

IN SEARCH OF ECONOMIC OPPORTUNITIES FOR AGRIBUSINESSES IN IRAQ

AGRICULTURAL VALUE CHAIN ANALYSIS
FOR THE SOUTH OF IRAQ (BASRA, MISSAN,
THI-QAR AND MUTHANNA)



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SUMMARY

This report provides the main findings of a study entitled “Identification of Economic Opportunities for Agribusinesses based on Value Chain Analysis”, focusing on Basra, Missan, Thi-Qar and Muthanna in the South of Iraq. It is part of a broader value chain analysis study carried out by IOM in seven governorates in Iraq.

This report provides an in-depth analysis of four agricultural value chains that were found to be among the most promising business opportunities in south Iraq. The aim of this study was to understand economic opportunities and gaps in the local economy through value chain analysis. The four value chains analysed are:

- Dates
- Fish
- Poultry (eggs)
- Tomato

For each value chain, the focus of the data collection was on two governorates, depending on where this subsector has the highest potential or is already best developed with room for further expansion:

- Dates: Basra/Thi-Qar
- Fish: Missan/Basra
- Poultry: Thi-Qar/Muthanna
- Tomato: Thi-Qar/Muthanna

THE CONTEXT: MAJOR CHARACTERISTICS OF THE ECONOMY

For each governorate, a context analysis was carried out, including the main sectors of the economy:

- The economy of **Basra** is based on different sectors, including agriculture, trade, oil, construction and manufacturing. In addition, there are a few smaller economic sectors, including fisheries, livestock and poultry.
- The major economic sectors in **Missan** include oil, agriculture, fisheries, livestock, poultry, trade and construction. Domestic tourism is also important because of the marshes.

- **Thi-Qar** has remained relatively rural compared to other areas of Iraq. The governorate also hosts a small number of oil refineries. Agriculture, livestock, poultry and fish represent the major economic sectors in rural areas with trade and manufacturing central to Nasiriya City.
- The economy of **Muthanna** is less developed compared to neighbouring governorates but holds great potential for trade because of its strategic location on the Saudi border. Muthanna also has raw materials (mainly used in the cement industry) and abundant groundwater suitable for agriculture. There is also an oil refinery.

TRANSVERSAL MARKET ISSUES

During the research, the following major issues were found in relation to the functioning of the markets in the four governorates in south Iraq.

1. Competition from imported products, which are being offered at very low prices in the market, making it very hard to compete for local farmers.
2. Lack of government support to farmers, making it even more difficult for local farmers to compete with imported products.
3. Lack of access to finance for farmers because of bureaucratic impediments, as well as high interest and short repayment periods.
4. Lack of hygiene and sanitation in the marketplace – especially relevant for meat and fish products - and a lack of street paving in the marketplaces.
5. Logistical challenges because of the many religious events as well as curfews imposed to curb the spread of the coronavirus disease 2019 (COVID-19), which has restricted the movement of products.

MARKET SUPPLY AND DEMAND OF AGRICULTURAL GOODS

As an input for the selection of the most promising value chains, a supply-demand analysis was carried out to find out which goods and services are most in demand, and which opportunities exist for new goods and services to enter the market:

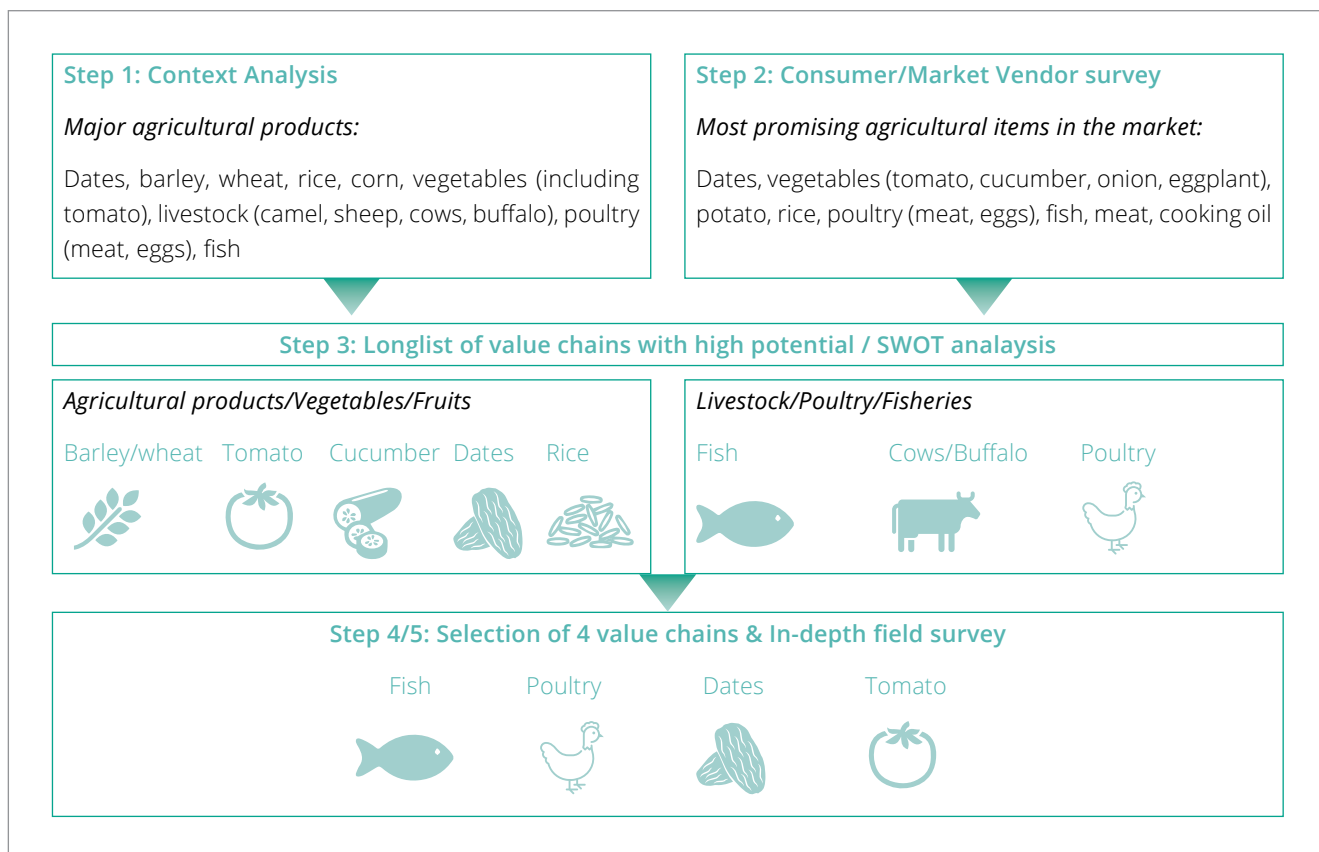
- In **Basra**, potatoes, tomatoes, onions, dates, fruits as well as fish and meat appear to be the most promising agricultural items according to both consumers and vendors. Goods that could be produced locally at lower prices include tomatoes, onions, oranges, rice and dates. In addition, fish, meat, cucumber and oranges appear to be among the most profitable for vendors.
- In **Missan**, cucumbers, potatoes, tomatoes and fruits were among the most obtained goods and most popular items sold by vendors. Fruits, vegetables in general and tomatoes in particular, could be also produced locally. Oranges, vegetables and eggplants are profitable for vendors.
- In **Thi-Qar**, among the most obtained goods and most popular items sold by vendors, tomatoes, potatoes, eggplants, rice and cooking oil can be found. In addition,

except for tomatoes, these could be produced locally at cheaper price, according to consumers. Tomatoes, potatoes, rice and cooking oil are considered very profitable by vendors.

- In **Muthanna**, fish, potatoes, tomatoes, eggplants, onions, cucumber, meat, chicken and fruits in general are among the most obtained goods and most popular items sold by vendors. Among these, tomatoes, potatoes, meat and fruits (oranges, lemon and watermelon) could be also produced locally at a cheaper price, consumers believe. Tomatoes, fish, chicken, meat and apples appear to be very profitable for vendors too. In addition, fish farming also appeared as an important business opportunity, according to vendors.

MOST PROMISING VALUE CHAINS

The selection of the most promising value chains was based on the findings of the consumer and market vendor survey, as well as on the context analysis and general insights of the value chain experts and IOM staff in south Iraq. The flow chart below shows which phase in the process led to the selection of each value chain.



CONCLUSIONS ON DATES VALUE CHAIN

In the south, Basra is considered the main date production site, both in terms of quality and quantity. Dates are produced on both small and large palm date farms. Some farmers only have a small number of trees, which only supplement other income generation activities.

Processing of dates used to be a very important economic activity all over Iraq especially in Basra. At present, most farmers sell their dates without any form of processing. A small number of farmers and wholesalers process the dates by adding date syrup and nuts, which they sell directly to consumers on special order. There are very few date processing factories in the south of Iraq, but there is a small industry for packaging dates. Dates are usually processed in so-called pressing factories, in which the dates are pitted, pressed and packaged. The work is mostly done by women.

Farmers are also generally willing to invest with anyone to develop and expand the farm. They are currently not aware of any downstream investment plans. There is a high level of trust between wholesalers and farmers as well as with customers. Wholesalers are motivated by the future prospect of the dates value chain.

According to farmers, the support provided by the government or other organizations for date cultivation is limited. Nevertheless, farmers need to develop their skills in modern agricultural techniques.

The following opportunities and challenges were found in the dates value chain:

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> Increasing local date production holds vast potential due to the suitable climatic conditions in the south. High prices and profit margins are possible for special varieties of dates. Limiting the import of dates and reducing the production costs would make Iraqi dates more competitive. Investing in the dates value chain, particularly in date pressing factories, has great job potential, including for women. Opportunities for export of high-quality dates for niche markets, such as Fairtrade or ecologically certified dates, as well as processed dates. Potential to introduce new date products offered in the market, in adding other products and in changing the packaging. 	<ul style="list-style-type: none"> Lack of support from the Iraqi government to farmers, especially in providing pesticides. High waste of dates during production, which can be solved by training farmers in good agricultural practices, in improved storage, packing and transportation. Presence of imported dates has created unequal competition because of the lower prices of the imported varieties. Lack of financial liquidity prevents the processing companies from introducing new and innovative date products to the market. Lack of industrial land to establish date processing factories.

CONCLUSIONS ON FISH VALUE CHAIN

In Missan, which is the main fishing area in south Iraq, there are two types of fisheries: 1) wild fish from the marshes and 2) cultivated fish in cages. Total production in Missan is 10,000 tonnes per year. Fishermen can catch more fish when the water level rises. There is also production in fishponds, but this is relatively small. In Basra, only sea fish is produced. The profession is passed on from generation to generation.

Fishermen are generally willing to invest with others to develop and expand their business. They are currently not aware of any downstream investment plans. Wholesalers believe that the business prospects are very good, and they are also prepared to work with other actors in the chain. With regards to government support, there is a lack of financial resources to develop support programmes for farmers, livestock owners and fishermen.

The following opportunities and challenges were found in the fish value chain:

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> • High consumer demand for fish, making it a profitable business. • Fisheries provide a good source of employment for both men and women. • Local production of small fish is a promising opportunity for investment in the value chain, as the small fish are currently being bought from Basra at relatively high prices. • Potential for investment in the local production of boats and fishnets. 	<ul style="list-style-type: none"> • Shortage of water represents a major challenge for fisheries in the marshes. • Lack of sufficient permissions for fishermen because of the shortage in water sources. • Presence of diseases for fisheries in cages. • Lack of access to finance. • Very strong competition with imported fish from Iran. • No vocational training provided by any organization in the field of fisheries.

CONCLUSIONS ON POULTRY (EGGS) VALUE CHAIN

In our research on the poultry value chain, the focus was on egg production, because it is considered as having the greatest potential in terms of job creation in the southern region.

Throughout the southern region, the outlook for poultry farming is mixed. It has become less important in Basra and Missan lately, due to a lack of investors and of support from the Agricultural Bank. On the other hand, poultry farming increased considerably in Thi-Qar, which is reflected in an increase in the quantity of locally produced eggs.

With regards to the inputs of poultry production, the demand for chicken feed is exceeding supply. Especially for corn and vegetable oil, there is potential for an increased local production. Also, vaccines and medicines could be produced locally.

The production of eggs takes place throughout the year with manual harvesting. Producers clean the eggs and stamp them with an expiration date. The eggs are then packed. Only one farm in Thi-Qar is using an automated packaging of eggs. Some farmers use battery hens/cages (imported from Turkey) producing much more than the traditional hens. It was found that there is high potential in increasing egg production due to the very high and stable local demand. At

present, all eggs are sold to local consumers, but the potential to export to other governorates or selling abroad is high.

