



Water buffaloes and herders around one of the last water reservoirs of Al-Qurna town on the outskirts Basra (Tom Peyre-Costa/Norwegian Refugee Council/2018).

Basra Fact Finding Mission Report #3

Prepared by: Moi Peter Elia, Cash Coordinator
 Gary Campbell, WASH Specialist

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Executive Summary

While the public health impact as a result of Basra's water crisis continues has received considerable media and international attention, the impact of water scarcity and salinity levels in Iraq on the livelihoods of Basra's residents have been overlooked. Much of the population of Basra governorate depend on agriculture as a main source of income. The current water salinity has strongly disrupted the livelihood of the farmers. According to the United Nations Environment Programme, Iraq is losing about 250 km² of arable land every year, damage that could be permanent. According to Iraqi officials, this could cause up to four million Iraqis to become displaced in the next eight years. In 2018 alone, around 4,000 people were forced to flee their homes in the South of Iraq due to the water crisis.

The objective of Norwegian Refugee Council's (NRC) third mission to Basra was to conduct a rapid livelihoods and market assessment that examines the impact of water salinity and other shocks to the income sources of Basra's residents and their local markets and inform recommendations for livelihoods and market-based programmatic interventions in the area.

The key findings in NRC's latest mission show that a number of districts in Basra governorate have been adversely affected by increased water salinity, largely bringing vegetable production to a halt. Consequently, agricultural land is being informally re-zoned into residential areas and people are now relying on non-agricultural sources of income, which have proven to be insufficient and unsustainable for most households. Although in northern Basra, water remains useable for agriculture, the overall water shortages and reduced river flows have affected wheat and barley production, crops which require large quantities of water.

Key Recommendations

- Provide business development training and business activation grants or business support grants to those who already started business where agricultural livelihoods has been halted due to lack of alternative water sources
- Provide vocational skills training for women, men and youth, informed by labour market assessment. This can occur through the Vocational Training Centre in Basra in coordination with the Ministry of Labour and Social Affairs
- Government and international partners should distribute reverse osmosis units in areas without alternative water sources
- Conduct awareness campaigns to preserve and ration the use of water across Iraq
- Provide support and facilitate regional dialogues that work towards developing a framework that supports a more equitable sharing and distribution of water resources between countries in the region. Iraq is largely reliant on water that flows downstream from neighbouring countries, making it more vulnerable to the impact of instability in the region in regards to water supply

Mission Objectives

As a follow up to the Norwegian Refugee Council (NRC) assessment mission to Basra, from 15 to 18 September 2018, a team conducted a livelihoods and market assessment in Basra from 7 – 10th October 2018. The objectives of the mission were to:

- Examine the impact of water salinity and other shocks to the income sources of Basra's residents and their local markets
- Identify programmatic and policy recommendations for livelihoods and market-based programmatic interventions in the area

The assessment team was comprised of NRC's WASH Specialist, WASH Project Coordinator, Media Coordinator, Advocacy Officer, Livelihoods/Cash Coordinator, Education Specialist, CCCM Assistance, and Security Coordinator. The methodology used for this assessment involved a desk review of secondary data on Basra, as well as field data collection through focus group discussions (FGDs). Discussions were held with men and women in selected districts affected by the water salinity, as well as with government line departments, agricultural inputs suppliers, traders in the local markets, and humanitarian actors on the ground. Data for this assessment was collected from Basra city, Abu Khaseeb in the south and Al-Qurna in the north. These districts were purposively selected and served as representative geographical sample for the entirety of Basra governorate.

