



# GIEWS Update

## The Republic of Iraq

### Drought in northern parts of the country

#### Highlights

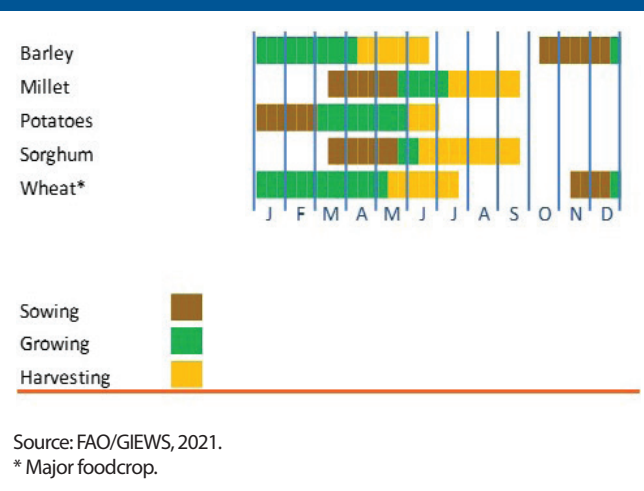
- Drought affected rainfed areas in northern parts of the country.
- Widespread crop failure in Ninewa Governorate and halved production in Kurdistan Region of Iraq.
- Decreased cereal production expected to cause loss of income, soaring feed prices and increased import requirements.

Similar to many countries of the region, wheat and barley are strategic crops for Iraq's food security. The country strives to maximize domestic production to limit its dependence on imports. Cereal production is supported by input distribution schemes and guaranteed purchasing prices, traditionally well above the international cereal price levels. Wheat, the main cereal, is mostly milled for flour which is distributed, with other basic food commodities, to households through the Public Distribution System (PDS). According to a value chain study commissioned by FAO Iraq in 2020, about 70 percent of wheat is cultivated on irrigated land and yields 75 percent of the total national production, while the rest is rainfed, making the production susceptible to rainfall variations.<sup>1</sup>

The rainfed sub-sector is located in the three governorates of Dahuk, Erbil and Sulaymaniyah (approximately 40 percent of the area) in the Kurdistan Region of Iraq (KRI)

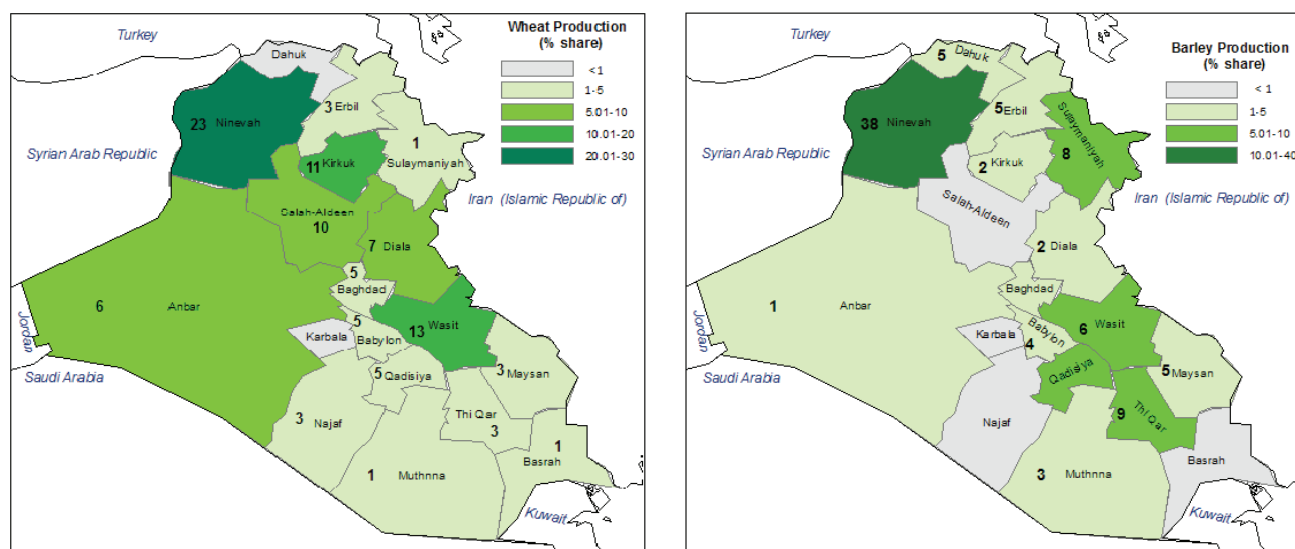
and in the governorates of Ninewa (northern parts), Kirkuk and Salah Aldeen in the central region (60 percent). The winter growing season extends from October/November to April/May and it is characterized by cumulative