Information flows are generally very good, but producers would like to have more detailed information about consumer preferences to adapt the specifications as needed. Egg producers have a mixed willingness to work with other actors in the chain: some are willing to collaborate, but at least one producer was reticent about sharing information because he is the only egg producer in the governorate, and for that reason he is not eager to cooperate with other chain members.

Producers expressed a need for training in the field of poultry management. The Agriculture Department is providing training in the field of poultry, but this is not known to all actors in the value chain so could be improved. In both Muthanna and Thi-Qar, the government supports investors in establishing poultry projects by providing financial resources and soft loans. The government also supports farmers with seeds and chemical fertilizer provision. An integrated poultry project is being currently developed in Muthanna, which is expected to employ about 4,500 workers during the construction phase and around 1,000 permanent workers during implementation.

The following opportunities and challenges were found in the tomato value chain:

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> • High demand for eggs as well as chicken meat by local consumers. • Poultry farming is potentially very profitable if production costs are reduced and disease prevention is in place. • High potential for job creation, also for women. • The recent banning of the import of eggs offers opportunities for expanding local egg production. • Good opportunity for investments in local production of chicken feed and the setting up of chicken farms for egg production. • Training programmes offered to poultry farmers by the Agriculture Department. • Veterinary laboratory set up in Muthanna to facilitate the detection of bird flu H5N1, to be replicated in other governorates. 	<ul style="list-style-type: none"> • High investment cost for starting a poultry farm and lack of access to finance. • High cost of inputs for egg production. • Volatile exchange rates leading to varying cost levels of imported inputs. • Lack of technical skills to start a poultry farm. • Lack of government support in terms of materials for building poultry facilities. • Granting of a license for starting a poultry farm is a complicated process. • Avian flu is a common threat for chicken, which requires specialized veterinary skills.

CONCLUSIONS ON TOMATO VALUE CHAIN

The consumer survey carried out in the south found that tomato is highly in demand, often figuring among the most or second most demanded agricultural products. Tomato is also often mentioned as an imported product, which could be produced locally at a cheaper price.

Tomato production is important in all four southern governorates. Basra is considered one of the agriculturally most important governorates of Iraq. The surplus of tomatoes from Basra is also sold to other governorates. Tomatoes are normally produced during a period of six months. Production mainly takes place during summer in open fields; during winter tomato is sometimes planted in greenhouses. Farmers intercrop different crops with tomato, including cucumber, okra and melon. After harvesting the tomatoes, farmers sell them to grocery wholesalers, who collect the tomatoes (and other vegetables) by car. The crop is bought at a very low price due to the imported tomatoes. There is currently no export of tomatoes because the product does not meet the export market requirements.

The most popular processed product made of tomatoes is tomato paste, which is used in a wide variety of dishes in Iraq. Ketchup and tomato-based sauces are also popular. However, at present there is no processing capacity in the south with potential opportunities for setting up tomato paste and tomato ketchup factories.

Information flows are generally very good, but producers would like to have more information about prices and opportunities for financial support. Although the relationships between tomato producers and wholesalers are good, a common problem are the delays in payments by their buyers, which are usually solved in a friendly manner. Some traders help farmers before the start of the season in the preparatory period by advancing money so farmers can buy the relevant inputs needed in the agricultural season.

Farmers and traders alike are willing to invest in the future based on a continuing relationship with other farmers and buyers in the chain.

The government provides significant support to tomato producers, including loans provided by the Agricultural Bank for purchasing agricultural machinery and for investments in production improvement, as well as extension seminars in modern agricultural techniques to develop farmers' skills. However, financial resources are lacking, which limits the number of farmers that can be reached. Farmers need professional training in the use of modern irrigation techniques in tomato farms, improved use of seeds and fertilizers with high productivity and improved harvesting methods. The government cooperates with international agencies including the Food and Agriculture Organization of the United Nations and the International Organization for Migration (IOM) in agricultural programmes and projects for value chain development of palm, tomato, fish and dairy products.

The following opportunities and challenges were found in the poultry (meat) value chain:

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> Local farmers could become more competitive if imports of tomatoes from neighbouring countries would be restricted. There is potential for more training of farmers and traders on how to set up greenhouses, on the use of modern irrigation techniques in tomato farming, on improved use of seeds and fertilizers with high productivity and improved harvesting methods. Opportunity to build a tomato paste processing capacity. To be successful, it would be necessary to lower the cost of production, for instance through increased government support. 	<ul style="list-style-type: none"> Water scarcity and high temperatures are two of the main challenges in tomato production in the south. The abundance of local production, which results in high competition. Related to the above is the problem of imports, especially during harvest time, making tomato production less profitable. Disruptions in electricity supplies from the grid, so diesel-based generators are needed. Lack of processing factories such as canning plants and tomato paste factories.

POTENTIAL FOR INVESTMENT AND JOB CREATION

As an overall conclusion, the assessment found that all four value chains are promising sectors for local economic development and decent job creation. To stimulate local businesses, the dates value chain looks the most promising in terms of job creation. Investing in date pressing factories will generate the highest number of jobs, although the initial

investment is quite high. For fish, poultry and tomato value chains, the initial investments needed are significantly lower (except for the investment in tomato paste factories, which is by far the most capital-intensive investment). In the table below, the opportunities for cash investment and job creation of the four value chains are summarized.

Estimated investment and job creation per value chain in the south region:

VALUE CHAIN/BUSINESS OPPORTUNITY	ESTIMATED INVESTMENT COST FOR THE FIRST YEAR PER BUSINESS	ESTIMATED JOB CREATION PER BUSINESS	ESTIMATED TOTAL JOB CREATION
Dates - Establishing date pressing factory	USD 92,500	30 jobs	60 new businesses x 30 = 1800 jobs
Dates - Establishing date syrup factory	USD 386,400	25 jobs	4 new businesses x 25 = 100 jobs
Fish - Establishing small fish breeding project	USD 33,000	5 jobs	20 new businesses x 5 = 100 jobs
Poultry (eggs) - local production of chicken feed	No initial investment needed	No extra jobs created; cost reduction of 50% in cost of chicken feed	No extra jobs created
Poultry (eggs/meat) - improved poultry farms	USD 29,200	2 jobs	25 new businesses x 2 = 50 jobs
Tomato - Establishment of tomato paste factory	USD 1,005,600	25 jobs	2 new businesses x 25 = 50 jobs
Tomato - Establishment of tomato ketchup factory	USD 35,000	5 jobs	6 new businesses x 5 = 30 jobs

The estimated social return on investment in terms of the investment in United States dollars (USD) per job created for each value chain is summarized in the table below. The investment needed per job created ranges between USD 3,000 and USD 40,000. It appears that date pressing

factories offer the best social return on investment, followed by small fish breeding projects and tomato ketchup factories. Investing in tomato paste factories is relatively capital-intensive, also per job created.

Estimated social return on investment in terms of the investment in dollars per job created for each value chain in the south region:

VALUE CHAIN/BUSINESS OPPORTUNITY	ESTIMATED INVESTMENT IN DOLLARS PER JOB CREATED
Dates - Establishing date pressing factory	USD 3,083
Fish - Establishing small fish breeding project	USD 6,600
Tomato - Establishment of tomato ketchup factory	USD 7,000
Poultry (eggs/meat) - improved poultry farms	USD 14,600
Dates - Establishing date syrup factory	USD 15,456
Tomato - Establishment of tomato paste factory	USD 40,224
Poultry (eggs) - local production of chicken feed	N/A

1. INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

IOM is a major actor in post-conflict recovery and reconstruction, and as such is heavily involved in livelihood development and job creation programmes. In Iraq, IOM's strengths lie in its field presence around the country and operational capacity to rebuild community infrastructure, conduct vocational and other trainings, provide grant funding at local levels to support business development, and a variety of other areas key to recovery. Lack of economic opportunity, even more than ideology, is cited as a major push factor leading to recruitment of youth by violent extremist groups. In 2020, IOM has adapted its existing private sector development programming to support small and medium enterprises (SMEs) at various stages along different agricultural value chains.

This report provides the main findings of a study entitled "Identification of Economic Opportunities for Agribusinesses based on Value Chain Analysis", focusing on Basra, Missan, Thi-Qar and Muthanna in south Iraq. It is part of a broader value chain analysis study carried out by IOM in seven governorates in Iraq.¹

The aim of the study was to understand economic opportunities and gaps in the local economy through value chain analysis. More specifically, the purpose was to:

- Identify key promising sectors for the local economic development and decent job creation;
- Identify existing gaps to jump start the revitalization of the sector development;
- Provide recommendations for IOM interventions to promote local economic development in conjunction with job creation for people who are in socioeconomically vulnerable situations.

As the main deliverable of the study, three final reports (one for each region) were produced, each analysing four different value chains.

The expected outcomes of the value chain assessment are:

1. Defining which areas of the value chains lack private/public investment, do not exist at all, or most urgently

need cash injections to complete the chain and/or become competitive;

2. Defining which areas of the value chains have the best social return on investment in terms of the number of jobs created per dollar invested.

1.2 METHODOLOGY

The methodology adopted builds on the general concepts of value chain analysis. This means that the value chain is considered as a system, because its performance is a function of the interactions among its parts and needs to consider all activities along the chain of production. This involves collective decisions among chain members to work together to grow, process and deliver products that meet the expectations of specific consumers. In this way, the best outcome for all participants can be reached. Particular attention is therefore paid to the effective flow and use of information along the chain, which usually depends on the extent of trust and commitment between trading partners.

A systematic data collection process has been followed, consisting of the following steps:

1. Context analysis

In this step, a brief context analysis was produced for each governorate, based on a combination of literature review and in-depth knowledge of the local IOM teams. The analysis includes basic information about the governorate's geography, climatic conditions, population, poverty, employment/unemployment, displacement and return trends, and major economic sectors. An important goal of this context analysis is to obtain a first glimpse of the most important agricultural subsectors and products produced in each governorate.

2. Consumer/market survey

As a basis for the selection of the most promising value chains, a selected number of interviews has been carried out with consumers and market vendors, to find out which goods and services are most in demand, and which opportunities exist for new goods and services to enter the market. Two semi-structured questionnaires were used, one for

¹ This includes the following regions/governorates:

- Northeast/Centre of Iraq with a focus on Diyala and Salah al-Din;
- South of Iraq with a focus on Basra, Missan, Thi-Qar and Muthanna;
- Northwest of Iraq with a focus on Ninewa.

consumers (Tool 1) and one for market vendors (Tool 2).² The sample size was as follows:

- Consumer survey: 25 interviews per governorate;
- Market vendor survey: 15 interviews per governorate.

The tools have been adapted from a value chain analysis study carried out for IOM in 2020 in three governorates in the centre-south of Iraq, including Kerbala, Al Najaf and Al Qadissiya.³ These tools have been inspired by the manual developed by Transition International on socioeconomic profiling and opportunity mapping.⁴

3. SWOT analysis/Value chain selection

The value chain selection was based on the previous steps in the research process, the context analysis and the consumer/market survey. First, several potential value chains that seem to have good potential were preselected, with a maximum of 10 value chains. Next, a SWOT analysis was carried out for each of these value chains. Based on a comparison of the SWOT analyses for each potential value chain, a final selection has been made of four value chains per region.

4. In-depth value chain data collection

As the next step in the research, more in-depth data collection was done through semi-structured interviews and Key Informant Interviews with four distinct groups of actors along the value chain: farmers (Tool 3), wholesalers and retailers (Tool 4), industry experts (Tool 5) and local authorities (Tool 6). For the farmers and wholesalers/retailers, semi-structured interviews were used, while for industry experts and local authorities, Key Informant Interviews were used.⁵

Respondents were selected using the purposive sampling technique (i.e. selecting those known to have the information needed). The interviews focused on the efficiency and effectiveness of product flows, communication and information flows, chain relationships and governance.

The goal of this step in the data collection process was to investigate the efficiency and effectiveness of product flows, communication and information flows, and relationships (governance) through which value is created and diminished in the value-chain production and marketing processes. In this way, it was possible to examine the importance of the factors that lead to a chain's success.

By combining the data collected in all four steps (context analysis, consumer/market survey, SWOT analysis and in-depth value chain data collection), a value chain map was drawn to show the multiple ways a particular product gets to the consumer, from raw materials inputs (such as seed, fertilizer, chemicals) to the point of consumption.

5. Data analysis

As a next step, data analysis was carried out to draw meaning from the data. In a general sense this was done by asking the question, 'What enables and constrains the chain's efficiency and effectiveness?' During the analysis, the answers to the questions in the questionnaires and key informant interviews formed the building blocks for improving the chain's performance. As part of this process, for each region, a data analysis workshop was held to analyse the data collected and to draw a preliminary value chain map.

6. Reporting

As a final step, a final synthesis report for each region has been produced by the two lead researchers. The results are subsequently presented during a workshop for each region.

