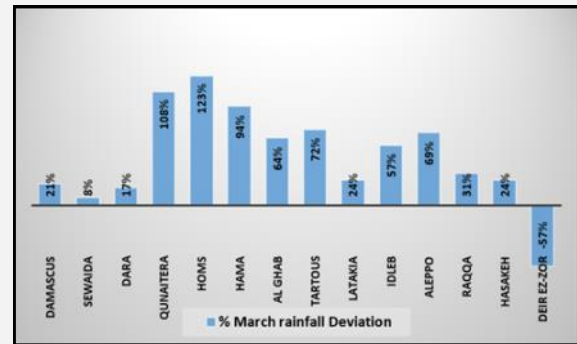
**Figure No. 3:** Amounts of precipitation and temporal distribution during March 2022,

**Source:** Global Information and Early Warning System on Food and Agriculture (GIEWS)

## 1.2. Monthly precipitations

### 1.2.1. March 2022:

March precipitation was good across all governorates except for Deir ez-Zor. In some the afore-mentioned governorates, rainfall unevenly exceeded the LTA, with the heaviest precipitation being received in Homs, Quneitra and Hama (123%, 108% and 94% above average, respectively). The lowest rainfall was however received in As-Sweida, Dar'a and Rural Damascus and was 8%, 17% and 21% above the LTA respectively. As for Deir-ez-Zor, as in previous months of the season, the precipitation continued in March but at a very low rate. Rainfall recorded in Deir-er-Zor was 57% lower than the LTA (see figure No. 2 below).



**Figure No. 2;** Deviation of precipitation from Long Term Average (LTA), March 2022 (%)

**Source:** Analysis of the official data from daily rainfall bulletins,

During the first dekad of March 2022, good and heavy precipitation was received across all governorates, especially in the coastal, Hama Quneitra governorates, the northern areas of Al-Hasakeh, Deir ez-Zor, Aleppo, and the western regions of Homs and rural Damascus (1 and 2 Agro-Stability zones).

While it was acceptable in the rest of the regions in Homs and rural Damascus, and very low in the Badia areas.

In the second dekad, high precipitation continued in the

coastal, Quneitra, the western regions of Homs, Hama and rural Damascus governorates, and the northern areas of Al-Hasakeh and Aleppo. While low precipitation was received in the rest of the regions and governorates, especially Deir-ez-Zor, Raqqa and Badia.

Similarly, in the third dekad of March 2022, good precipitation was received most of the southern, coastal governorates, western areas of Homs and Hama, and northern areas of Al-Hasakeh and Aleppo. While precipitation received in the rest of the regions and governorates was very low, especially Deir ez-Zor, Raqqa, rural Damascus and the Badia (see the figure No.3 below).

It is important to note that there was recurring snowfall during March 2022 in most of the northern, western and mountainous regions of the northern, western, coastal, central and southern governorates. Furthermore, areas under various winter crops in Quneitra were flooded due to heavy rains in that area. In addition, there was observed damage to a variety of crops in the central and southern governorates, due to frost, hail, strong winds and dust storms in the eastern governorates.

#### April 2022:

In April, the rainfall received was limited to a few separate days (6 days only), varying amounts and in isolated areas.

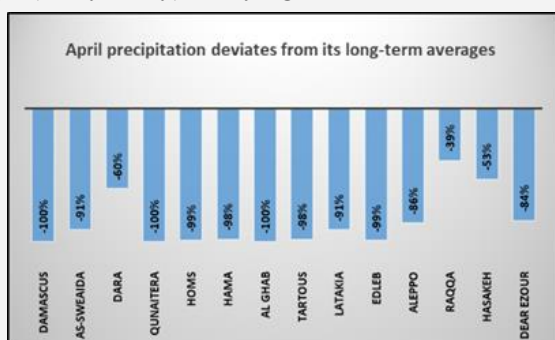


Figure No. 4; Deviation of precipitation from Long Term Average (LTA), March 2022 (%)

Source: Analysis of official data from daily rainfall bulletins,

In general, the rainfall received was significantly lower than LTA across all governorates. The coastal and Raqqa governorates, the northern areas of Al-Hasakeh, Deir ez-Zor and Aleppo received the highest amounts of rainfall, but noting that the rainfall received was less than the LTA by about 39% - 86% (as shown in figure No. 4).