Figure 1: Iraq - Crop calendar



<sup>1</sup> "Agricultural value chain study in Iraq - Dates, grapes, tomatoes and wheat": <https://reliefweb.int/sites/reliefweb.int/files/resources/WFP-0000125470.pdf>.

**Figure 2: Iraq - Regional wheat and barley production share by province**  
(average before 2013, percent)



Source: FAO/GIEWS Special Alert No. 332, 25 June 2014 - <http://www.fao.org/3/i3898e/i3898e.pdf>. Complies with UN map, 2020.

Note: Numbers represent each governorate's percentage share of national total production.

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annual precipitation amounts between 250 mm to over 1 000 mm, increasing from south to north and varying from year to year in both spatial and temporal distribution. In April, the cereal harvest starts in the southern part of the country and then it proceeds northwards.

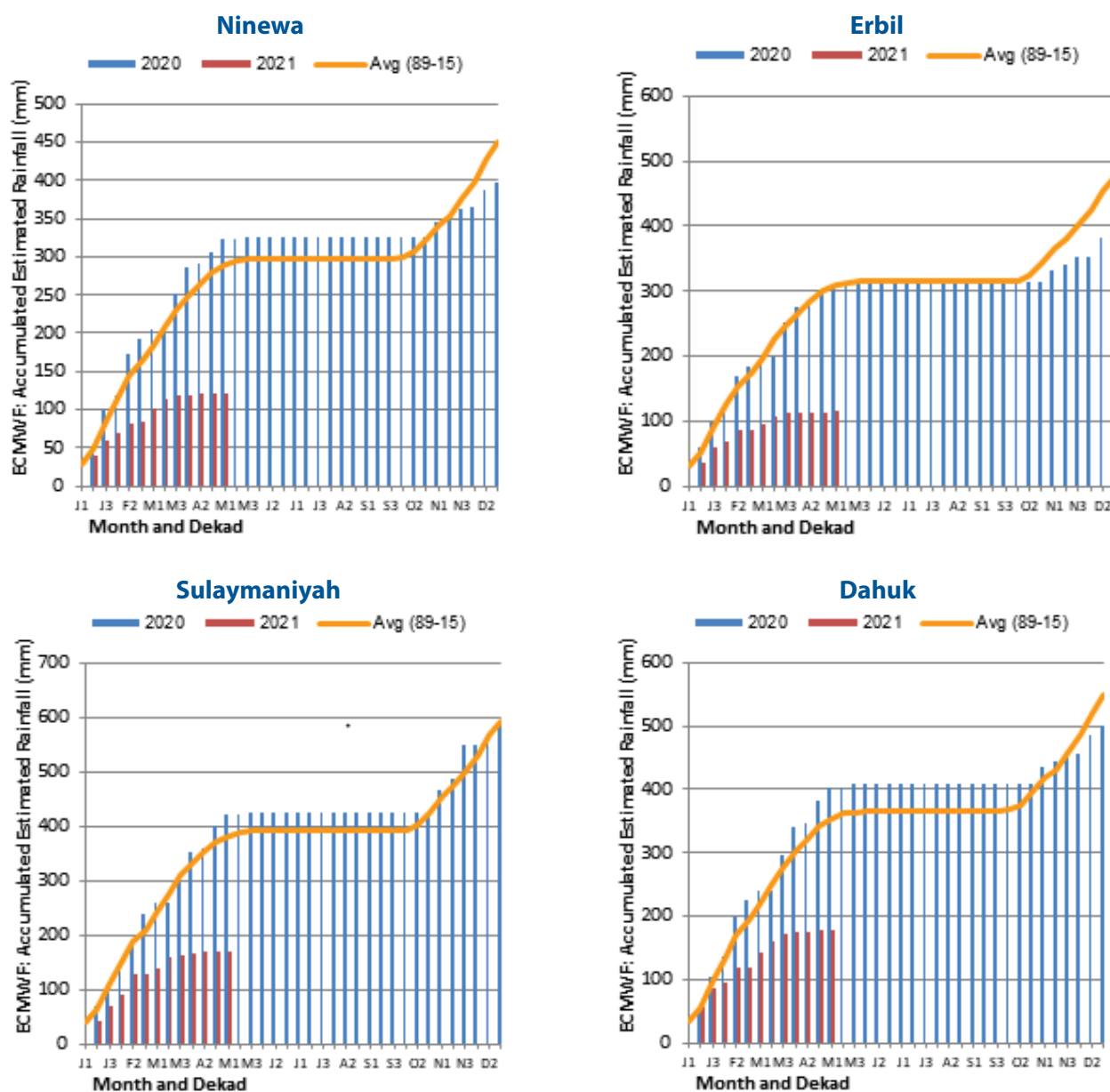
Figure 2 shows the share of wheat and barley production, from rainfed and irrigated areas, by provinces before 2013. Security conditions stemming from the presence of the Islamic State of Iraq and the Levant (ISIL) prevented the Central Statistical Organization (CSO) from issuing agricultural statistics (area, yields, total production) in Ninewa Governorate between 2015 and 2018. The Ninewa Governorate, noted for producing more than 1 million tonnes of wheat and barley in a good year, before 2013 contributed on average to over 20 and 38 percent of the national wheat and barley production in the entire country, including the KRI. Following the liberation of the area from ISIL in 2017, the share of wheat from Ninewa Governorate remained about 19–22 percent, although the share of barley reported by the CSO (data of which does not include the KRI) reached about 80 percent.