1.3 CHALLENGES TO THE RESEARCH AND RESPONSES PROVIDED

The main challenge during the research was related to the COVID-19 pandemic, which affected data collection, in particular:

- Due to the international travel restrictions, it was not possible for the two value-chain researchers to provide the training for IOM staff in person. Nor was it possible to provide on-the-job guidance during the data collection phase. Instead, a three-day training was provided online for all IOM staff involved in the data collection. This worked out well and was almost as effective, although it was challenging to get the same level of commitment of staff compared to a live training.
- For the same reason, it was impossible to carry out any pilot interviews under the guidance of the two value chain researchers. This led to some misunderstandings and errors in the first round of interviews, which required

² See Part 1, Annex B for the questionnaires.

³ Dorp M. van and A. Abass (2020), Economic Opportunities for Youth Based on Value Chain Analysis in Centre-South Iraq. IOM Iraq.

⁴ Transition International, 2008, Socioeconomic profiling and opportunity mapping manual. Available from: www.transitioninternational.com/ti/wp-content/uploads/2018/12/SOCIO-ECONOMIC-PROFILING-AND-OPPORTUNITY-MAPPING-MANUAL-2.pdf.

⁵ The tools used during this phase can be found in Part 1, Annex B. The tools have been inspired by guide to value-chain analysis and development for Overseas Development Assistance projects (Collins R.C., Dent B. and Bonney L.B., 2015).

additional data collection leading to some delays in the process.

- Throughout the process, several other meetings with the IOM teams were done through online video calls, which went relatively smoothly, although some staff had connection problems.

Finally, it is important to note that the study has been conducted in due consideration of the socioeconomic and political sensitivities in the target areas as determined in the IOM risk analysis/conflict analysis. Fortunately, throughout data collection, no major incidents or violent conflict took place, so the IOM data collectors were able to carry out their work without major disruptions (apart from the general restrictions related to COVID-19, such as lockdowns and curfews).



2. CONTEXT ANALYSIS AND MAJOR ECONOMIC SECTORS

In this section, a context analysis is provided of the four governorates included in this report. This part consists of four sub-sections, including basic information about 1) geography and climatic conditions, 2) population, poverty and employment, 3) displacement and return trends, and 4) major economic sectors.

2.1 BASRA

2.1.1 Geography and climatic conditions

Basra, the only governorate with access to the sea, lies in the south of Iraq and shares borders with Iran, Kuwait and Saudi Arabia. A vast desert plain extends over the most southern parts of Basra, which is intersected by the Shatt Al-Arab waterway. The latter is formed by the confluence of the Tigris and Euphrates Rivers at Al-Qurna. Several lakes are also present around Al-Qurna and Al-Madaina. The marshlands, found in the northern parts of Basra, stretch into the neighbouring governorates of Thi-Qar and Missan. While the marshes have been re-hydrated over time, below-average precipitations and upstream water management projects led to major setbacks and have led to a plateauing of the marsh vegetation growth over time.⁶

Like the surrounding regions, the governorate of Basra has a hot and arid climate. Often exceeding 50°C, summer temperatures are among the highest in the world. Due to the proximity to the Arabian Gulf, humidity and rainfall are relatively high in Basra. The governorate receives an average amount of 152 mm of rainfall a year between the months of October and May.⁷



Figure 1: Map of Basra governorate

The governorate of Basra is subdivided into seven districts: Basra, Abu Al-Khaseeb, Al-Midaina, Al-Qurna, Al-Zubair, Fao, and Shatt Al-Arab. The City of Basra, one of the most populous urban centres of Iraq, is also the administrative centre of the governorate.

2.1.2 Population, poverty and employment data

POPULATION

Basra has a population of over 3 million, mostly residing in urban areas, according to the latest statistics available.⁸ Unlike the other southern governorates, Basra experienced significant improvements in welfare between 2007 and 2012.⁹ As of 2014, the poverty rate was estimated at about 15 per cent; therefore below the national average of 19 per cent.¹⁰ Um Qasr, which is also the location of Um Qasr port, as of 2014 had poverty rates as low as five per cent.¹¹ However, the relative prosperity of Basra was not reflected in

6 REACH, Land Cover Change and Livelihoods in the Mesopotamian Marshes, September 2020, WASH Cluster. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/REACH_IRO_Factsheet_Land_Cover_Change_Analysis_Mesopotamian_Marshes.pdf.

7 NCCI, Basra Governorate Profile, 2015.

8 CSO, Ministry of Planning, 2020.

9 Tara Vishwanath et al., Where Are Iraq's Poor: Mapping Poverty in Iraq, 2014. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/22351/Where0are0Iraq0ping0poverty0in0Iraq.pdf?sequence=1>.

10 Ibid.

11 Ibid.

less than proportionate share of the poor; Basra was home to 5.3 per cent of the poor and 7.6 per cent of Iraqis.¹²

Table 1: Basra population data disaggregated by gender and location (CSO, 2020)

TOTAL POPULATION	FEMALE	MALE	RURAL			URBAN		
			Total	Female	Male	Total	Female	Male
3,063,059	1,524,286	1,538,773	575,401	288,228	287,137	2,487,658	1,236,058	1,251,600

Basra belongs to the three southernmost governorates of Iraq, which share an emerging problem of environmental degradation coupled with governance issues that hamper people's immediate and long-term socioeconomic prospects, a recent study determined.¹³ Unemployment was recorded at 12 per cent in 2019, according to the CSO, slightly higher

among women in comparison to men (see Table 2).¹⁴ Looking into economic activity, a major difference could be found among men and women: based on data from 2014, 74 per cent of men were economically active compared to only 10 per cent of women.¹⁵

Table 2: Unemployment data disaggregated by gender and location in Basra (CSO, 2019)

TOTAL % OF UNEMPLOYMENT	FEMALE	MALE	RURAL			URBAN		
			Total	Female	Male	Total	Female	Male
12.2	14.5	12.0	8.1	12.7	7.3	11.5	24.8	8.9

2.1.3 Displacement and return trends

The outbreak of the conflict in 2014 brought an influx of almost 11,000 people to Basra, mainly from Salah al-Din, Ninewa and Anbar.¹⁶ Most settled in Basra District, which continued to attract internally displaced persons (IDPs) due to the availability of basic services. Only a small number reside in critical shelters nowadays.¹⁷ There are no camps in Basra, mainly due to scorching heat during the summer months. As of August 2020, 1,052 households remain displaced in Basra (or 6,312 individuals), whereas the number of IDPs recorded by the Ministry of Displacement and Migration (MoDM) are lower, 3,536 in total.¹⁸

Table 3: Displacement in Basra, IOM DTM, July-August 2020

DISTRICT	NUMBER OF HOUSEHOLDS	NUMBER OF INDIVIDUALS
Abu Al-Khaseeb	198	1,188
Al-Midaina	36	216
Al-Qurna	46	276
Al-Zubair	219	1,314
Basra	469	2,814
Fao	10	60
Shatt Al-Arab	74	444

Displacement is also caused by water shortages. An analysis of the governorates of origin showed that 208 families were displaced from Basra (as well as more than 5,000 from the other southern governorates) in early 2019 with 11 locations suffering from water scarcity (mostly in rural areas).¹⁹ Data also show that Basra (along Iraq's southern governorates)

¹² Ibid.

¹³ NRC, When Canals Run Dry, 2019. Available from: https://www.nrc.no/globalassets/pdf/reports/when-canals-run-dry--displacement-triggered-by-water-stress-in-iraq/when-canals-run-dry_displacement-triggered-by-water-stress-in-iraq.pdf.

¹⁴ CSO, Ministry of Planning, 2019.

¹⁵ UNDP, Human Development Report, 2014.

¹⁶ IOM, DTM Report Round 117, July August 2020.

¹⁷ Ibid.

¹⁸ MoDM, IDP data, 2020.

¹⁹ IOM, Assessing Water-Shortages Induced Displacement in Muthanna, Missan, Thi-Qar and Basra, 2019. Available from: <https://iraq.iom.int/publications/assessing-water-shortage-induced-displacement-missan-muthanna-thi-qar-and-basra>.

has high severity of WASH needs, mainly due to reliance on small rivers as water sources, which are frequently contaminated and are vulnerable to shifts in the declining surface and ground water levels, which are susceptible to disease outbreaks.²⁰

2.1.4 Major economic sectors

The economy of Basra is based on different sectors, including agriculture, trade, oil, construction and manufacturing. In addition, there are a few smaller economic sectors, including fisheries, livestock and poultry.

OIL

Oil, a cornerstone of the Iraqi economy, is estimated at 115 billion barrels, which places the country fourth in the world in terms of oil reserves²¹ Basra has the largest oil wealth in Iraq, as statistics indicate that it hosts 15 fields out of the 77 known fields, including 10 fields still awaiting development.²² These fields contain 65 billion barrels of oil reserves, accounting for 59 per cent of the total Iraqi reserves.²³ Oil is the main contributor to the government budget (74 trillion Iraqi dinars -IQD- in comparison to the IQD 12 trillion of non-oil revenue), including taxes, fees and capital revenues, which point to the centrality of the oil sector in the government's budget, which in turn determines the expenditures,

government salaries and number of jobs, in addition to the volume of investments.²⁴ As a consequence, oil price fluctuations directly affect the general economic situation of the country.²⁵ The oil sector, however, employs only a negligible percentage of the workforce²⁶ In addition, some 10,000 to 15,000 employees were out of work due to plummeting oil prices caused by COVID-19, which is a staggering number considering that the sector is estimated to employ around 80,000 only.²⁷

AGRICULTURE

Basra is considered one of most important governorates of Iraq for agriculture, favoured by different water sources, including surface water in the Qurna, Hwaza, and Qarma marshes in addition to underground water. The different soil types present in the different areas of Basra contributed to the crop variety present in the governorate.

Date palm cultivation is spread throughout the governorate with higher concentrations in the areas adjacent to the Shatt Al-Arab and other rivers. Tomatoes are cultivated in the regions of Al-Zubair and Safwan.²⁸ The surplus of tomatoes is also sold to other governorates. A variety of vegetables and fruits are also found in Basra. Strategic crops such as wheat and barley are found in the northern parts of the governorate in Medina, Qurna and Nashwa.

Table 4: Barley, wheat, and tomatoes in Basra, Directorate of Agriculture, 2020

CROP	YIELD KG/DONUM/HECTARE	ANNUAL PRODUCTION IN TONNES	CULTIVATION AREA IN DONUM/HECTARES
Wheat	481.2/120	63,411	60,315/15,033
Barley	-	1,593	478/120
Tomatoes	-	37,948	20,258/5,064

20 UN OCHA, Iraq Humanitarian Needs Overview 2020, 2019. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/iraq_hno_2020.pdf.

21 Shatha Khalil, Basra is Iraq's Oil Wealth, 26 May 2018, Rawabet Centre. Available from: <https://rawabetcenter.com/archives/6728>.

22 Ibid.

23 Ibid.

24 Basra Oil Company, date unknown.

25 Ibid.

26 UNDP.

27 Mohammed Aty, In Iraq's fields of black gold, thousands lose livelihoods, 5 June 2020, Reuters. Available from: <https://www.reuters.com/article/us-health-coronavirus-iraq-oil-idUSKBN23C1MQ>.

28 Ministry of Planning, CSO, 2020.

Table 5: Palm in Basra, Ministry of Planning, 2019

CROP	TOTAL PRODUCTION (10 TONNES)	AVERAGE YIELD PER PRODUCTIVE PALM IN KG	PRODUCTIVE PALMS (000 PALM)	NO. OF FEMALE PALMS (000 PALM)
Palm	3,338	41.2	810	1203

The current dynamics in Iraq's rural livelihoods – poor infrastructure, cheaper imports, small-scale farming with little investment in the means of production – are aggravated by three interlinked stressors, one recent study suggested, including climate change, gaps in regional water governance, and unbridled demand.²⁹ According to a livelihoods assessment conducted in Basra in 2018, agriculture had been halted in Abu Khaseeb, Basra, Al-Fao and Shatt Al-Arab in the south of Basra, as farmers in these districts lacked alternative water sources for irrigation (whereas it remained limited in Al-Zubair).³⁰ The amount of land being used for agriculture was significantly reduced from 7000 acres to 2000 acres, the same report found.³¹

Table 6: Employment in agriculture disaggregated by gender, Ministry of Planning

NUMBER OF WORKERS IN THE AGRICULTURAL SECTOR	MALE WORKERS	FEMALE WORKERS
30,027	22,888	7,139

LIVESTOCK, POULTRY AND FISHERIES

Livestock breeding, including cows, buffalos, sheep and camels is practiced throughout Basra with large numbers recorded, especially camels, according to the latest statistics available (see Table 7).

