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Agriculture and climate change in Iraq

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OXFAM

Small-scale farmers in Iraq are among the most affected groups in Iraq by climate change and water scarcity. With the reduction of rainfall and soaring temperature, agricultural production is dropping, and farmers' ability to cope is hindered. Affected farmers are exhausted and feel that they are left alone in the face of crisis. Many farmers are leaving their lands and looking for better opportunities away from their land and the urban areas.

Duty bearers need to mobilize resources and political will to support farmers and the agricultural sector through a national strategy with clear vision on the current needs and comprehensive forecast of the impacts of climate change.

While agriculture is at the heart of Iraq's past and present, its position in the country's future is at risk.

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For further information on the issues raised in this paper please email advocacy@oxfaminternational.org

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Cover photo: A plant finds room to grow amongst the parched basin of Iraq's Lake Hamrin. Pablo Tosco/Oxfam in Iraq 2021

THE DILEMMA FOR FARMERS

THE AGRICULTURAL SECTOR IN IRAQ

Iraq is an agricultural country practising mainly rain-fed agriculture, in particular grain and livestock production, with a considerable proportion of its farmland dependent on irrigation.¹⁴ The agricultural sector accounts for 5% of the country's gross domestic product (GDP) and is the second largest contributor after the oil sector. Agriculture is strategically essential for food production and as a source of income for millions of Iraqi families; data from 2018 show that the sector employs 18.7% of the active workforce, and that 23.3% of those employed are women. Around 22% of the land in Iraq, or 9.5m hectares, is suitable for agricultural production, yet only about 5m hectares are currently cultivated. Small-scale farming dominates the sector and typically it uses traditional farming methods which depend on surface irrigation and have a high dependency on farmers and low usage of technology, with minimal capital investment, which results in low levels of productivity.¹⁵ Over the years the sector has faced many challenges, including ineffective policies, mismanagement and conflict. There are currently 1.4 million internally displaced persons (IDPs) in Iraq whose primary income before displacement came from agriculture. However, they cannot return to their sources of livelihood without a considerable amount of assistance to ensure that their lands are safe and productive.¹⁶ In the winter of 2021, the Government of Iraq (GoI) had to approve an agricultural plan to reduce planting of winter crops in irrigated areas by 50% because of water scarcity and low water revenues¹⁷ further cutting production. With

the reduction in cultivation activities, there has been a direct decline in food production. The UN Food and Agriculture Organization (FAO) estimates that wheat production will be 70% lower by the end of the season and that barley production will be negligible.¹⁸ The World Programme (WFP) has already found that marginalized rural communities are adopting negative coping strategies to manage the decline in food availability by eating less.¹⁹

Data show that in the first half of 2021 the electricity and water sectors contracted by 0.5%. Both sectors are highly subsidized, and shortages are exacerbated by overconsumption. These shocks, combined with the second-lowest levels of rainfall in 40 years, are disrupting the agriculture sector. As a result, agricultural value-added contracted by 3.3% in the same period. Such trends will have severe impacts on food security, especially for poor communities living in rural areas. Farmers have also been affected by rising costs of agricultural inputs and by a lack of support in terms of financial and marketing services, combined with delays in payments promised by authorities in return for growing strategic crops.²¹

CLIMATE CHANGE, DROUGHT AND THE WATER CRISIS IN IRAQ

Iraq is one of four countries that depend on the Euphrates–Tigris river basin for its water supplies; the others are Turkey, Syria and Iran. Over the years, the river basin has experienced high levels of water stress and environmental degradation, which has led to increased water scarcity, directly affecting the countries that depend upon it.²² With the impacts of climate change, drought is increasing in duration and intensity and desertification is growing, with more frequent sandstorms and flash floods, affecting agricultural yields.²³

In May 2021, the Iraqi Ministry of Water Resources (MoWR) announced that over the past year water supply from both the Tigris and Euphrates rivers, Iraq's two primary water sources, had decreased by 50%. In addition to

climatic conditions, as a downstream country Iraq is vulnerable to upstream water use and damming in other countries.²⁴ It has one of the lowest water productivity rates with the highest water withdrawal for agricultural use per capita. According to the National Strategy for Water and Land Resources in Iraq 2015–35, freshwater resources per capita are likely to fall to 1,000 cubic metres per person per year by 2030. The strategy states that by 2016 Iraq would not have water in sufficient quantity or quality and called for significant reforms to change this ‘alarming’ trajectory. It also forecast that, by 2050, a decrease of 10% in precipitation and an increase in temperature of 1°C would cause a 20% reduction in the availability of fresh water, which means that nearly one-third of irrigated land in Iraq will have no water by that date.²⁵