For the 2021 wheat procurement season, the Ministry of Trade decided to maintain the same prices as in 2020, ranging from IQD 420 000 to IQD 560 000/tonne, depending on the quality. The devaluation of the national currency against the US dollar by almost 22 percent in December 2020, which reduced the official exchange rate from IQD 1 182 to IQD 1 450/USD and lessened prices in US dollar equivalent to USD 290–385/tonne. The international benchmark price of wheat was USD 314/tonne in the second week of May 2021.

### Lack of precipitation threatened winter crops in the rainfed areas in the north

Across the country, the first substantial rainfall of the season in November 2020 facilitated sowing activities that were completed by mid-December and early crop prospects were relatively promising. In central and southern parts of the country, where crops require supplementary irrigation, the season proceeded under reasonably favourable conditions and the development of cereal crops, despite above-average temperatures which increased evapotranspiration, has been satisfactory as reported by Earth Observation images.

**Figure 3: Iraq - Accumulated estimated rainfall in crop areas of selected governorates**  
(millimetres)

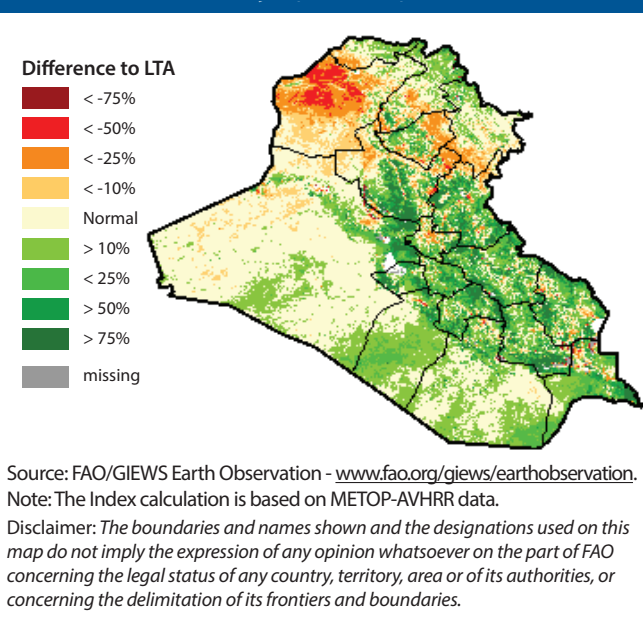


Source: FAO/GIEWS Earth Observation - <http://www.fao.org/giews/earthobservation/country/index.jsp?lang=en&code=IRQ>.

In northern parts of the country, sporadic and insufficient precipitation in Ninewa Governorate as well as portions of northeastern Dahuk, Erbil, Sulaymaniyah and Salah Al Din provinces, affected conditions of mainly rainfed winter cereals and production is expected to significantly decline compared to the previous year. As outlined above, comparisons with the past five years are not feasible due to incomplete statistical information. Figure 3 illustrates accumulated estimated rainfall in selected governorates.

Despite some localized abundant precipitation amounts in January 2021 that temporarily eased soil moisture deficits in some areas, drier-than-normal conditions persisted in February and March, with the exception of western areas that received some rainfall amounts. Rainfall in March and early April, which would have been critical to saving the crops, did not materialize. In May, extreme temperatures (35–40°C) further reduced the already meagre yield prospects for winter grains in drought-affected areas (Figure 4).

**Figure 4: Iraq - Normalized Difference Vegetation Index (NDVI) anomaly (April 2021, percent)**



Lack of rainfall exacerbated the existing tensions at regional level over the management of water resources. The major rivers in the area (Tigris, Euphrates), the key source of irrigation water, originates from the Anatolian Plateau in Turkey and flow across several countries. It is estimated that a reduced amount of water streams into the country due to the construction of dams upstream outside of Iraq's territory. Upstream countries also increased water withdrawals to satisfy their larger needs due to population growth and related water consumption increases.

Where present, irrigation infrastructure is often outdated and water is not used efficiently. The price of irrigation spare parts is reported to have increased by 10–20 percent since the beginning of the current cropping season. The increase in the price of sprinklers and other irrigation accessories was mainly due to strong demand by farmers with adequate financial resources to purchase irrigation parts. The currency devaluation against the US dollar by over 20 percent in December 2020 also contributed to the price increases as most irrigation parts are imported. In general, most farmers complained about the high prices of inputs on the local markets, especially for seeds, fertilizers and agricultural pesticides, in addition to their low quality. Although COVID-19-related lockdowns

did not have a significant impact on movement of labour as exceptions were granted to workers in the agricultural sector, they have constrained supplies of inputs and hampered the movement of agricultural products between governorates and from border points.

More profitable crops, such as potatoes, vegetables and tree crops, are usually cultivated under irrigation and thus were not affected by dryness during the winter season. Weather forecasts until the end of June 2021 are not favourable and dry conditions are likely to persist, raising concerns for the next months in terms of pasture biomass and water supply for irrigation as well as for animals. The Ministry of Water Resources has promised to provide farmers with necessary water rations for the summer crops.

Only seasonal outbreaks of pests and diseases were reported on crops in the areas most affected by drought. In April, unusually strong southerly winds for several days carried groups of mature adults and small swarms of desert locusts from northern Saudi Arabia to the Anbar Governorate. In April 2021, about 140 hectares were treated along the Euphrates Valley, near Rawa and Qa'im towns, close to the border with the Syrian Arab Republic.