Table 7: Livestock in Basra, Directorate of Agriculture, 2017

BUFFALOS	GOATS	SHEEP	COWS	CAMELS
75,293	11,133	71,636	68,322	62,296,047

Communities that rely on livestock, mainly water buffalos and goats and dairy products made from their milk, have also suffered as their environment changes. As the marshes dry up and water bodies drain, livestock deaths have been a recurrent economic loss in Basra due to lack of food, poor water quality, and diseases.³² Communities reported that they can no longer sustain feeding their herds due to the prohibitively high cost of animal feed and clean water processed through reverse osmosis plants.³³

Poultry farming has spread throughout the governorate lately. However, it appears that many poultry fields stopped operating (see Table 8). The reasons are unknown but likely related to the same factors affecting agriculture and livestock in Basra.

Table 8: Poultry, Basra Directorate of Agriculture, 2020

LICENSED POULTRY FIELDS	ONGOING POULTRY FIELDS	STOPPED POULTRY FIELDS	DAMAGED POULTRY FIELDS
32	12	18	2

Fishing is practiced in the Gulf, Shatt Al-Arab and in the marshes of Basra. Many fish farms appear to have stopped, according to the latest data available (Table 9). Fishing has been one of the livelihood activities most heavily affected by the degradation of the marshlands; fish populations have majorly decreased, especially economically valuable fish species due to the intrusion of saltwater, overfishing and invasive species.³⁴ Fishing still occurs on a small scale – at subsistence level – where the quantity and quality of haulage varies and cannot be relied upon as livelihood, a recent study suggested.³⁵

29 NRC, When Canals Run Dry.

30 Moi Peter Elia, Livelihoods and Market Assessment Basra, NRC, 2018. Available from: <https://reliefweb.int/sites/reliefweb.int/files/resources/Basra%20Livelihoods%20Technical%20Assessment%20FINAL.pdf>.

31 Ibid.

32 NRC, When Canals Run Dry.

33 Moi Peter Elia, Livelihoods and Market Assessment Basra.

34 REACH, 2020.

35 Ibid.

Table 9: Fisheries in Basra, Ministry of Planning, 2020

LICENSED FISH LAKES	UNLICENSED FISH LAKES	STOPPED	ONGOING	FLOATING CAGES
44	75	38	6	340

TRADE

Basra is characterized by its strategic commercial location connected through three main ports – Umm Qasr, Khor Al-Zubair and Abu Flus – to the Arabian Gulf in addition to several land outlets such as the Safwan commercial port on the border with Kuwait and the Shalamjah border crossing with Iran. Basra's exports mainly include wool, which constitutes more than half of its exports, animal skins, dates and a small percentage of seeds, while imports mainly include food, household appliances, construction materials and auto parts.³⁶ Import activity accounts for the largest share

of commercial companies' activity in Basra, especially from China, Iran and the United Arab Emirates. According to the CSO, there were over 130,000 firms for wholesale, retail and sale/repair of motor vehicles and parts in Basra in 2013.³⁷

MANUFACTURING

Many industries are present in Basra, including of fertilizers, petrochemicals, iron and steel, oil refining and other consumer goods, but these as a whole present a low production capacity, poor economic outcomes, lack the means for development, and often are detrimental to the environment, causing pollution.

As of 2016, 4,666 factories of various sizes, including large, small and medium, were present in Basra.³⁸ There are 58 large enterprises, of which 15 are state-owned and 43 privately-owned. Small and medium enterprises are mostly privately owned with 78 medium and 4,500 small enterprises recorded as of 2016.³⁹

Table 10: Statistics manufacturing sector in Basra, CSO, 2018

PRODUCT SUPPLIES VALUE IN THOUSAND IQD/USD	PRODUCT VALUE IN THOUSAND IQD/USD	WAGES & BENEFITS IQD/USD	NUMBER OF WORKERS	REGISTRATIONS
101,921,743/ 85,605,417	205,060,635/ 172,233,134	26,948,886/ 22,634,725	7,146	1,829

CONSTRUCTION

The construction sector is considered one of the most important in Basra due to the presence of ports, border crossings and an airport, in addition to its ancillary role in

the oil industry. All these factors led to the development of the construction sector in Basra and to an increase in internal and external investment. Construction employed 2,396 workers in 2018, mostly unskilled.⁴⁰

Table 11: Workers and wages in the construction sector, CSO, 2018

NO. OF UNSKILLED WORKERS	NO. OF SEMI-SKILLED WORKERS	NO. OF SKILLED WORKERS	TOTAL NO. OF WORKERS	TOTAL WAGES IN THOUSAND IQD/USD
2,089	49	258	2,396	26,298,890 /18,723,271

36 Interview with local government official, Basra.

37 Data obtained from Central Statistical Organisation (CSO), Ministry of Planning, 2013.

38 CSO, Ministry of Planning, 2016/17.

39 Ibid.

40 Data obtained from Central Statistical Organisation (CSO), Ministry of Planning, 2018.

2.2 MISSAN

2.2.1 Geography and climatic conditions

The governorate of Missan is in southeast Iraq on the border with Iran. Missan shares internal boundaries with the governorates of Basra, Thi-Qar and Wassit. The Tigris River runs through Missan and feeds the marshlands, including Al Hawaiza, Um Naaj, Odda, Al-Sihain, Al-Sadiaa, Al-Sinya, Al-Maymuna, Umm Al-Baqar, Al-Soda, Al-Qdhaim, Al-Taraba, Al-Maleeh, Abi Kalam, Al-Chaka'a, which once covered two thirds of the governorate.⁴¹ Missan, like other areas with marshes, experienced below-average precipitations and was affected by upstream water management projects leading to major setbacks and a plateauing of the marsh vegetation growth over time.⁴²

Missan hosts mostly Shia Muslims with some Sunni Muslim presence, in addition to Sabeans, a minority with 283 households currently present in the governorate. Missan is considered the ancient home of the Sabeans, where they also host Al-Thaha'b, a gold market, which provides employment to most of them.⁴³

Missan covers an area of 16,072 km², 3.7 per cent of Iraq's territory, with the marshlands covering 3000 km², which constitutes 20 per cent of the total area of the governorate.⁴⁴ Amara, located in the eponymous district, is the administrative centre of Missan. Other districts include Al-Majer Al-Kabeer, Al-Maimouna, Ali Al-Gharbi, Al-Kahala and Qalat Saleh.

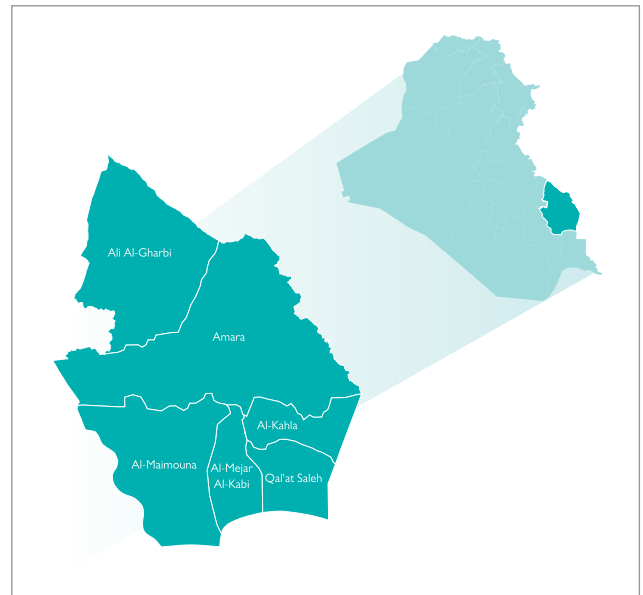


Figure 2: Map of Missan Governorate

Missan has a typical desert climate, with dry, hot summers and cooler winters. In summer high temperatures easily reach over 40°C. Rainfall is concentrated in the winter months and averages 177 mm yearly.⁴⁵

2.2.2 Population, poverty and employment data

Missan has a total population of 1,171,802 with 583,766 men (or 49.8% of the total population) and 588,036 women (or 50.1%).⁴⁶ Two thirds live in urban areas and one third in rural areas.⁴⁷

Missan belongs to the three southernmost governorates of Iraq, which share an emerging problem of environmental degradation coupled with governance issues that hamper people's immediate and long-term socioeconomic

41 NCCI, Missan Governorate Profile, 2015. Available from: https://www.ncciraq.org/images/infobygov/NCCI_Missan_Governorate_Profile.pdf

42 REACH, Land Cover Change and Livelihoods in the Mesopotamian Marshes,

September 2020, WASH Cluster. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/REACH_IRO_Factsheet_Land_Cover_Change_Analysis_Mesopotamian_Marshes.pdf.

43 Mandaean Affairs Council of Missan.

44 Data obtained from Central Statistical Organization (CSO), Ministry of Planning, October 2020.

45 NCCI, Missan.

46 CSO, Ministry of Planning, October 2020.

47 NCCI, Missan.

prospects.⁴⁸ Despite its oil reserves, Missan reached a 45 per cent poverty rate and was ranked third in Iraq after Muthanna and Thi-Qar, according to the latest estimates.⁴⁹ As of 2014, more than one third of the nahiyas reached a poverty rate above 60 per cent (and some even over 70%) with a similar governorate average as determined earlier.⁵⁰ In 2019, the unemployment rate was 20 per cent.⁵¹ In 2014, the unemployment rate was 15 per cent, with similar figures among both men and women.⁵² However, looking into economic activity, a major difference could be established between men (76%) and women (12%) based on data from 2014, with an average unemployment of 43 per cent.⁵³

2.2.3 Displacement and return trends

A total of 2200 individuals remain displaced in Missan (or 370 households), with about 11 per cent residing in critical shelters.⁵⁴ The majority arrived from Ninewa following the Islamic State of Iraq and the Levant (ISIL) occupation, with some originating from Kirkuk and Salah al-Din.⁵⁵ Most of the IDPs seeking refuge in Missan are either Shia Arabs or members of the Turkmen and Shabak minorities.⁵⁶

Table 12: Displacement in Missan, IOM, DTM Round 117, July-August 2020

DISTRICT	NUMBER OF HOUSEHOLDS	NUMBER OF INDIVIDUALS
Ali Al-Gharbi	12	72
Al-Kahla	6	36
Al-Maimouna	3	18
Al-Mejar Al-Kabir	28	168
Amara	302	1.812
Qal'at Saleh	19	114

48 NRC, When Canals Run Dry.

49 CSO, October 2020.

50 Tara Vishwanath et al., Where are Iraq's Poor: Mapping Poverty in Iraq.

51 Ibid.

52 UNDP.

53 Ibid.

54 IOM, DTM 117 Round, July-August 2020.

55 NCCI, Missan.

56 Ibid.

57 CSO, 2020.

58 Missan Oil Company 2020.

59 Ibid.

2.2.4 Major economic sectors

Several economic sectors are present in Missan, with the most important including oil, agriculture, fisheries, livestock, poultry, trade and construction. Marshes also attract a sizeable number of tourists, mostly from the central and north governorates, estimated at around 10,800 in 2019.⁵⁷

OIL

Missan is rich in crude oil, with reserves estimated at 47.74 billion barrels, representing 12 per cent of the general stock in Iraq along with 175 billion cubic meters of gas out of the total 110 trillion present in the country (Table 12).⁵⁸

Table 13: Oil reserves and oil stocks in Missan (Missan Investment Authority, year unknown)

NAME OF OIL FIELD	OIL RESERVES/ BARREL	OIL STOCKS/ BARREL
Al-Bazirkan	1,615,000	4,749,000
Abu Gharab	552,300	2,379,000
Al-Fakha	480,400	1,641,000
Al-Halfaya	4,500,00	13,985,000
Al-Amara	533,900	1,942,200
Al-Kumait	64,000	201,000
Al-Noor	Not calculated	192,000
Al-Rafideen	680,000	2,093,000
Al-Dijeel	37,000	149,000
Al-Rifayee	Not calculated	Not calculated
Al-Hiwaiza	Not calculated	350,000

The daily oil production reaches approximately 234,000 barrels, which are then transported to the port of Basra.⁵⁹ Several oil fields operate in Missan, and about 80 per cent of the local workers (or 2300) are employed in the sector;

most are working for international companies, including PetroChina and SINOK.⁶⁰ This would mean that 13,200 individuals – based on a calculation of about six people per household – live off the oil sector, a mere 1 per cent of the population in Missan.