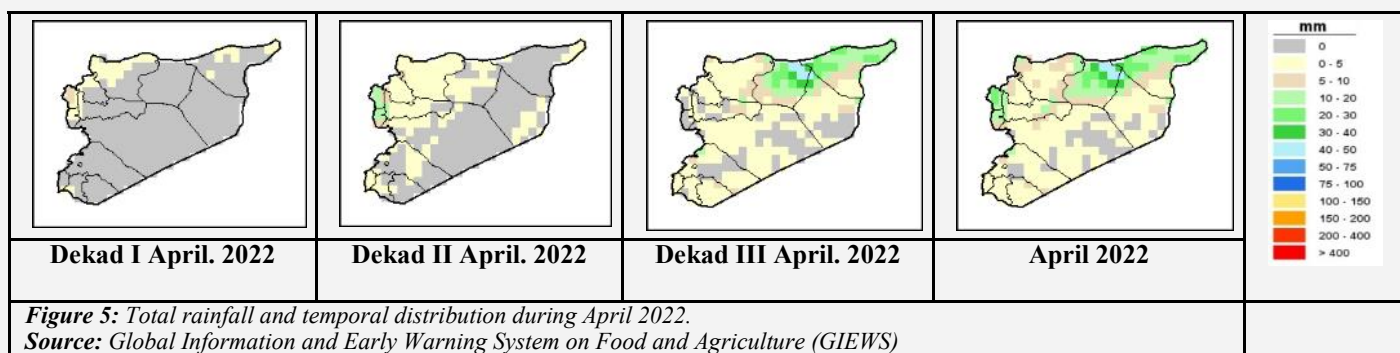
In first dekad of April, rain fell in a single day only, and was geographically spread in separate areas of Aleppo and the coastal governorates but in very low amounts. Similarly, during the second dekad of April, rain fell in a single day only, and was also geographically spread and fell on separate areas of Hama and the coastal governorates in very low amounts,

In the third dekad of April, more governorates and regions received the rainfall in varying amounts in all governorates except for Rural Damascus, Idlib, Quneitra and Aleppo. Noting that the highest precipitation received was in the northern and western parts of Ar-Raqqa governorate and northern Deir-ez-Zor. Some areas in the afore-mentioned governorates witnessed heavy rains that resulted in noticeable damage to some crops and assists .

#### 2. Temperature

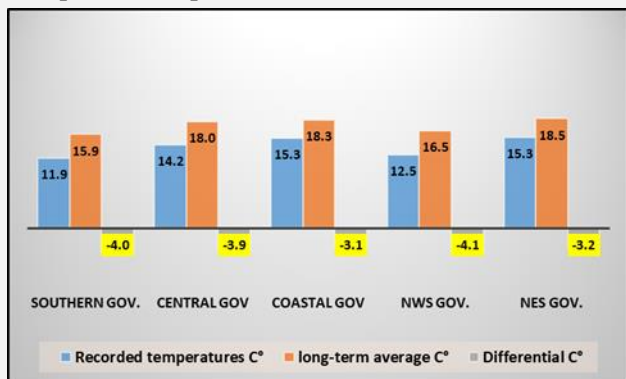
Despite the high temperatures during the last few days of March 2022, which were above LTA by 4 - 5 C°, the daytime temperatures recorded in March 2022 were generally low and below LTA across all governorates by 3.1 C°, to 4.1 C°. The greatest decrease was in the Northwest and southern governorates (i.e. 4.1 C° and 4 C° below LTA respectively), while the lowest decrease was in the costal and northeastern governorates 3.1 C° and 3.2 C° below LTA respectively (see figure 6).

It is important to note that night frost occurred quite frequently from the period 10 to 26 March 2022 across all governorates, especially in Rural Damascus and the southern governorates. In addition, the huge differences between





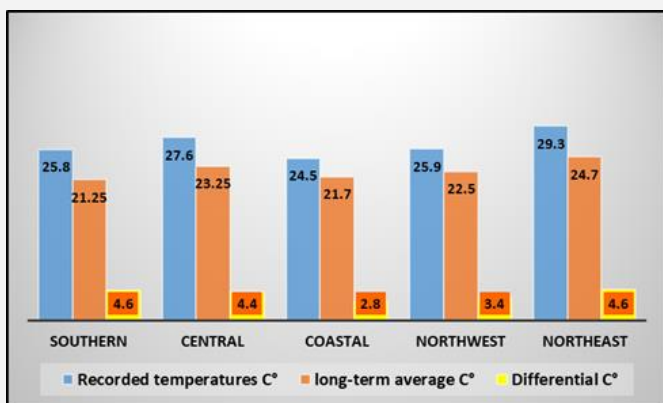
daytime and nighttime temperatures had a significant negative impact on crops and fruit trees.