### **Widespread crop failure in most of Ninewa Governorate**

Crops in Ninewa Governorate, usually the largest cereal producer in the country, have been severely affected by drought. According to information from the CSO, over 85 percent of the wheat area and the entire barley area in the governorate are rainfed. Winter cereals in rainfed areas failed completely and farmers resorted to ploughing up the fields or decided to leave stunted crops for pasture, or leasing them to livestock farmers to recover at least some costs. The reported rate for leasing rainfed wheat and barley fields to sheep producers for grazing is between IQD 10 000 and IQD 30 000/dunum (corresponding to USD 28–84/hectare, 1 dunum equals 0.25 hectares).

In Ninewa Governorate, the area planted with winter cereals to be harvested from May 2021 was about 3.80 million dunums (950 000 hectares) with

**Ninewa - Rainfed wheat, June 2021**



wheat and 2.97 million dunums (740 000 hectares) with barley. The area planted with wheat was significantly higher than in the previous two years, when slightly over 400 000 hectares were planted in 2019 and 675 000 hectares in 2020. Barley sowings, on the other hand, declined from almost 910 000 hectares in 2020 and 760 000 hectares in 2019.

Only cereal crops from irrigated fields (mostly sprinkler) are deemed to be worth harvesting. In early April 2021, the local Department of Agriculture forecasted the 2021 wheat output at 475 000 tonnes, but this figure was revised downward in May to 394 000 tonnes. At this level, the 2021 wheat harvest would be over 70 percent lower than the 1.4 million tonnes harvested in 2020 and over 50 percent lower than the 850 000 tonnes harvested in 2019. The 2021 barley crop failed completely and production is forecast at a negligible level of 11 510 tonnes, down from the 1.36 million tonnes harvested in 2020 and 1.3 million tonnes harvested in 2019.

### **Reduced production in Kurdistan Region of Iraq**

The KRI is generally a cereal surplus area. Out of a total area of 1.6 million hectares of arable land, about 80 percent is rainfed and 20 percent is irrigated, although often not in the most efficient way. Small irrigation schemes utilize three reservoirs (Dohuk, Dokan and Darbandikhan dams with a total capacity of 12 200 cubic metres) as well as underground

**Ninewa - Irrigated wheat, April 2021**



water resources. Water for irrigation purposes is extracted from both shallow and deep tube wells. The ground water table is reported to have severely declined in the past decades due to recurring droughts and decreasing rainfall amounts (Table 1, Figure 5).

For the 2021 harvest, 56 percent of the total arable land (over 896 000 hectares) was planted with wheat, out of which 83 percent was rainfed and 17 percent irrigated. Slightly over 8 percent (134 000 hectares) was planted with barley. Although official information on plantings in 2019 (for the 2020 harvest) is not available, remotely sensed images indicate that the area planted with cereals in 2020 (for the 2021 harvest) was less than in the 2019/20 season.