AGRICULTURE

Missan has large agricultural areas where out of a total of 466.8 million dunums (or 116,7 million hectares), 324 million dunums (or 81 million hectares) are suitable for agricultural-related activities with fertile soil and different water sources, including groundwater and wells (artesian), rain-water, and the Tigris River (and its branches Al-Tayyib and Dowirej).⁶¹ However, Missan (as well as Basra and Thi-Qar) lies at the lowest reaches of the Tigris-Euphrates basin, where water flow is most limited. The governorate is also heavily polluted by upstream run-offs that contain pesticides and other contaminants from intensive farming practices and untreated waste-water, as well as from the oil industry.⁶² Nowadays, dams, dikes, and canals reduce the historical inundation patterns of the marshlands areas in specific; this in interaction with decreased water and soil salinization causing soil degradation impedes agricultural activities.⁶³

The most popular crops found in Missan include wheat, barley, paddy, corn and dates. In addition, Missan was one of the major sugar cane producers in the marshlands, with 2,400 tonnes in 2019, cultivated on 2000 donums (or 500 hectares) of land.⁶⁴ A factory producing sugar was located in Al-Majer Al-Kabeer District and employed 750 people, but it closed in 2015 and with no plans of re-opening.⁶⁵ Sedge and reed, which are used for producing paper, are also cultivated in Missan, especially in the marshlands. However, the state-owned factory producing paper with three production lines closed down a long time ago, where electricity was reportedly a major issue.⁶⁶ The paper mill employed 736 people.

Farmers and herders suffered from the drought in 2018, which led to a decrease in crop production; most were displaced to the city, looking for other livelihood opportunities. Afterwards, farmers returned to their lands due to an increase in water quantity leading to an increase in production, the Directorate of Agriculture explained. While all crops' harvests increased in 2019, paddy recorded a substantial increase in comparison to 2018 when it was non-existent (Table 14).⁶⁷ However, considering the general issues of water scarcity in the south, 2019 likely represents an outlier in the general trend of water availability reduction recorded.

Table 14: Crops in Missan in 2018 and 2019, CSO, Ministry of Planning, October 2020

CROP	2018			2019		
	CULTIVATED AREA DONUM-HECTARE	PRODUCTION (TONNE)	YIELD (KG/DONUM- KG/HECTARE)	CULTIVATED AREA DONUM-HECTARE	PRODUCTION (TONNE)	YIELD KG/DONUM- KG/HECTARE)
Wheat	232,704/ 58,176	135,275	581/ 145	498,883/ 124,721	451,980	907/ 227
Barley	106,716/ 26,679	25,815	241.9/ 60.4	140,000/ 35,000	80,176	575/ 144
Paddy	36/ 9	21	583/ 145.7	5863/ 1,459	4,435	756.4/ 189
Yellow Corn	1294/ 323,5	0	0/ 0	120,023/ 30,005	14,222	821.6/ 205

60 Ibid.

61 Agriculture Directorate of Missan, 2020.

62 NRC, When Canals Run Dry.

63 REACH.

64 Agriculture Directorate of Missan, 2020.

65 Industries Union of Missan.

66 Ibid.

67 Agriculture Directorate of Missan, 2020.

Dates were not significantly affected by the drought in 2018, especially due to the low number of palms in comparison to other regions (Table 15).

Table 15: Dates in 2018 and 2019, CSO, Ministry of Planning, October 2020

CROP	2018			2019		
	# OF PALMS	TOTAL PRODUCTION (TONNES)	AVERAGE YIELD PER PRODUCTIVE PALM/KG	# OF PALMS	TOTAL PRODUCTION	YIELD KG/DONUM- KG/ HECTARE)
Dates	217,297	8626	51.5	204,385	8668	51.1

The major challenges of the agriculture sector in Missan, which are not dissimilar from the ones identified in other regions of Iraq, include: water scarcity/insecurity; climate change with rising summer temperatures; the influence of power brokers on agricultural policies affecting the governorate, which favour determined groups of people at the expense of others; regulations limiting farmers with sizable land to one type of agricultural activity; lack of government support in providing materials for building greenhouses or poultry facilities; lack of government support in providing fuel for livestock farmers; and lack of modern agricultural techniques and mechanization.

FISHERIES

The marshes were famous for river fishing, with the most sought-after types being the Carp (or Samti), Bini, Khatan, and Shelech, and 3,480 tonnes reportedly fished in 2019.⁶⁸ However, fishing has been one of the livelihood activities most heavily impacted by the degradation of the marshlands; fish populations have heavily decreased, especially economically valuable fish species, due to the intrusion of saltwater, overfishing, and invasive species.⁶⁹ Fishing still occurs on a small scale at subsistence level, where the quantity and quality of haulage varies and cannot be relied upon as livelihood.⁷⁰

Farming ponds and fish farming floating cages are also present in Missan; the governorate sells this fish to the markets in Basra and Muthanna.⁷¹ Table 16 shows the latest statistics.

Table 16: Fishery in Missan in 2019, Directorate of Agriculture, 2020

NO. OF FISH FARMING PONDS	NO. OF FISH FARMING FLOATING CAGES	ESTIMATED ANNUAL PRODUCTION
79	271	6214

LIVESTOCK

Livestock is considered a cornerstone of the economy in Missan and is characterized by the presence of large numbers of sheep, cows, buffalos, goats and camels, present in different areas of the Governorate. Large open herding areas are common in Missan. In 2019, 1,113,552 heads were recorded (Table 17) with an estimated annual production of 2,079 tonnes of meat, which is processed in two slaughterhouses.⁷²

Table 17: Livestock in Missan, 2019, Department of Livestock

SHEEP	COWS	GOATS	BUFFALOS	CAMELS	TOTAL
756,412	259,692	35,783	48,665	12,970	1,113,522

The production of milk from buffalos and cows was estimated at 5,040 tonnes in 2019. However, in the marshlands, livestock rearing has become expensive and unsustainable.⁷³ Due to the increased salinity, buffalos are susceptible to sickness, and reeds, on which buffalos rely, have become more expensive, which also leads to underweight buffalos

68 Agriculture directorate in Missan, Fisheries department and Marshes recovery department, 2020.

69 REACH, 2020.

70 Ibid.

71 Ibid.

72 Agriculture directorate of Missan, Livestock department, 2020.

73 REACH, 2020.

producing less milk.⁷⁴ There is a lack of dairy processing capacity in Missan, which means that milk can only be sold fresh.

POULTRY

A lack of investors and major obstacles for working in poultry, already outlined above, led to a limited production in this sector along with a lack of support from the Agricultural Bank. The total amount of chicken meat produced in Missan in 2019 was 3,972 tonnes.⁷⁵

TRADE

The geographical location of Missan, bordering with Iran and through the Al-Shaib border crossing, plays a major role in the development of the trade sector, favoured by the religious tourists on their way to Karbala and Najaf as well as goods imports from Iran. The construction of commercial

complexes and malls also led to the increase in population density, especially in the district of Amara. Commerce increased significantly with 13,349 enterprises registered as of 2013.⁷⁶

CONSTRUCTION

Construction is one of the major sectors that have developed in recent times, with an increase in commercial and residential buildings, which also provided many job opportunities. According to the CSO, the total number of daily waged workers in the construction sector was 412,000 in 2018, where the unskilled workers received IQD 25,000 (or USD 21), semi-skilled IQD 30,000 (or USD 25) and skilled IQD 75,000 (or USD 63) per day.⁷⁷ The number of building permits granted to the private sector reached 1,045 in 2019.⁷⁸

Table 18: Employees and wages in the construction sector of Missan, CSO, 2018

NO. OF UNSKILLED WORKERS	NO. OF SEMI-SKILLED WORKERS	NO. OF SKILLED WORKERS	TOTAL NO. OF WORKERS	TOTAL WAGES
357,000	5,000	50,000	412,000	35,211,800 (or USD 29,497,875)

The main reason behind the development of construction is also related to the support granted to many people by the

Iraqi Housing Fund, which contributed to the relative vivacity of the sector despite the recession looming on other sectors.

74 Ibid.

75 Data obtained from CSO, 2020.

76 CSO, Ministry of Planning, October 2020.

77 Ibid.

78 Ibid.

2.3 THI-QAR

2.3.1 Geography and climatic conditions

The governorate of Thi-Qar, located in the southeast of Iraq and with a total area of 13,839 km²,⁷⁹ shares internal borders with the governorates of Basra, Muthanna, Qadissiya, Wassit and Missan. The Euphrates River crosses the governorate and feeds into the Hammar Marshes. Thi-Qar is subdivided into the districts of Chibayish, Rifa'i, Shatrah, Nasiriyah and Suq Al-Shoyokh, with Nasiriya as its administrative centre.

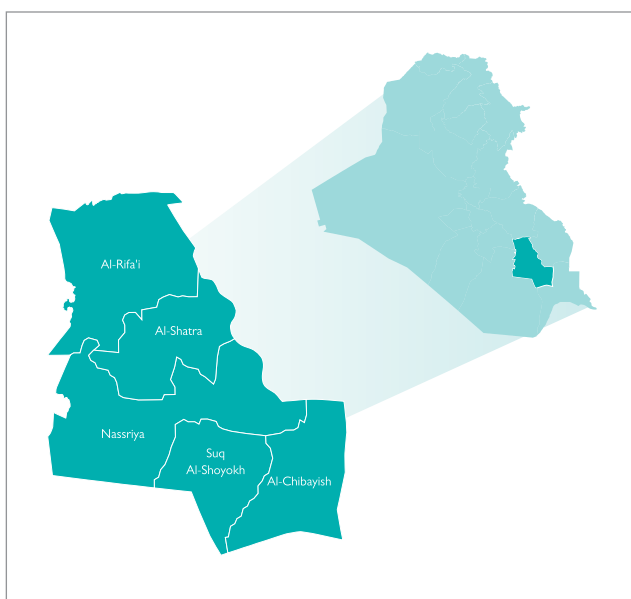


Figure 3: Map of Thi-Qar Governorate

Thi-Qar has a dry desert climate. Summers are hot and dry, with average high temperatures peaking at above 40°C, while winters are mild. Rainfall is limited to the period of November–April and averages 100 mm annually.⁸⁰

2.3.2 Population poverty and employment data

The governorate had a total population of 2,150,338 people in 2019, of whom about 36 per cent are living in rural areas.⁸¹ Thi-Qar performs poorly on a variety of development indicators. As of 2014, poverty rates were calculated at about 40 per cent, twice the national rate (19%).⁸² These rates rose substantially compared to 2007. Thi-Qar was considered one of Iraq’s poorest governorates, although a significant within-governorate variation was also observed.⁸³ Predictions are bleak too. Thi-Qar, and the southernmost governorates of Iraq in general, share an emerging problem of environmental degradation coupled with governance issues that hamper people’s immediate and long-term socioeconomic prospects.⁸⁴

Unemployment was measured at about 19 per cent (24% among women and 19% among men), which is substantially above the national average of 11 per cent.⁸⁵ Only 10 per cent of women, compared to the over 70 per cent of men, were economically active in Thi-Qar.⁸⁶

Table 19: Population in Thi-Qar, CSO, 2019⁸⁷

URBAN		RURAL		TOTAL POPULATION
Male	Female	Male	Female	
691,934	688,282	387,388	382,734	2,150,338

2.3.3 Displacement and return trends

The outbreak of the conflict in 2014 brought many IDPs to Thi-Qar, mostly from Ninewa and Anbar, who still represent the vast majority of displaced today.⁸⁸ Water shortages also triggered displacement as of early January 2019, an assessment determined.⁸⁹ Displacement figures in Thi-Qar remain comparatively low with less than 4,000 individuals recorded as of August 2020.⁹⁰ The majority of the displaced reside

79 NCCI, 2015, Thi-Qar Governorate Profile.

80 Ibid.

81 Data obtained from Central Statistical Organisation (CSO), Ministry of Planning, 2019.

82 Tara Vishwanath, Dhiraj Sharma, Nandini Krishnan, and Brian Blankespoor, *Where are Iraq’s Poor: Mapping Poverty in Iraq*, 2014.

83 Ibid.

84 NRC, *When Canals Run Dry*.

85 UNDP.

86 Ibid.

87 Data obtained from CSO, Ministry of Planning, 2019.

88 IOM, *DTM Round 117 IDP List*, July-August 2020.

89 IOM as cited in NRC and Social Inquiry, *When Canals Run Dry*.

90 IOM, *DTM IDP List Round 117*, July-August 2020.

in Nasiriya District, mostly due to the availability of basic services.

Table 20: Displacement in Thi-Qar, IOM, Displacement Tracking Matrix Round 117, July and August 2020

DISTRICT	NUMBER OF IDP HOUSEHOLDS	NUMBER OF IDP INDIVIDUALS
Chibayish	4	24
Rifa'i	124	744
Shatra	25	150
Nassiriya	321	1,926
Suq Al-Shoyokh	92	552

2.3.4 Major economic sectors

The economy of Thi-Qar has remained relatively rural compared to other areas of Iraq. The governorate also hosts a small number of oil refineries. Over the past decade, the public sector and construction have been the major job providers in the area.⁹¹ Agriculture, livestock, poultry and fish represent the most important economic sectors in rural areas with trade and manufacturing central to Nasiriya City.

AGRICULTURE

Thi-Qar is particularly famous for its agricultural production. It is thought that Thi-Qar Governorate alone has the capacity to meet a high proportion of Iraq's rice needs; rice is produced along the areas next to the marshlands.⁹² The main arable crops and the respective areas of cultivation (2006), are outlined in Table 21.