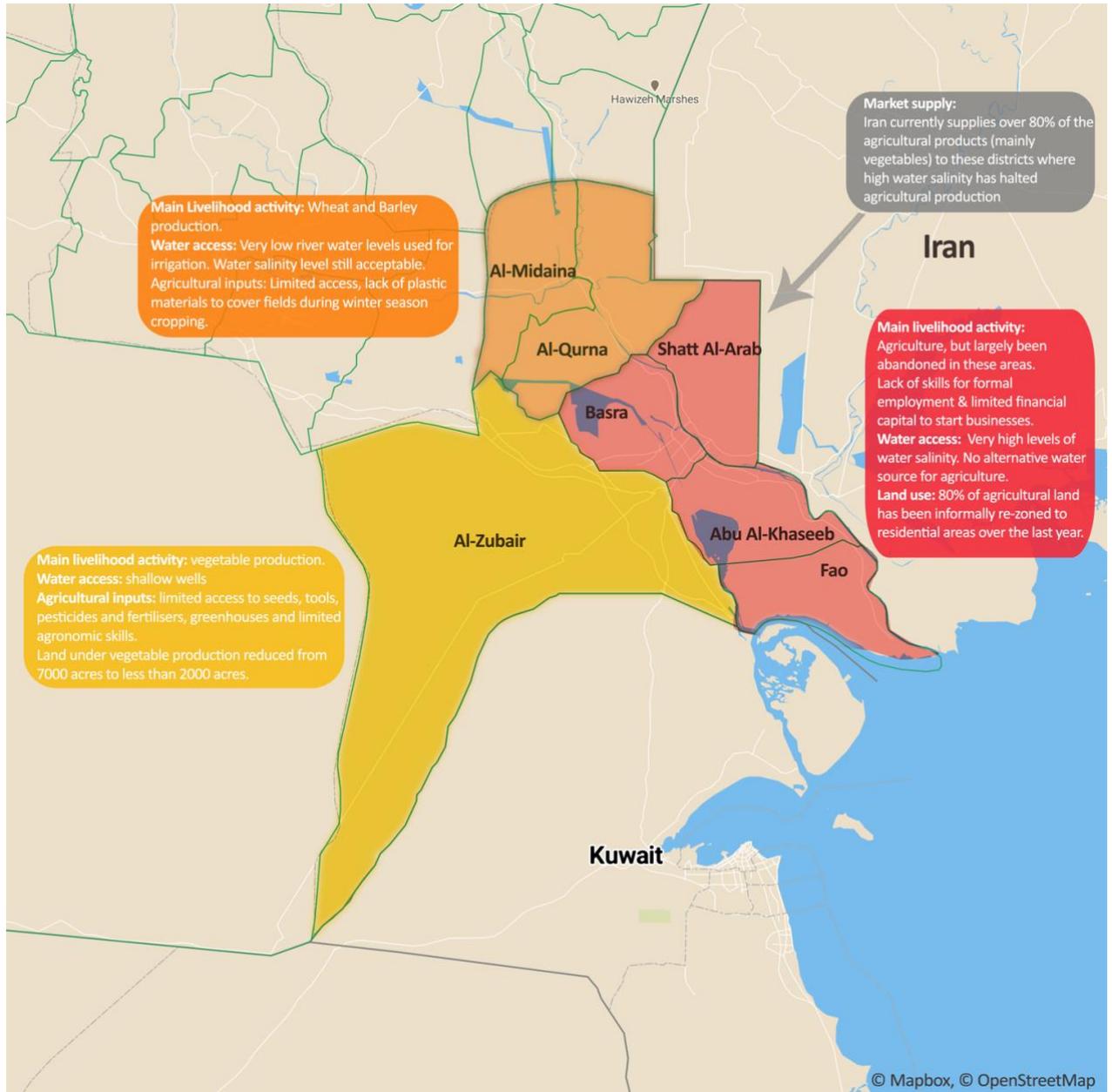
Background

Iraq's southern region currently suffers from major water salinity issues, as a result of salt water contamination of the river Tigris, rendering it unfit for human consumption, livestock and crop production. Issues of water access are further exacerbated by climate change, as the region suffers from persistent droughts, as well as upstream damming in Turkey on both the Tigris and Euphrates rivers, which results in reduced water levels.

According to the UN, Iraq is losing about 250 square kilometres of agricultural land every year (mostly in the south), damage that could be permanent. In addition, desertification is on the rise, due to the decreased water levels of the Tigris and Euphrates rivers, resulting from upstream damming by neighbouring countries, as well as climate change. According to Iraqi officials, this could cause up to four million Iraqis to become displaced in the next eight years unless immediate measures are taken to address the current problem. This will represent a major example of climate induced displacement, as the currently struggles to deal with the ongoing challenges of up to two million people still displaced by armed conflict. In 2018 alone, around 4,000 people were forced to flee their homes in the South due to the water crisis.¹ The increase in water salinity levels currently contribute to major economic and security challenges in Basra.

Basra governorate is comprised of seven districts. These districts include Abu Khaseeb, Basra, Al-Fao, Shatt Al-Arab, and Al-Zubair in the south, and Al-Qurna and Al-Midaina in the north. Out of these seven districts, four districts— Shatt Al-Arab, Abu Khaseeb, Al-Fao and Basra city—have been adversely affected by the water salinity.

Water quality is comparatively better in the North, especially in Al-Qurna and Al-Midaina, however, these districts continue to be threatened as the contamination and water salinity advances towards the north and water shortages due to reduced river flows affects wheat and barley production.



Map 1: Map of Basra Governorate highlighting the impact of increased water salinity by district (source: OSM, NRC Iraq)

Key Findings

1. Increased water salinity and water shortages Basra have adversely affected the agricultural sector, which is a major employer in rural communities.