Iraq’s complex water crisis is expected to persist, with the potential for implications at different levels, including the humanitarian, economic, security and social levels, and the risk of population movement. In water supply, priority is always given to public water consumption and to other vital sectors such as agriculture. However, with population growth the demand for food has grown, making the agricultural sector the largest consumer of water.²⁶

In a situation like this, farmers, among many other groups, are facing multiple challenges that affect their livelihoods and their ability to cope with different shocks and crises. Farmers who took part in the research for this paper indicated that they had seen a gradual deterioration in their livelihoods and in their capacity to sustain their incomes from agriculture and also a deterioration in their ability to cope with the different shocks they are facing. During the data collection process many challenges were identified by farmers, representatives of national and international NGOs, farmers’ representatives and government officials from different directorates. These challenges are being driven by different factors, including a deterioration in economic conditions and the impacts of climate change and drought; they are explored in greater detail in the sections below.

‘In some cases, farmers could own land and could have a well, but they don’t have the capital needed; hence they won’t farm, even if they wanted to.’ – Male farmer, Kirkuk

‘Farmers can’t develop. Farmers now feel crushed and defeated, as they are held back and are suffering.’ – Female farmer, Kirkuk

IMPACTS

One of the biggest and most critical challenges facing farmers is the lack of stability and lack of resilience to shocks. Farmers are increasingly seeking a future for their children away from agriculture, as they want them to obtain more stable jobs. The impact of this crisis is more evident in the case of farmers who are wholly dependent on agriculture as their primary source of income. The main impacts are set out below.

IMPACTS ON FARMERS

Many farming families depend mostly or wholly on agriculture as their primary source of income. In one FGD, farmers said that agriculture took up most of their time every day, which did not allow them to invest in establishing other sources of income. Furthermore, many farmers said that the only knowledge and skills they had were related to farming, mostly gained from working on their family lands.

Asked if the current situation would force them to leave agriculture and migrate, some farmers said no, especially as they felt a sense of loyalty and belonging to their lands and their occupation. However, they acknowledged the challenges they were facing, which forced them to question the viability of the occupation. Many other farmers, on the other hand, said that if the current situation worsened, they would most likely leave their lands. Already, agriculture is less popular among the younger generations. Of 52 farmers asked if they wanted to see their children working in agriculture, 44 said no. Instead, they wanted them to graduate from university and obtain a government job with a stable income. This was seen as a necessity for their children's future and for the well-being of the family by diversifying its sources of income.

Similarly, many daily workers involved in agriculture are looking for job opportunities in urban areas. For daily workers, shifting from one sector to another is relatively easier to do because the tasks involved require fewer skills. Overall, people perceive that urban areas offer more job opportunities, higher wages and a greater diversity of sectors. In contrast, options in rural areas are limited to agriculture,²⁹ and this makes shifting from a rural area to an urban one more attractive.

In many governorates farmers have cut back on the amount they produce, with some reducing it to little more than what they need to meet their own consumption. The livestock sector has been severely affected; many farmers and livestock owners reported the reduced availability of green grazing areas, combined with high prices for fodder. This has resulted in farmers selling off some of their livestock so that they can afford to purchase feed for the rest. According to a study, conducted on November 2021, by the Norwegian Refugee Council on the impact of drought on farming communities in Iraq, up to 37% of households have lost livestock in the past six months due to insufficient water and livestock feed or because of disease.³⁰ In addition, many farmers are selling their livestock at lower prices because of the market situation.

OVERALL IMPACT ON THE AGRICULTURAL SECTOR AND ON THE ECONOMY OF IRAQ

Food production in Iraq is based on smallholder agriculture, which traditionally has met the needs of its population. However, over the years the sustainability of the agricultural sector has been undermined by many factors, including conflict, neglect and mismanagement. Local policy makers and the international community emphasize the high potential of

the sector, but they also point to the challenges it faces, including its low productivity levels, which are related to the smallholder system of farming, which does little to encourage competencies and skills among farmers.³² Still, small-scale farms are vital to the agricultural sector and are an essential source of employment in rural areas.³³

Furthermore, small-scale farmers are the most affected by shocks, including drought; larger-scale farmers are better able to adopt more modern farming practices and shift to climate-smart irrigation systems. Small-scale farmers participating in the study indicated that they would be willing to do the same, but they are held back financially and are unable to make this shift. They also said that the high levels of competition they faced from imported crops might hinder their ability and willingness to invest in their land.