Table 21: Crops and their areas of cultivation, UNHCR, 2006/93

CROPS	AREA
Barley and wheat	All over Thi-Qar
Vegetables and fodder for animals	All over Thi-Qar
Corn	Al-Garaf Sub-District
Rice	Suq Al-Shuyukh, Dawayah and Rafai
Tomatoes	Chibayish, Shatrah, Dawayah and Rafai

The governorate also had an estimated 250,000 m² of palm groves, which represented another significant export of the area.⁹⁴ The total number of productive palms was estimated at 695,000, with an average production of 44,270 tonnes in 2019.⁹⁵

Table 22: Cultivation of wheat, barley and paddy in Thi-Qar, CSO, 2018/96

TYPE OF CROP	YIELD (IN TONNES)
Wheat	145,345
Barley	29,485
Paddy	17,016

Environmental degradation has severely disrupted rural livelihoods in Iraq's southern governorates. Degradation has been particularly acute over the last decade, as it coincided with a period of low rainfall and drought that only ended temporarily in 2019 with farmland, due to water scarcity, now mostly present near rivers or irrigation canals.⁹⁷ Other factors negatively affecting agriculture activities include a lack of drainage systems and the high costs of fertilizers and seeds.⁹⁸

OIL

Thi-Qar, with great oil potential for further extraction, hosts the Al-Nasiriya oilfield, with oil reserves estimated at

91 UNHCR, Thi-Qar Assessment Profile, 2006. Available from: www.refworld.org/docid/471f4c9d5.html.

92 Ibid.

93 Ibid.

94 Ibid.

95 Data obtained from CSO, Ministry of Planning, 2019.

96 Data obtained from CSO, Ministry of Planning, 2018.

97 NRC, When Canals Run Dry

98 Thi-Qar Agriculture Directorate, 2020

over 16 billion barrels.⁹⁹ In 2019, oil production reached 200,000 barrels per day from the Al-Garra and Al-Nasiriya oilfields.¹⁰⁰ A promising plan was developed by the Ministry of Oil to increase the production from all oilfields in the governorate to reach 1 million barrels per day by 2025 and transforming Thi-Qar into a major oil-producing governorate, similar to Basra and Missan.¹⁰¹ Also, the Ministry has a plan to build a refinery in Thi-Qar at a production capacity reaching 300,000 barrels per day.¹⁰²

CONSTRUCTION

The construction sector has been the major job provider over the last few years in Thi-Qar Governorate. According to the CSO, the total number of daily waged job opportunities in the construction sector was 1,130,000 in 2018. While the number of building permits granted to the private sector was about 1,714 in 2018, it increased to 2,086 in 2019.¹⁰³

Table 23: Employees/wages in the construction sector in Thi-Qar Governorate, CSO, 2018¹⁰⁴

NUMBER OF UNSKILLED WORKERS	NUMBER OF SEMI-SKILLED WORKERS	NUMBER OF SKILLED WORKERS	TOTAL NUMBER OF WORKERS	TOTAL WAGES
972,000	21,000	137,000	1,130,000	IQD 14,394,629,000 (USD 12,065,249)

Such increase in construction activity is attributed to the loans granted by the Iraqi Housing Fund already mentioned above, which helped the sector to continue with its activities despite the recession affecting all the other economic sectors.

MANUFACTURING

Local manufacturing production has declined in recent years for a variety of reasons but especially due to the more competitive imported goods and the lack of local products protection. However, this sector still represents an important contributor to the local economy. There are a lot of private manufacturing firms still operating profitably, most of which produce construction materials, bricks, food, as well as wheat mills and others. Several government-owned factories and companies operate in the Governorate. According to the CSO, in 2018, 1,186 small manufacturing firms were registered in Thi-Qar and these employed almost 4,000 workers.¹⁰⁵

Table 24: Number of small manufacturing firms and workers in Thi-Qar, CSO, 2018

NUMBER OF MANUFACTURING FIRMS	NUMBER OF DAILY-WAGED WORKERS	NUMBER OF OTHER WORKERS	TOTAL NUMBER OF WORKERS
1186	2079	1851	3930

WHOLESALE AND RETAIL TRADE, REPAIR OF MOTOR VEHICLES AND MOTORCYCLE

The trade sector represents the major economic activity of Nasiriya City, the major urban centre of Thi-Qar Governorate. Commercial markets expanded remarkably due to an increase in monthly income per capita for a large part of the population, which reached IQD 282,900 (or USD 237) on average in 2018.¹⁰⁶ However, the reasons for such increase remain unexplained. In the commercial field, there are specialized markets and commercial complexes. According to the CSO, in 2013 over 20,000 firms in wholesale, retail and sale of vehicle parts were registered in Thi-Qar alone.¹⁰⁷

99 Ministry of Oil, date n. g.

100 Ibid.

101 Ibid.

102 Thi-Qar Oil Company, 2020

103 Data obtained from CSO, Ministry of Planning, 2018 and 2019

104 Data obtained from CSO, Ministry of Planning, 2018

105 Ibid.

106 Ibid.

107 Ibid.

LIVESTOCK, POULTRY AND FISH

Thi-Qar counts on an abundant presence of livestock, including sheep, goats, cattle, camels and buffalos. Poultry and fish represent an important contributor to the local economy and a source of income for the rural populations.

Livestock

As a result of the increased demand on meat and dairy products, which has encouraged many farmers to increase production, the local livestock market has in recent years recovered. However, private-sector investment in dairy and meat processing industries remains limited due to the complex administrative and regulatory systems in place, along with the inefficient and outdated marketing networks. Another source points to the major challenges experienced by livestock (but also crop) farmers as these are becoming ever less able to draw water, either because of scarcity or because it is of such poor quality that it is unfit for animal consumption (and even for irrigation).¹⁰⁸

Table 25: Number of livestock in Thi-Qar, 2020¹⁰⁹

NUMBER OF SHEEP	NUMBER OF GOATS	NUMBER OF CATTLE	NUMBER OF BUFFALOS	NUMBER OF CAMELS
601,384	58,880	150,555	81,233	20,392

Poultry

The governorate witnessed a remarkable increase in poultry farms and the quantity of locally produced eggs. As a result of local plans from the Thi-Qar Directorate of Agriculture to convert poultry fields from ground to cage breeding and a partial implementation of a government decision to support local production, egg production came close to achieving self-sufficiency.¹¹⁰

Table 26: Poultry projects in Thi-Qar, Directorate of Agriculture, 2020

NUMBER OF CHICKEN PRODUCTION PROJECTS	NUMBER OF EGG PRODUCTION PROJECTS	TOTAL
23	94	117

Fish

There are 103 officially registered fish farming activities in Thi-Qar,¹¹¹ including ponds and floating cages. However, marshes in Thi-Qar represent an important source of fish in Iraq and traditional fishing is the main source of income for the marshland populations. Like the findings already outlined above, traditional fishing is under severe threat.

Table 27: Fish farming projects in Thi-Qar, Directorate of Agriculture, 2020

NUMBER OF FISH FARMING BONDS	NUMBER OF FISH FARMING FLOATING CAGES	TOTAL
33	70	103

¹⁰⁸ NRC, When Canals Run Dry

¹⁰⁹ Thi-Qar Agriculture Directorate, 2020

¹¹⁰ Ibid.

¹¹¹ Ibid.

2.4 MUTHANNA

2.4.1 Geography and climatic conditions

Muthanna, with an extension of 51,402 km² (almost 12 per cent of Iraq’s total land)¹¹² borders Saudi Arabia and shares internal boundaries with the governorates of Najaf, Qadissya, Thi-Qar and Basra. The governorate is divided into Al-Samawa (which also hosts the eponymous capital), Al-Khidhir, Al-Rumaitha and Al-Salman. The governorate’s landscape is dominated by desert plains, with only a narrow ribbon of irrigated farmland along the Euphrates River in the north. Lake Sawa, a salt-lake, is located to the west of the city of Samawa.

The average high temperatures reach 15 °C in January and 42 °C in July; the average low falls to 7°C in January and to 30 °C in July.¹¹³ Muthanna is characterized by a dry desert climate. In summer, temperatures easily surpass 40°C, while rainfall is very limited and restricted to the winter months.¹¹⁴

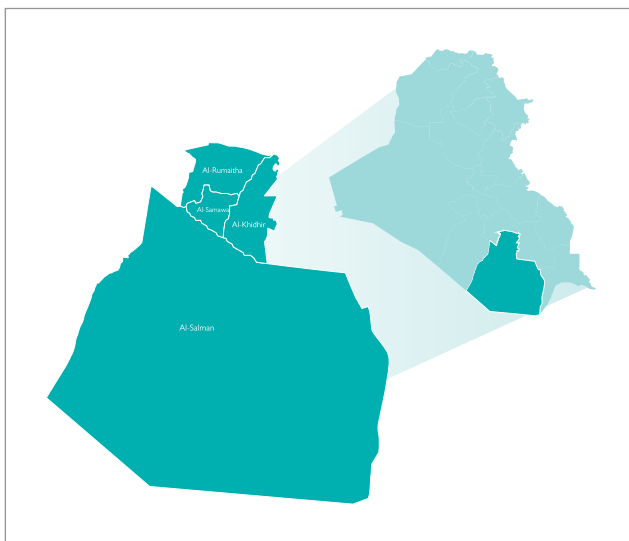


Figure 4: Map of Muthanna

112 Ministry of Planning, 2018.

113 NCCI, Muthanna Profile, 2015.

114 Ibid.

115 Main National Platform for Construction and Development. Available from: <https://mnpd.gov.iq/en/GovernorateDetails.php?gov=14>.

116 NCCI, Muthanna.

117 Ministry of Planning, 2018.

118 Ibid.

119 UNDP.

120 Tara Vishwanath et al., Where Are Iraq’s Poor.

121 UNICEF, Assessment of Covid-19 impact, 2020. Available from: www.unicef.org/iraq/media/1181/file/Assessment%20of%20COVID-19%20Impact%20on%20Poverty%20and%20Vulnerability%20in%20Iraq.pdf.

2.4.2 Population, poverty and employment data

Population estimates of Muthanna, a mostly Shia-dominated governorate, vary, with around 814,000 people recorded as of 2018.¹¹⁵ About 55 per cent of the population resides in rural areas.¹¹⁶ The male to female ratio is 106.¹¹⁷ Those younger than 15 years accounted for 43 per cent of the population.¹¹⁸

A mostly neglected governorate, Muthanna remains the poorest in Iraq. As of 2011, unemployment stood at 14 per cent for men and 16 per cent for women, with vast disparities in economic activity levels, 76 per cent for men against 7 per cent of women, which was the lowest of all of Iraq.¹¹⁹ According to the latest estimates, unemployment rose to 14 per cent in 2017 (from 13 per cent in 2016) with economic activity remaining constant at around 37 per cent.

Table 28: Unemployment and Economic Activity, Ministry of Planning, 2018

RATE OF EMPLOYED AND UNEMPLOYED	2016	2017
Unemployment rate (%)	12.6	14.5
Economic activity rate (%)	37.6	37.2

Poverty rates, as of 2014, exceeded 50 per cent, with many areas of Muthanna having poverty rates of over 70 per cent.¹²⁰ Protests engulfed the Governorate in 2018 with demands for jobs and services, and resumed in October 2020. In addition, more than 60 per cent of people are vulnerable and nearly half are living in a household with more than three people per sleeping room, which greatly influences the possibility of contracting COVID-19, a recent study concluded.¹²¹

2.4.3 Displacement and return trends

About 159 households or over 900 individuals remain displaced in Muthanna as of October 2020.¹²² These are mostly concentrated in Samawa and reside with host families or rent accommodation. Only a small number reside in critical shelters. About 132 households were displaced from Muthanna – since 22 locations experienced drought – as of January 2019, where the vast majority were displaced inside the governorate.¹²³

Table 29: Displacement in Muthanna, IOM, Round 118, October 2020

DISTRICTS	NUMBER OF IDP HOUSEHOLDS	NUMBER OF IDP INDIVIDUALS
Al-Khidhir	6	36
Al-Rumaitha	51	306
Al-Samawa	102	612

No major issues were identified for the displaced in Muthanna and it could be therefore assumed that these IDPs experience the same degree of neglect and poverty as the host communities of Muthanna.

2.4.4 Major economic sectors

Muthanna connects the northern areas to the southern through a railway and motorway. In addition, Muthanna borders with Saudi Arabia, which holds great potential for trade, in addition to the vast presence of archaeological and tourist sites. Muthanna also has raw materials, especially used in the cement industry, as well as an abundant presence of groundwater suitable for agriculture. Good security also characterizes Muthanna. In 2005, an oil refinery was opened in the governorate, which processes crude oil from the Kifl oil field. The salt waters of Lake Sawa provide salt, which is used as a raw material in various industries. Nonetheless, similarly to other southern governorates, Muthanna has been neglected, and has suffered from the various wars, sanctions and the 2003 invasion.