Agriculture as a source of income has been severely impacted as a result of the water crisis in Basra. The agricultural sector has been a major source of livelihoods for over 70% of the rural communities throughout the governorate and is the largest single source of rural employment.ⁱⁱ This has threatened the livelihoods of rural communities, turning many farmers from producers into consumers.

As Basra overall receives insufficient rainfall and crop production is irrigation based, communities mainly farm along the Tigris River and areas around the marshes, which supply the water for irrigation. In the south of Basra, communities mainly grow vegetables such as tomatoes, cucumber, okra, onions and eggplant, whilst in the north of Basra, communities mainly grow wheat, barley and vegetables. Most farmers grow their crops in open fields and a small percentage (>10%) own greenhouses or practice protected agriculture. During the winter, farmers usually cover their fields with plastic sheets to maintain optimum temperatures for crop growth.

Increasing water salinity has had a direct effect on agricultural livelihoods. The majority of agricultural districts in the south depend entirely on the Tigris River as the primary source of irrigation. An increased salinity of the water has resulted in accumulation of salts and dissolved solutes in the soil, leading to low crop yields, plant death and adverse long-term effects on the sustainability of farmlands for future use. Given the lack of alternate water sources, and Basra's low rainfall, most agricultural activities have ceased. In the absence of viable alternate livelihood opportunities, the region will likely see increased rural-urban migration patterns to cities and towns.

Prior to 2008, the Iraqi government supported farmers by providing agricultural inputs (including fertilizers, seeds, insecticides), and subsidized equipment and machines. A private company, known as the Al Fares Group, is currently the main source of agricultural inputs for farmers in Basra. However, they have not supplied any inputs during the last season as a result of increased water salinity. A small number of farmers in the north of Basra have preserved wheat and barley seeds to plant during the next season, as neither private companies nor the government will be able to supply the seeds next season.

2. The livestock sector has also been severely impacted by the water crisis, including salinity levels.

Communities across south and north Basra keep large and small ruminants, including cattle, buffalo and sheep. Poultry represents a less significant (about 20%) portion of the livelihood of the population. Water salinity has been identified to be a major challenge to livestock production and rearing. The brackish water is not fit for livestock consumption, and as a result, most of the cattle and buffalo perished. Before wheat production was impacted by water salinity, wheat residue was used as animal feed. Given the disruption of wheat production, access to animal feed is increasingly limited. Farmers have reported that the cost of hay has increased from 4,000 IQD to 10,000 IQD per 100kg bag in over the last two years.

Farmers told NRC that they lost most of their buffalo due to increased water salinity, and few livestock remain, mostly sheep. Keeping livestock has become a liability due to the associated costs of buying animal feed and clean water processed through reverse osmosis (RO), especially for farmers in South Basra without alternative water sources. As a result, farmers have resorted to selling their remaining livestock.

3. More Iraqis are expected to be displaced from southern Iraq in the coming years. Climate-induced displacement has resulted in unsustainable population growth of Basra city, contributing to the most recent public health crisis.

Due to the disruption of the agricultural sector, as a direct result of climate change, including lower river levels, increased water salinity and reduced rainfall, large numbers of farmers and seasonal workers are now without livelihood opportunities. This has triggered significant population movements from rural to urban areas in the region, as people seek alternative livelihood opportunities. The majority of these people lack appropriate skills to secure formal employment. Women are further adversely affected in securing alternate livelihood options, as they are not permitted to work in the market, due to cultural constraints

Basra City's population has increased significantly, and the city's water and sanitation infrastructure has proven ill equipped to handle such a rapid population growth. This has resulted in thousands of residents being hospitalised after ingesting contaminated water.

4. A lack of financial resources and limited technical support to farmers continues to curtail agricultural yields, even in areas with adequate water supplies.

In areas with alternate sources of irrigation, such as artesian or shallow wells, or where the water quality has not yet degraded to unusable levels, farmers operate at a reduced scale. This is partially due to a lack of financial resources to obtain seeds, tools, pesticides, fertilizers and greenhouses for vegetable production. Further, there is a lack of agronomic skills to sustainably increase crop production. During focus group discussions held by NRC, farmers interviewed noted that agriculture has been neglected by the government, and there is limited market promotion of locally grown goods. Current tax laws do not protect local produce against imported goods, and as a result, imported produce is about 10 – 15 % cheaper than local produce.

The government wheat price per ton has dropped to unsustainable levels, causing most farmers to stop wheat production. In the north of Basra, farmers said the government would previously buy their wheat at an agreed price of IQD (Iraqi Dinars) 750'000 per tonne. This has now reduced to 450, 000 IQD per tonne, and the majority of farmers has ceased products, as they are unable to generate a profit at this price point and they no longer receive government support.