**Erbil - Rainfed wheat, June 2021**

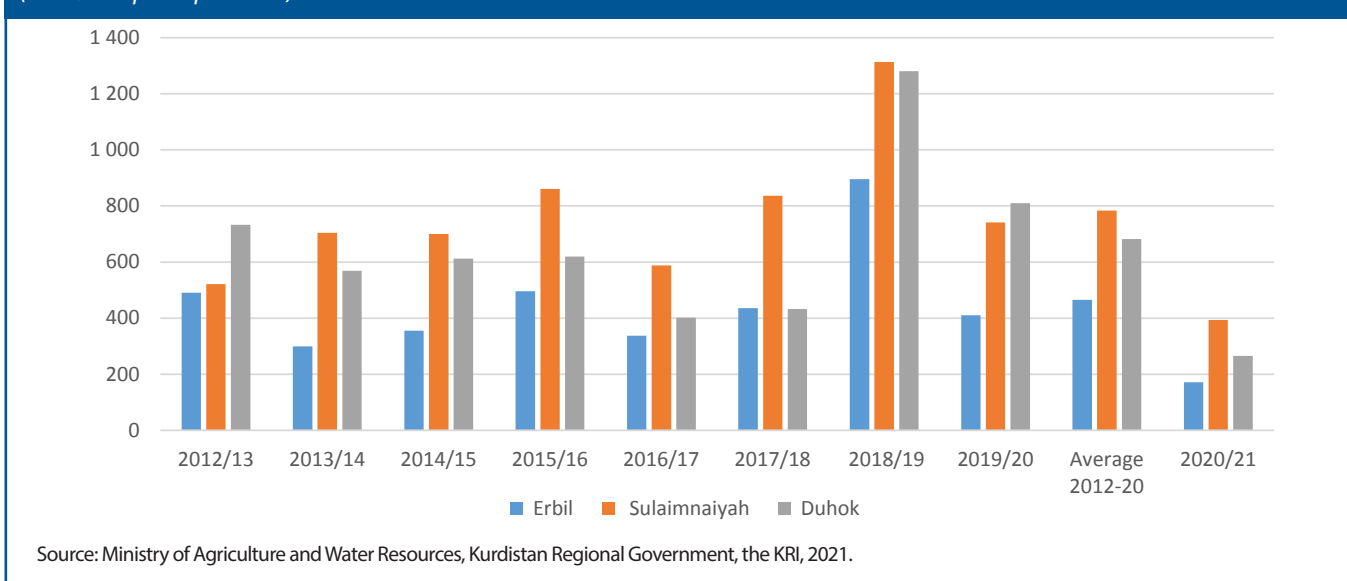


**Table 1: Iraq - Depth of groundwater**  
(metres)

Governorate	2000	Spring 2021	Difference
Erbil	200–250	300–400	100–150
Sulaimnayah	50	100	50
Duhok	150	200–250	50–100

Source: Rudaw.net - Director of Ground Water in Erbil, 2021.

**Figure 5: Iraq - Seasonal rainfall in the KRI governorates**  
(2020/21 up to April 2021)



Source: Ministry of Agriculture and Water Resources, Kurdistan Regional Government, the KRI, 2021.

Rainfall deficits have been significant especially in southern and western parts of the KRI, while better moisture conditions occurred in the north and east. According to the KRI authorities, production of the 2021 wheat crop is forecast at about 750 000 tonnes, 50 percent lower than the exceptional harvest of 2020.

### Economic impacts of the expected below-average cereal production in 2021

#### ➤ Loss of income

A large share of farmers depends on cereal sales as their main source of income. Given that the 2019/20 season was relatively favourable, it is likely that some farmers might still have adequate savings to subsist on and prepare for the 2021/22 season.

However, many farmers expressed concern about the late payments for the wheat delivered to the silos of the Ministry of Trade in 2020. The expected loss of income due to the reduced sales of winter grains might lead to the adoption of negative coping strategies and jeopardize the preparation for the 2021/22 crop season.

#### ➤ Increased feed prices for livestock producers

Livestock depends on harvested cereal grains, straw as well as grazing cereal stubbles. By mid-April 2021, when widespread crop failure in the northern areas was confirmed, feed prices steeply increased at a rate much faster than seasonally justified. Prices of barley grain almost doubled between February and April, increasing from IQD 230 000 to

IQD 400 000/tonne, while prices of straw increased from an average of IQD 1 500 to IQD 2 000/15 kg sack in 2020 to IQD 3 000 in mid-April 2021.

It is likely that several farmers may consider reducing the size of their herds, selling some animals in order to improve the cash flow and be able to feed the remaining livestock. This de-stocking would put downward pressure on prices for live animals. A large number of livestock keepers started moving to western and northern regions of Ninewa and to Kurdistan areas looking after pastures and grazing areas.

➤ **Increased import requirement for the Public Distribution System (PDS)**

The PDS is likely to have to import wheat as a consequence of the low domestic production in 2021, amplified by farmers' unwillingness to sell to the Ministry of Trade silos, as some reportedly have not been paid for the 2020 crop delivered to the government. Although the government usually offers higher than market prices, given the general shortage of wheat, it is likely that the price differential will not be as large as usual. In addition, non-government buyers pay on time. Despite the slight recovery in crude oil prices, funding for the increased import requirement might become a challenge in terms of the national budget.

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