As of 2012, 44 per cent of the workforce was employed in the government, 45 per cent in the private sector, and 11 per cent in the public sector.¹²⁴ The highest share is found in the construction sector, followed by real estate/rental activities, and education. Table 30 provides the percentage of employment for each sector.

Table 30: Distribution of the workforce per sector, 2012 (Muthanna Directorate of Planning)

ACTIVITY	PERCENTAGE
Building and construction	34.9
Real estate and rental activities, commercial projects and financial brokerage	19.4
Education	9.2
Manufacturing industry	9.0
Transportation, storage, information and communication activities	6.9
Wholesale and retail trade, repair of vehicles and personal goods	5.6
Public administration, defence, and social security	5.4
Health and social work	2.8
Electricity, gas, and water supply	2.6
Other service activities	2.0
Housing, food and service activities (accommodation)	1.0
Agriculture, hunting, forestry and fishing	0.9
Mining and quarrying	0.2

INDUSTRY

The presence of the Chamber of Industry (along with an investment commission), the availability of large quantities of raw materials, human resources, and an active market for industrial products set Muthanna apart in terms of industrial development potential.¹²⁵

122 IOM, Displacement Tracking Matrix, Round 118, October 2020.

123 IOM, Assessing Water-Shortage Induced Displacement in Muthanna, Missan, Thi-Qar, and Basra, 2019. Available from: https://displacement.iom.int/system/tdf/reports/IOM_assessing%20water%20shortage%20induced%20displacement%20in%20South%20Iraq.PDF?file=1&type=node&id=5433.

124 Ministry of Planning, 2012

125 Muthanna Investment Institute, date unknown, Muthanna Investment, Baghdad: National Investment Commission - Presidency of the Council of Ministers.

Surveys have indicated the presence of large quantities of rocks, stones and minerals. As shown in Table 30, the highest share of jobs is found in the construction sector. The presence of raw materials and their respective locations are shown in Table 31.

Table 31: Raw materials and their respective locations in Muthanna, Ministry of Planning, 2018

QUARRY MATERIAL	LOCATIONS	USES
Limestone	The area around the Salman Valley	Cement industry
	North and West Busay Region	
	West Samawa region	
	Samawa Region - Salman	
	South Samawa region	
Other regions		
Cement clays	East and South Basra region	Cement industry
	Southern Salman area	Brick industry

Salt	Samawa area	Salt, chlorine and other industries
Stones	Salman	As alternatives to marble in flooring, stairs, exterior and interior wall cladding, and masonry
Dolomite stone	Salman	Glass industry

Little is known about the cement sector in Muthanna. The only information available included 1,067 restoration and building permits granted to the private sector in 2017.¹²⁶

AGRICULTURE

Muthanna has areas with large cultivable land, and agriculture representing one of the main contributors to the gross domestic product (GDP). Irrigated agricultural lands cover 254,925 dunums (63,731 hectares), which represents 27 per cent of the total arable land in the governorate.¹²⁷ Wheat, barley, sesame, sunflowers and palm trees are found in Muthanna. For wheat, barley and rice data on cultivation, see Table 32.

Table 32: Wheat, barley, and milk production from 2015 to 2018, Ministry of Planning, 2019

YEAR	CROP	CULTIVATED AREA IN DUNAM	CULTIVATED AREA IN HECTARES	YIELD KG /DUNUM	YIELD KG/ HECTARE	PRODUCTION (TONNES)
2015	Wheat	202582	50646	298.7	75	60505
	Barley	128138	32035	239.5	60	30694
	Rice	1039	260	695	174	668.9
2016	Wheat	160293	40073	557.2	139	89309
	Barley	141758	35440	387.4	97	54918
	Rice	2240	560	769.6	193	1724
2017	Wheat	179241	44810	415.6	104	74490
	Barley	111633	27908	321.3	80	35863
	Rice	3415	854	534.4	134	1825
2018	Wheat	100185	25046	481.0	120	48188
	Barley	133496	33374	265.1	66	35396

¹²⁶ Ministry of Planning, 2018.

¹²⁷ Ibid.

Palm dates production amounts to about 30,000 tonnes per year and remained consistent between 2015 and 2018 (Table 33).

Table 33: Dates production, Ministry of Planning, 2018

YEAR	PRODUCTION (IN TONNES)
2015	29,380
2016	31,057
2017	30,400
2018	31,155

In addition, the governorate hosts a high number of live-stock, unused arable areas, agricultural governmental and academic institutions, and international organizations for agricultural development and has good demand for agricultural products in the local market.¹²⁸

According to a study conducted by IOM in 2019, 22 locations in Muthanna have been affected by water shortages and all of these locations are rural.¹²⁹ There are 19 locations in Al-Rumaitha district (12 in Najmi sub-district, 4 in Al-Hilal sub-district and 3 in Warka sub-district), and three in Al-Samawa district.¹³⁰ Remote villages in Al-Rumaitha district area (located in Najmi sub-district) are experiencing water scarcity because of high salinity levels in well water.¹³¹ Villages in Al-Rumaitha district area (in Warka sub-district) and Al-Khidhir district area (in Markaz Al-Khdhir sub-district) lack irrigation and other villages in Al-Dumaitha district area (in Hilla sub-district) lack water because the river's water level is too low.¹³² This means that most of these villagers, who depended on agricultural activities, animal husbandry and fishing, had few livelihood opportunities as of 2019.¹³³

TOURISM

Tourism is one of the most important sectors and has potential to contribute to the local economy of Muthanna. Severely underdeveloped, tourism requires the strengthening of public-private partnerships. The sector is characterized by a small number of visitors from inside and outside the

governorate, including international tourism; a small number of facilities providing touristic services, and a lack of agencies for promoting and attracting tourism.¹³⁴ The data on revenues from tourism do not provide a conclusive picture, as can be seen below (showing a large difference between the revenues in 2016 and 2017).

Table 34: Travel and tourism data for Muthanna, Ministry of Planning, 2016

NUMBER OF COMPANIES REGISTERED	11
Production value (revenue) in IQD (thousands)	2,319,372 (or USD 1,938,248)
The number of travellers inside and outside the governorate	3,545
The number of travellers from the governorate	1,185
The number of travellers outside the governorate	2,360

The number of hotels and guests is low too with revenues lower than USD 300,000 in 2017¹³⁵ (Table 35).

Table 35: Muthanna number of hotels, guests, and revenues in 2017, Ministry of Planning, 2018

NUMBER OF HOTELS AND TOURIST ACCOMMODATION COMPLEXES	7
Number of guests (per thousand)	7
Total revenue (IQD, in millions)	349 (or USD 293,031)

Muthanna has great potential for development due to the presence of religious, archaeological, historical and natural sites; desert tourism areas (Badia Al-Samawa); the presence of local tourist companies and offices in addition to civil society organizations with a focus on local cultural heritage; handicrafts; good security; foreign archaeological missions; a high interest in visiting the sites from archaeological and

128 Muthanna Investment Institute, date unknown, Muthanna Investment, Baghdad: National Investment Commission - Presidency of the Council of Ministers.

129 IOM, Assessing Water-Shortage Induced Displacement in Muthanna, Missan, Thi-Qar, and Basra

130 Ibid.

131 Ibid.

132 Ibid.

133 Ibid.

134 Muthanna, D. o. P. f., date unknown, Muthanna Governorate. Available from: <http://muthana.gov.iq/> [Accessed 1/12/2020].

135 Ibid.

history departments located in foreign academic institutions; and due to the governorate's position as a crossing point to major religious sites in Iraq such as Karbala and Najaf.¹³⁶

Among the natural areas, one highlight is that of the curative properties of the Lake Sawa, which lies 30 km from the centre. In addition, the Sulaybat Water Depression, with its distinctive landscape, extends over an area of 20,800 dunums (or 5,200 hectares). The water is 5.2 meters deep and hosts numerous species of birds, fish, and aquatic plants.¹³⁷ In addition, worthy of mention are the natural water springs of Al-Wahsiya (Ayyun al-Assaf), located south of Al-Kader, 50 km from the governorate centre. Floods, or the low-lying areas in the desert storing rainwater, in spring turn into picturesque green areas, and in addition to the valleys, hold great potential for seasonal tourism.¹³⁸

Important historical sites include the Naqrah Al-Salman prison, which was built in 1927.¹³⁹ According to local media sources, the castle was originally built by the British to defend against attacks by locals. In 1948, it was used as a prison, then later as a post for border guards and then again, under Saddam Hussein, it became a prison.¹⁴⁰ In addition to the prison, the buildings of the old government centres hold great potential as these are considered architectural

masterpieces.¹⁴¹ Muthanna also hosts a variety of shrines, including of Al-Khader, Imam Al-Mahdi, the Prophet Solomon, Ibrahim the Red-Eyed and Ahmed Bin Imam Al-Kadhim, to name but a few.

According to the Department of Antiquities of Muthanna, there are more than 120 archaeological sites in the governorate, located in the central region.¹⁴² These include the archaeological city of Warka or Uruk, one of the Sumerian holy cities and centre of worship. To date the excavations have not revealed the entire area of the city; these were completed on an area of about 13 km²; at a height of 26 meters (near the lands of Al-Tuba in Al-Khader district, 60 km south of Samawa).¹⁴³ In addition, the ruins of Al-Kusir, located in the desert, host a Sassanid fort. However, the archaeological sites remain poorly excavated and are characterized by a poor maintenance of operations, as well as the absence of any guards.¹⁴⁴ In addition, most of the sites are located in the desert far from the residential areas or in rural areas, which makes them vulnerable to illegal excavations and theft, compounded also by a general lack of knowledge on their importance by local populations, an insufficient attention paid to antiquities (centrally and locally), and a lack of government funding.¹⁴⁵

136 Ibid.

137 Ibid.

138 Ibid.

139 Ibid.

140 Qassim Al-Qabi, Sand And Starvation: Visiting Iraq's 'City Of Prisons' In The Southern Desert, Niqash, date unknown. Available from: www.niqash.org/en/articles/society/5833/.

141 Muthanna, D. o. P. f., date unknown, Muthanna Governorate.

142 Ibid.

143 Ibid.

144 Ibid.

145 Ibid.

3. CRITICAL MARKET SYSTEMS AND SUPPLY-DEMAND ANALYSIS

3.1 TRANSVERSAL MARKET ISSUES

During the research, the following major issues were found in relation to the functioning of the markets in the four governorates.

- 1. Competition from imported products:** The first issue affecting the functioning of the markets in the four governorates (as in the rest of Iraq) is the entry of goods from neighbouring countries without payment of customs duties. This leads to imported products being offered at very low prices in the market. For local producers, it is very hard to compete with these cheap, imported products, a situation aggravated by the devaluation of the Iraqi dinar to the US dollar in late 2020, which has negatively affected farmers' production and marketing because it has become more expensive to import agricultural inputs. Theoretically, the devaluation could have a positive effect on farmers because it increases the competitiveness of Iraqi products on export markets, but in practice this has not yet materialized.¹⁴⁶
- 2. Lack of government support to farmers:** Another issue is the lack of support for local production by the Iraqi government. In the past, the government provided raw materials for agriculture such as seeds, fertilizers and pesticides at a subsidized price (or sometimes at no cost). Since this support is no longer provided, farmers have great difficulty to compete with imported products.
- 3. Lack of access to finance for farmers:** It is very difficult for a farmer to obtain a loan from agricultural banks because of the banks' requests for documents and guarantees that are not available to all farmers. A high interest rate is also imposed on these loans with somewhat short repayment periods, which puts farmers in a difficult position and prevents them from obtaining a loan easily.
- 4. Lack of hygiene and sanitation in the marketplace:** Another issue is poor attention to hygiene and sanitation, as well as a lack of street paving in the marketplaces, which

also makes movement of goods very difficult, especially in the winter season (due to rain). In addition, basic health conditions are not complied with in the markets of the four governorates. This is especially relevant for meat and fish products that need a hygienic environment to ensure that germs do not multiply to prevent consumers' health to be put at risk.

- 5. Logistical challenges:** COVID-19 is posing a major challenge to farmers, as the Iraqi government has imposed curfews inside and outside the governorates, which has led to a restriction on the movement of products.

3.2 SUPPLY-DEMAND ANALYSIS OF MAJOR AGRICULTURAL GOODS AND SERVICES

As an input for the selection of the most promising value chains, a supply-demand analysis was carried out to find out which goods and services are most in demand, and which opportunities exist for new goods and services to enter the market. In each governorate, 25 interviews were held with consumers, and 15 interviews with market vendors. The main results for the four Governorates are provided in the following sections.

3.2.1 Basra

As can be seen in the table below, consumers in Basra reported regularly buying tomatoes (25 respondents), potatoes (22), onions (21), fruits (15), vegetables (12) and eggplants (11). Goods obtained occasionally include meat, chicken, fish, rice, oil and tea, among the most reported.