For farmers in Abu Khaseeb and Al-Qurna, their priority is addressing the water salinity issue in order to restart farming and regain their source of income, as there are no alternative water sources in these regions. Farmers with access to alternative water sources have requested support for agricultural inputs including vegetable seeds, tools, fertilisers and pesticide. Priority equipment includes greenhouses, plastic materials to cover the fields during the winter cropping season, irrigation equipment, and machinery to plough farmlands. Further training in vegetable production is also needed for those farmers who have been forced to switch from wheat and barley production, to vegetable production, due to reduced water levels. According to the Ministry of Labour and Social Affairs (MoLSA), residents in affected districts who can no longer depend on agriculture as a source of income should be supported through skills development and business grants to engage in non-agricultural livelihoods.

Information Gaps

NRC's livelihoods and market assessment in Basra was conducted within a short time period to get a general overview of the impact of the water salinity on the livelihoods of the population at community level. However little to no information collected at household level to provide a details analysis of the problem. A more comprehensive livelihood assessment in the near future is recommended to collect more information on the impact of the water salinity at household level. Also, an independent labour market assessment needs to ensure vocational training opportunities match opportunities in the labour market.

Conclusions and Recommendations

While the public health impact as a result of Basra's water crisis continues has received considerable media and international attention, the impact of water scarcity and salinity levels in Iraq on the livelihoods on Basra's residents have been overlooked. The population of Basra governorate depends greatly on agriculture and is the main source of income for rural communities. The current water salinity and limited support by the government has strongly disrupted the livelihood of the farmers. This has resulted in a major income sources, high sale of livestock due to the high cost of water and animal feed, incapacity to access the necessary inputs, high unemployment rates, informal re-zonal of agricultural land into residential.

The Government of Iraq

- Ensure that considerations about the impact of climate-induced displacement and disaster risk reduction are integrated into post-IS group recovery and reconstruction plans across the country. Water scarcity is quickly emerging as one of Iraq's most significant challenges to ensuring stability and security in the country. Without coordinated efforts to address this, the impact of Iraq's water insecurity risks being overlooked.
- Distribute reverse osmosis units in areas without alternative water sources.

- Ensure that tax policies for imported agricultural products do not disadvantage local agricultural production and markets.
- Conduct awareness campaigns to preserve and ration the use of water. This should not be limited to affected areas in Basra or other southern governorates, but should start at the north upstream governorates where the water is irrationally used, due to lack of public awareness and neglect.

Donor governments

- Provide support and facilitate regional dialogues that work towards developing a framework that supports a more equitable sharing and distribution of water resources between countries in the region. Iraq is largely reliant on water that flows downstream from neighbouring countries, making it more vulnerable to the impact of instability in the region in regard to water supply.
- Support long term efforts by the Iraqi government to improve water infrastructure by providing technical and financial support to Iraqi line ministries.
- Scale up funding to livelihoods programming in southern Iraq to enhance affected communities' access to alternative income generating opportunities for those who no longer have agriculture as a viable source of livelihoods.

Non-governmental organizations, UN agencies and wider international community

- Provide business development training and business activation grants or business support grants to those who already started business in districts such as Abu Khaseeb, Shatt Al-Arab, Al-Fao and Basra where agricultural livelihoods has been halted due to lack of alternative water sources. Affected farmers in these areas expressed interest in engaging in non-agricultural livelihoods such as businesses of their choice since agriculture is no longer viable.
- In districts with alternative water sources, such as Al-Zubair in the south, or areas with relatively better water quality, such as Al-Qurna and Al-Midaina in the north of Basra, but where farmers are constrained by financial resources, provide agricultural inputs such as seeds, tools, fertilizers, pesticides and greenhouse with drip irrigation kit for vegetable production. Due to the existing lack of skills among many farmers, agricultural extension services to the farmers should be provided alongside the agricultural inputs support.
- Provide vocational skills training for women, men and youth, informed by labour market assessment. This can occur through the Vocational Training Centre in Basra in coordination with the Ministry of Labour and Social Affairs. This should be paired with job placement opportunities allow the private sector to play an important role in the economic integration of affected groups into the formal labour force.
- Ensure that construction work conducted through the WASH sector is done through Cash for Work (CfW) programs in order to create short term employment and access to income for the youth and adults without formal livelihoods options.

For more information contact:

Wolfgang Gressmann, Country Director, wolfgang.gressmann@nrc.no, +964-7511096724

Alexandra Saieh, Advocacy Manager, alexandra.saieh@nrc.no, +964-7517407636

ENDNOTES

ⁱ True, Bel, ["Iraq's disappearing Eden: Water shortages could force four million people to flee their homes."](#) *The Independent*, 8 October 2018.

ⁱⁱ Goran, Baxtiyar, ["Human Rights Commission: 111,000 people poisoned due to water pollution in Basra."](#) *Kurdistan24*, 14 October, 2018.