**Figure No. 6:** Graphical analysis and comparison of the daytime-temperatures recorded in March 2022 compared to LTA

**Source:** Analysis of the temperature recordings done by FAO technicians based on the official daily weather bulletins.

The daytime temperatures recorded in April 2022 were higher than LTA across all governorates by 4.1 C° on average. The highest daytime temperatures were recorded in the southern and northeastern governorates and this was 4.6 C° above average, while it was 2.8 C°, 3.4 C° and 4.4 C° above averages in coastal, north western and central governorates respectively (figure 7).



**Figure No. 7:** A graphical analysis and comparison of daytime-temperatures recorded in April 2022 compared LTA

**Source:** Analysis of the temperature recordings done by FAO technicians based on the official daily weather bulletins.

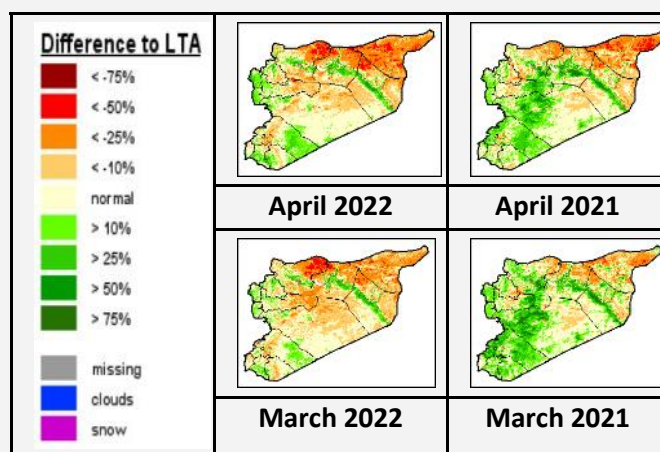
It is important to realize that the high temperatures in April 2022, especially during the first and second dekads, were associated with the scarcity of rainfall, which caused great stress to crops, especially rainfed crops, at a critical time in their growth stages (the grain filling and repining stages ).

## SECTION B: NORMALIZED DIFFERENCE VEGETATION INDEX (NDVI)

From February to March 2022, there was a noticeable de-

cline in vegetation across all areas of Al-Hasakeh, most areas of Deir ez-Zor, Raqqa (particularly those far from riverbeds), also northeast and south-east of Aleppo governorate, in addition to eastern Hama, Homs, northern and eastern Damascus countryside, central of As-Sweida governorate and across all Badia regions. On the other hand, the vegetative index ranged between the same levels and gradually improved in the rest of the governorates and regions, especially in the coastal governorates, the northern and western regions of Homs, Hama and Idlib, as well as the areas on the riverbed in Aleppo, Ar-Raqqa and Deir ez-Zor.

In March-April 2022, the vegetation continued to improve in the aforementioned areas, especially the coastal governorates, northwest of Aleppo, Idlib, Hama and Homs, the southern part of Dar'a governorate as well as the western part of As-Sweida, the southeastern part of Al-badia in Rural Damascus governorate. In addition to the areas on the Euphrates Riverbed and its tributaries in Aleppo, Ar-Raqqa and Deir ez-Zor. The vegetation index and cover continued to decline in the rest of the governorates and regions, where it was lower than the long-term average, by about 25 % - 50 % in Al-Hasakeh and northern parts of Deir-ez-Zor, 25% - 40% in the northern areas of Ar-Raqqa, 25% - 35% in eastern parts of Hama, Homs and rural Damascus and 15% -20% in the rest of regions.



**Figure No. 8:** A comparison of vegetation through analysis of 2022 and 2021 NDVI maps.

**Source:** Global Information and Early Warning System on Food and Agriculture (GIEWS)

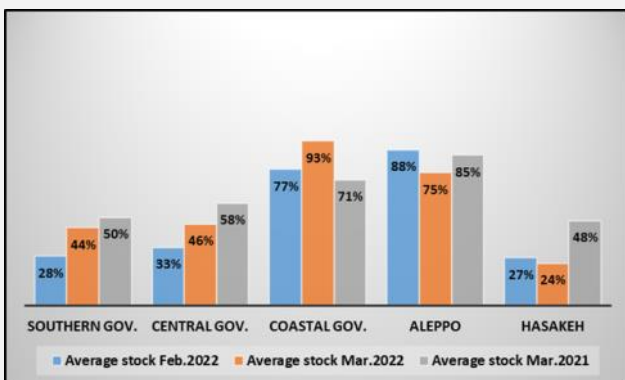
It is important to note that in general, the vegetation cover during the current season is worse than last season, especially in the northern and northeastern governorates, rural Damascus, As-Sweida and the eastern regions of Hama and Homs, as well as Al-badia (see figure 8).