Iraq's economy is slowly recovering from the COVID-19 pandemic and the oil shocks of 2020, but it is now being challenged by the spread of new COVID-19 variants and factors associated with climate change.³⁴ Economic modelling indicates that its real GDP could fall by 4% compared with 2016 levels, with demand for unskilled labour in the agricultural sector falling by 11.8% in the scenario of a 20% reduction in water availability and a climate change-induced decline in crop yields.

IMPACTS ON MIGRATION AND CIVIL UNREST

Would you continue farming? Answers to this question differed from one location to another and from one group to another. When groups of older farmers were asked this question, their immediate response was yes. They saw agriculture as part of their inheritance from previous generations and also as their legacy. They also highlighted the sector's importance for farming communities and for the country as a whole. In many groups, participants declared that agriculture was the real oil of Iraq and, being part of a generation that has witnessed many changes, they spoke about previous eras when the farmer was king. On the other hand, many of the farmers acknowledged the deterioration in the sector and the overall deterioration of the country, stressing that they were unable to make the most of their lands. Many of them stated that if the situation remained as it was and the agricultural sector continued to deteriorate, they would not be able to farm in the future. For this reason, and as farmers attempt to diversify their sources of income, many governorates are witnessing a trend of people migrating from rural to urban areas, seeking work opportunities and better livelihoods.

Internal displacement is not new to Iraq; over recent decades it has seen waves of displacement caused by many different factors, including ethnic and sectarian tensions, armed conflict and recently the war against ISIS. As large-scale operations against ISIS wound down, rates of displacement diminished and many people started returning to their homes.³⁵ Since the beginning of the Iraqi displacement crisis in 2013; in December 2017, some 3.2 million people were recorded as returnees, more than the number of people who had been displaced, at 2.6 million. By the end of October 2018,

more than four million displaced people had returned to their homes, with data indicating slowing rates of return, and there were still more than 1.9 million IDPs.³⁶ Another factor contributing to the movement of IDPs was the decision of the GoI to close or reclassify 14 formal IDP camps as informal sites between October 2020 and mid-January 2021.³⁷ According to the IOM's Displacement Tracking Matrix (DTM), by December 2021 there were a total of 1,186,556 IDPs and 4,952,232 returnees.³⁸

When analysing the implications of climate change and drought for migration and civil unrest, there are clear indications of these factors causing instability, with intermittent demonstrations in different governorates and waves of migration that range from labour migration at the individual level up to the migration of whole families from rural to urban areas. Some migration trends tend to be temporary in response to immediate shocks or needs, but some appear to be more permanent. The impact of drought is pushing many Iraqis to move from dry zones to areas with more water availability, such as cities, and will continue to do so. This can lead to the abandonment of rural areas and can add to stress on living conditions in urban areas.³⁹ In 2012 around 20,000 individuals, mainly from agricultural communities, were displaced because of drought. In 2019, similar impacts due to drought were seen in the southern and central governorates, with 21,314 individuals internally displaced due to the high salinity content of water and/or outbreaks of waterborne disease, in both urban and rural communities.⁴⁰

There is also a clear pattern of drought-induced migration among young people aged 15–24 from farming communities, in search of jobs and economic opportunities in towns.⁴¹ Many farmers highlighted the fact that youth are moving away from agriculture, with the younger generation preferring to study or to work within the public sector for a more stable income. This is caused by many factors, according to farmers, including increased instability in the agricultural sector and its deterioration year after year. Some farmers still saw some feasibility in agriculture, but said that if the situation remained as it was or deteriorated further, there would be more migration from rural to urban areas.

'I've been a farmer forever. I got this land from my grandfather. There is no water now, so we cannot work on this land. My sons are now working as labourers.' – Male farmer, Diyala

Looking at civil unrest, water scarcity, among many other factors, sometimes contributes to increasing levels of ethnic and tribal tensions in Iraq. Scarcity of resources, combined with a lack of effective government action, has the potential to ignite tension and conflict, especially when a rural–urban divide overlaps with economic disparities.⁴² A UN factsheet published in 2013 reported a number of incidents in Baghdad and water-related conflicts in Kirkuk between different ethnic groups.⁴³ Such tensions still exist in different governorates, demanding government action to address disruptions to electricity and water supply and the lack of job opportunities. Climate change can also act as a conflict threat multiplier. Such threats can affect fragile ecosystems and strain the coping abilities of local communities, increasing tensions over natural resources. Climate change does not inevitably lead to conflict, but it can exacerbate resource

scarcity, leading to conflict when combined with political, economic and social factors.⁴⁴