## SECTION C: WATER SUPPLY SITUATION

The irrigated areas cultivated in Syria for the current season constitute about 32% of the total cultivated areas. Of this total cultivated area, 45% of it is irrigated by rivers, springs and public irrigation systems, which depend mainly on precipitation for recharge and replenish of the water stock.

During this reporting period, there has been limited water supply from the different irrigation water sources (i.e. ground sources, rivers, and reservoirs such as lakes and dams), especially in Al-Hasakeh and southern governorates. The water reserves of dams decreased in March 2022 compared to February 2022 by 3% in Al-Hasakeh and 8% in Aleppo, while it increased in the coastal, central and southern governorates by 16%, 13% and 16% respectively.

It is important to note that the water reserves for the current season are less than the previous season across all the monitored governorates, except for coastal governorates. Essentially, the current water stocks decreased from last season by 24%, 10%, 12% and 6% in Al-Hasakeh, Aleppo, central and southern governorates, respectively (figure 9).



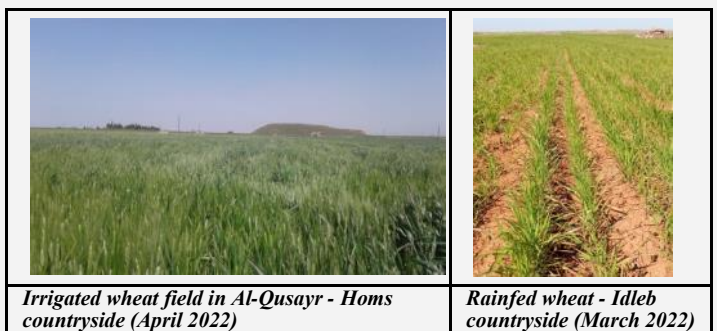
**Figure No. 9:** The evolution of dam stocks during the 2021 / 2022 season compared to last season.

**Source:** Analysis of Monthly Bulletin of Drought Monitoring (MBDM) from MAAR.

## SECTION D: SUMMARY ON PROGRESS OF 2021/2022 CROPPING SEASON

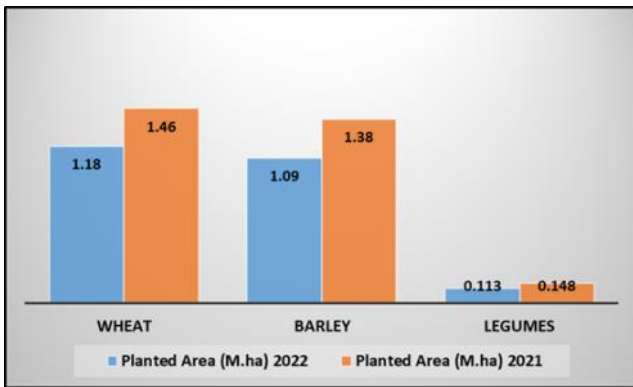
By the end of April 2022, the wheat crop ranged from between flowering and grain filling stage, while barley was mostly between the grain filling and maturity stage (i.e. ripening). Wheat crop, like the rest of the crops during the current season, was exposed to severe weather

anomalies. Such anomalies include generally low precipitation, poor temporal and spatial distribution of precipitation and low temperature below LTAs and frost, which occurred in most governorates during March 2022. On the other hand, in April 2022 there was extremely low rainfall (i.e. precipitation), a general rise in temperature, and a large disparity between day and night temperatures across all governorates. In addition to this, low availability of and access to the main agricultural inputs in many governorates, especially the northeastern (seeds, fertilizers, herbicides, fuel, and access to irrigation water). The mentioned availability and access related constraints, limited the use and application of the mentioned inputs and this will most likely have detrimental effects on production, especially combined with the erratic weather conditions. Rainfed wheat and barley was significantly affected, with many farmers in the northeastern governorates having to rent their fields of barley and rainfed wheat to herders, in order to graze their livestock. This is because the rainfed crop was heavily affected by the adverse agro-climatic conditions making most of the rainfed crop a total write-off and not feasible for harvest.



Despite the exposure and infestation of irrigated wheat to Sunn pest in some areas of Homs, Hama, Aleppo, Al-Hasakeh and rural Damascus governorates, the insect pest did not have significant impact. The insect pest was controlled and combated by the agricultural extension units.

Aromatic crops such as coriander, cumin, black seed and aniseed also ranged between flowering and maturity stage, based on the actual planting period. Aromatic crops were also affected by low rainfall and frost in mid-March 2022.



**Figure No. 10:** Graphical comparison and depiction of area planted under wheat and barley during the current 2021 – 2022 agricultural season, compared to the previous season (2020 – 2021) as of February 2022.

**Source:** FAO field monitoring reports

The frost that lasted for long periods during March 2022 in most governorates, only affected early maturing varieties of almond orchards in Homs. Furthermore, about 140 greenhouses (various vegetables), 115 dunums of vegetables and potatoes and more than 100 zucchini tunnels in Latakia and 6 300 greenhouses (various vegetables) in Tartous were also affected. In addition to the damage of other areas of crops in the rest of the governorates, especially Hama, Deir-ez-Zor and the southern governorates.

All the above-mentioned constraints indicate that the 2021 – 2022 agricultural seasonal performance has not been good, especially for the major cereals, and overall production and output will likely be less the LTAs and harvest from the previous 2020 – 2021 agricultural season. The livestock sector will also likely suffer from the above mentioned constraints, especially as it relates to animal nutrition and health (see section E). FAO is monitoring the situation through field monitoring observations until the harvesting season and preliminary estimates of production and yields will be disclosed in due course.

## SECTION E: LIVESTOCK SITUATION AND CONDITION

During the March – April 2022 monitoring and reporting period for the current agricultural season, livestock and livestock breeders (especially sheep and goats) suffered severely from various interconnected constraints.

The challenges which continue to affect livestock breeders include the high animal feed prices, both locally and globally, and shortage of pastures due to the poor rainfall season in most of the Badia regions. Pasture growth and development was evaluated and indications are that pastures are worse than last year in most of the monitored regions.

Most of the livestock breeders, especially in the north-eastern governorates, were forced to sell a number of their animals to obtain fodder for the rest of the remaining herd. Noting that due to the increase in sold numbers and the decline in the nutritional and health status of sheep and goats, the prices of livestock decreased significantly. This is despite the prices of animal feed continuing to rise, forcing most breeders to sell more livestock numbers to get the adequate money required for animal feed to cater for the rest of the herd.

Some breeders have recently resorted to feeding their animals with low or poor quality feed because it is cheaper. This coping strategy will unfortunately affect the nutritional and health status of the remaining and reduced herd. Isolated cases of death of new born sheep (i.e. lamb loss) were also reported in previous months of the current agricultural season. These cases were more prevalent in Homs, Hama, Deir ez-Zor and Al-Hasakeh and this was due to poor nutritional status of ewes and their inability to breastfeed their newborns.



Despite the availability of veterinary services and medicines, to some extent, the cost of treatments and the prices of veterinary medicines remains very high. The high cost of veterinary medicines was observed mainly in the northeastern governorates. This has also contributed to increased livestock production costs and significant viability challenges in raising livestock.

The challenges mentioned above, have prompted many small breeders to sell-off the rest of their small ruminant flocks (especially sheep and goats), and discontinue live-stock production and breeding due to their inability to bear the high costs.

Regarding cows, it is in a better-off condition, because they often depend on fodder rather than pastures. However, as previously mentioned the significant rise in animal feed prices, as well as the cost for veterinary services and veterinary medicines, constitutes a major challenge for breeders.

For poultry breeders, the situation is also difficult and worsening. Poultry feed prices have recently risen significantly and the price of various fuels needed for heating and lighting, and other daily operations, has also increased. On the other hand, the limited purchasing power among most of Syria's population, has limited the purchase and consumption of eggs and broiler meat. Therefore, the selling price for eggs and broiler meat, did not rise in comparison to overall poultry production costs. This exposed many poultry breeders to significant losses and some farmers actually stopped poultry production due to economic viability concerns.

Bee colonies began to gradually recover, since many of the beekeepers started heading their colonies to the aromatic crops areas, following a severe winter season. The severe winter resulted in most beekeepers losing significant numbers of their apiaries due to the poor nutritional and health status, caused by the decline of nectar sources. It is noteworthy that the high fuel prices significantly affected the transfer of bee colonies to flowering fields, as well as the transfer of other relevant production requirements.

In general, the livestock sector (especially sheep and goats), will require great support in the immediate to near future. It is critically important that the livestock sector receives adequate support and attention to prevent further losses that may negatively affect food and nutrition security in the coming months and in 2023.

## **SECTION F: FOOD SECURITY AND COPING STRATEGIES**

Day by day, the economic situation is getting worse, and this is severely affecting the food security and livelihoods situation of crisis-affected families in Syria. Despite the security situation having stabilized in Syria, the living conditions and economic situation remains significantly challenging and in some locations .

Syrian families, especially the most vulnerable, including women, children and the disabled, continue to face several challenges and obstacles. These include the prolonged conflict, severe weather fluctuations and drought-like conditions, the protracted Covid-19 epidemic and its local and global economic effects, exchange rate fluctuations and local currency depreciation, scarcity and high cost of energy and fuel resources, significant increase in the cost of agricultural production inputs, as well as goods and merchandise, especially food.

These aforementioned challenges have combined and are burdening the population, further eroding their resilience and pushing families to rely more on negative and harmful coping strategies. Coping options are becoming limited due to the over-reliance on them over a long period. Some of coping measures include relying on less preferred and less expensive foods, limiting portion size at mealtime, reducing number of meals eaten in a day. Furthermore, most families are also resorting to reducing (in some cases reducing) consumption by adults in order for small children to eat.

These above mentioned coping strategies, including other longer-term livelihoods coping strategies not covered in this report, will continue to affect the nutritional and health status of vulnerable families. If the high levels of food insecurity and reliance on the above food-based coping strategies persists, there is a risk of increased malnutrition prevalence and compromised immunity, especially among children and pregnant and lactating women (PLW). In addition, other coping strategies, such as child labor (especially stressful and shameful acts) are becoming more prevalent.



Finally, people are also relying on strategies that may be irreversible, such as selling the remaining assets, especially production assets. Quantification of the extent to which families are resorting to negative coping measures will be presented in more detailed assessment reports.

### Recommendations

- As the winter crops approach maturity and the harvest period approaches, farmers, workers in crop fields and the rural population, are advised to take all precautionary measures and not to take any action that could lead to the spread of crop fires,
- Do not delay in harvesting crops after they are ripe, because delay leads to increased losses of grain during harvest.
- Sector partners are also advised to provide relevant support to vulnerable smallholder farmers (VSFs), so that they may be able to harvest their cereal crop on time.
- Farmers are also encouraged to mobilize financial and logistical resources necessary to complete their harvest timeously, including transporting the produced grain as required,
- Sector partners are also encouraged to kick-start contingency planning and advocacy, so as to mobilize resources to support vulnerable and affected farmers in the coming season. There are already indications that the 2021 – 2022 agricultural season was generally unfavorable and significant production losses could have occurred.
- Implementation of urgent interventions, especially emergency fodder distribution, to support livestock, especially sheep and goats (i.e. small ruminants). Where feasible, this must also be linked to climate-resilient fodder production interventions to ensure that livestock keepers have the ability to cope with future climatic shocks.
- With the advent of the summer, there will be an increase in the demand for water for irrigation and for domestic use, and it is necessary to mobilize the capabilities to rationalize the use of water and enhance access to it, especially in the governorates and regions that faced a shortage of rain and a decline in water resources.
- Sector partners are encouraged to scale-up efforts in promoting relevant and context specific climate smart agriculture (CSA) approaches, as a concerted effort to make food production systems in Syria more resilient to climate-induced shocks.

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**Disclaimer:** The information contained herein, is based on FAO's Global Information and Early Warning System (GIEWS), collection of bi-monthly Agriculture and Food Security Monitoring System (AFSMS) data and triangulation of local weather periodicals. The data presented herein also captures results from field monitoring of crops, livestock and water resources done by FAO field staff. While FAO Syria strives to provide accurate and timely early warning information, there may be slight unintended technical or factual inaccuracies. Decisions based on information contained herein are the sole responsibility of the reader.

#### For more in-depth statistics and trends:

- Refer to WFP Syria mVAM Bulletin for January - February 2021.
- Request for the FSA/FSLA factsheets for 2020 from the Food and Agriculture Sector (FAS) for details on food access and food insecurity prevalence by governorate and sub-district.