Only a small percentage of consumers (12%) reported being dissatisfied with one item in the market with the vast majority not reporting dissatisfaction. Details on the item in question were not provided. Some items could be produced locally at a cheaper price, especially tomatoes, onions, oranges, rice and dates, consumers believe. Goods that are available but not affordable mainly include mangoes, coconut, canned meat, pineapple and other.

¹⁴⁶ In December 2020, Iraq's Central Bank announced a devaluation of the Iraqi dinar by 22 percent in response to a severe liquidity crisis brought on by low oil prices. Available from: <https://apnews.com/article/middle-east-baghdad-iraq-state-budgets-3068822946d926f9130812e42f1bb1f9>.

Table 36: Findings on demand and supply of most important agricultural goods, Basra

CONSUMERS				VENDORS	
Goods obtained regularly (n=25)	Goods obtained occasionally (n=25)	Imported goods but cheaper if produced locally (n=25)	Available but not affordable (n=25)	Most popular goods sold (n=15)	Most profitable goods sold (n=15)
Tomatoes (25)	Meat (22)	Tomatoes (21)	Mangoes (9)	Bananas (3)	Fish (4)
Potatoes (22)	Chicken (18)	Onions (7)	Coconut (7)	Pickles (3)	Cucumbers (2)
Onions (21)	Fish (16)	Oranges (7)	Canned meat (6)	Apples (2)	Meat (2)
Fruit (15)	Rice (16)	Rice (7)	Pineapple (6)	Cucumbers (2)	Oranges (2)
Vegetables (12)	Oil (11)	Dates (6)	Avocados (4)	Eggplants (2)	
Eggplants (11)	Tea (11)	Tomato paste (5)	Frozen fish (4)	Fish (2)	
Lemons (5)	Sugar (9)	Watermelons (5)	Olive oil (4)	Meat (2)	
Bread (4)	Cooking oil (7)	Grapes (4)	Frozen meat (2)	Onions (2)	
Cucumbers (4)	Eggs (7)	Cucumbers (2)	Liquid milk (2)	Oranges (2)	
Eggs (3)	Milk (7)	Eggs (2)	Mushrooms (2)	Potatoes (2)	

Vendors reported that the most popular items sold include fruits, vegetables, pickles, fish, meat and potatoes. Most vendors (87%) believe they are able to satisfy consumers' needs, reflecting the overall satisfaction with goods found in the market reported by consumers. The small percentage of vendors who did not think so did not further elaborate on the reasons.

Vendors reported some marketing constraints, especially price fluctuations and controls (67%), poor market facilities (67%), delayed supplies (33%) and challenges with the procurement of commodities (mentioned by one vendor).

Vendors reported on the most promising business opportunities available in the governorate, with the most mentioned including growing vegetables, especially tomatoes, fish and poultry farming, as well as establishing a fish market (Table 37).

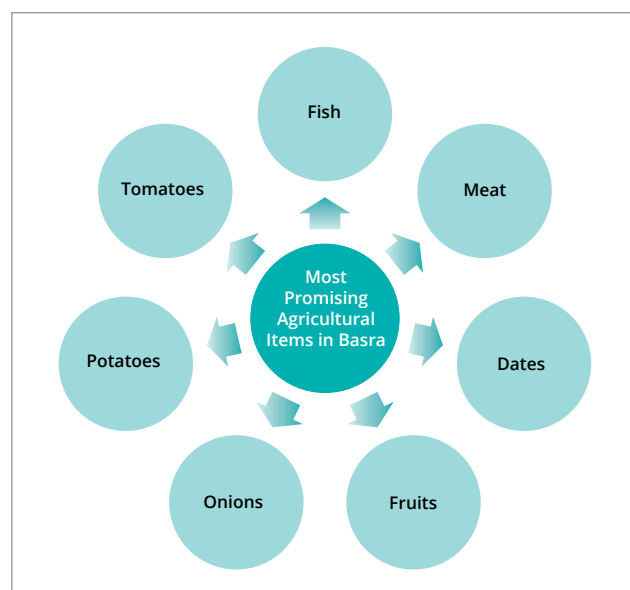
Table 37: Business opportunities in agriculture reported by vendors in Basra

BUSINESS OPPORTUNITY	NUMBER OF VENDORS
Vegetable cultivation – especially tomatoes	3
Fish farming	3
Poultry fields	2
Establishing a fish market	2
Natural juice production	1
Tomato paste processing	1
Pickle production	1
Dairy factory	1

Consumers also reported some recommendations for improving the functioning of the market, including supporting local farmers by reducing imports from neighbouring countries (mentioned by 11 consumers), providing services in the market (6), building a modern market (5), and reducing shop rental prices (3).

In conclusion, potatoes, tomatoes, onions, dates, fruits as well as fish and meat appear to be the most promising agricultural goods according to both consumers and vendors. Goods that could be produced locally at lower prices include tomatoes, onions, oranges, rice and dates. In addition, fish, meat, cucumbers and oranges appear to be among the most profitable for vendors (Figure 5).

Figure 5: Promising agricultural goods, which could be supported in Basra



3.2.2 Missan

Consumers in Missan reported regularly buying mostly potatoes, tomatoes, cheese, eggs and cucumbers. Goods obtained occasionally include rice, chicken, cooking oil, sugar, tomato paste and meat (Table 38).

Ninety-two percent of consumers reported always finding the agricultural goods they look for in the market with a

small number having difficulties in finding strawberries (mentioned by 2), cherries (1), pineapple (1), meat (1) and fish (1). A quarter of consumers reported being dissatisfied with one item in the market. The reasons for dissatisfaction include high price (2), mismatch between the products and needs (2), poor quality of the products (2), and poor customer service (1).

Table 38: Findings on demand and supply of most important agricultural goods, Missan

CONSUMERS				VENDORS	
Goods obtained regularly (n=25)	Goods obtained once in a while (n=25)	Imported goods but cheaper if produced locally (n=25)	Available but not affordable (n=5)	Most popular goods sold (n=15)	Most profitable goods sold
Potatoes (24)	Rice (23)	Fruits (10)	Pineapples (4)	Cucumbers (4)	Oranges (2)
Tomatoes (24)	Chicken (22)	Rice (9)	Coconut (1)	Potatoes (4)	Tomato paste (2)
Cheese (19)	Cooking oil (20)	Tomato paste (7)	Kiwis (1)	Tomatoes (4)	Vegetables (2)
Eggs (18)	Sugar (19)	Tomatoes (5)	Lettuce (1)	Apples (3)	Arab cream (1)
Cucumbers (16)	Tomato paste (19)	Chicken (4)		Oranges (3)	Barley (1)
Dairy (14)	Meat (18)	Dairy (4)		Beans (2)	Celery (1)
Fruits (14)	Flour (16)	Meat (4)		Celery (2)	Cooking oil (1)
Eggplants (12)	Beans (11)	Vegetables (4)		Eggplants (2)	Cheese (1)
Onion (11)	Tea (11)	Watermelon (4)		Fodder (2)	Eggplants (1)
Bread (9)	Chickpeas (10)	Cheese (3)		Radish (2)	Fish (1)

Vendors reported cucumbers, potatoes, and tomatoes among the most sold agricultural produce (Table 38).

Eighty-seven per cent of market vendors feel they can satisfy demands of customers. Nonetheless, vendors also reported a variety of marketing constraints, including: commodity procurement challenges (9), price fluctuations and control (8), poor market facilities (3) and delayed supplies (2).

Vendors also listed promising business opportunities in Missan. The most mentioned include: vegetables in general, fruits, tomatoes and potatoes. Less mentioned sectors include tomato paste, cucumber, fish, rice, chicken, watermelon and livestock (Table 39).

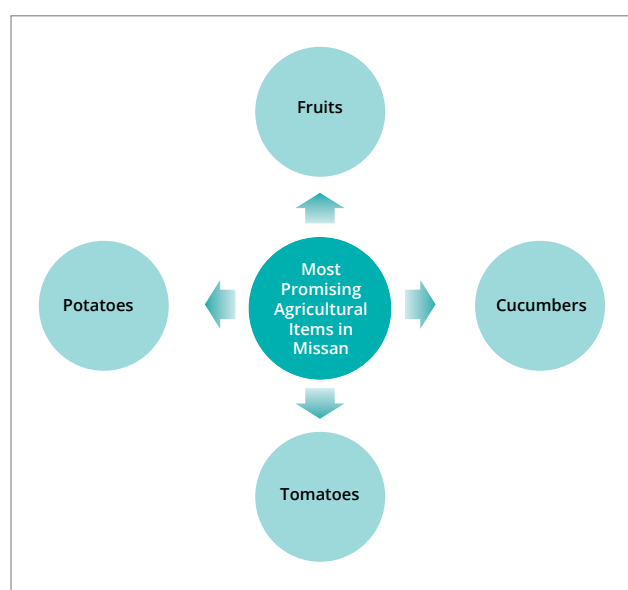
Table 39: Recommendations for improving the functioning of the market as reported by Vendors in Missan

PROMISING BUSINESS OPPORTUNITIES	NUMBER OF MENTIONS BY VENDORS
Vegetable cultivation in general	5
Fruits cultivation – particularly oranges, lemons, strawberries, apples, grapes	5
Tomatoes	4
Potatoes	3
Tomato paste	2
Cucumbers	2
Fish	2
Rice	2
Chicken	2
Watermelons	2
Ranching, livestock	2

To improve the functioning of the market, consumers suggested supporting farmers (14), supporting canning factories (2), preventing import of products that could be produced locally (2), organizing the local market, and government monitoring of prices.

In conclusion, among the most obtained goods and most popular items sold by vendors, cucumbers, potatoes, tomatoes and fruits were found. Fruits, vegetables in general, and tomatoes in particular could be produced locally. Oranges, vegetables and eggplants are profitable for vendors. In addition, fruits, vegetables, tomatoes and potatoes represent the most promising business opportunities in Missan, according to vendors.

Figure 6: Promising agricultural items that could be supported in Missan



3.2.3 Thi-Qar

Table 40 shows that goods obtained regularly by consumers in Thi-Qar include potatoes, tomatoes, eggs, bread, eggplants and cucumbers. Goods obtained occasionally include rice, cooking oil, sugar, fish, meat and chicken. Consumers always find all the agricultural items they need in the market. A small percentage (16%) are dissatisfied with one agricultural item in the market. Details on which item were not provided.

Items that are imported but could be produced locally at a lower price include oranges, potatoes, apples, dates, milk, pomegranates, rice, cooking oil, eggplants and eggs, consumers reported. Some goods that are available but not affordable include pineapple, strawberries, avocados, mangoes and mushrooms.

Table 40: Findings on demand and supply of most important agricultural goods, Thi-Qar

CONSUMERS				VENDORS	
Goods obtained regularly (n=25)	Goods obtained occasionally (n=25)	Imported goods but cheaper if produced locally (n=25)	Available but not affordable (n=25)	Most popular goods sold (n=15)	Most profitable goods sold (n=15)
Potatoes (23)	Rice (22)	Oranges (13)	Pineapple (9)	Tomatoes (6)	Tomatoes (3)
Tomatoes (22)	Cooking oil (22)	Potatoes (13)	Strawberries (9)	Potatoes (5)	Eggs (2)
Eggs (19)	Sugar (21)	Apples (13)	Avocado (8)	Rice (4)	Onion (2)
Bread (17)	Fish (15)	Dates (10)	Mango (8)	Cooking oil (3)	Potatoes (2)
Eggplants (17)	Meat (15)	Milk (10)	Mushrooms (7)	Eggplants (3)	Rice (2)
Cucumber (16)	Chicken (13)	Pomegranates (10)	Kiwi (5)	Onion (3)	Sesame oil (2)
Oranges (14)	Dates (12)	Rice (10)	Broccoli (4)	Sesame oil (3)	Sugar (2)
Pomegranates (11)	Tea (9)	Cooking oil (9)	Minka (4)	Sugar (3)	Cooking oil (2)
Apples (10)	Flour (7)	Eggplants (9)	Olives (4)		Watermelon (2)
Lemon (9)	Beans (6)	Eggs (9)	Persimmon (3)		Fish (1)

Among the most popular items sold, vendors reported tomatoes, potatoes and rice. The most profitable include tomatoes followed by eggs, onion, potatoes, rice, sesame oil, sugar, vegetable oil and watermelon.

A fifth of vendors feel they are not able to satisfy the demands of all customers. The main reasons identified include suppliers’ inability to ensure the quality of items (mentioned by 3 vendors), low stocks availability (2), lack of financial means to buy more stocks (2) and high purchase costs from suppliers (2). Vendors also listed some possible business opportunities in Thi-Qar. The most mentioned include growing of vegetables in general, greenhouse cultivation and livestock breeding (Table 41).

Table 41: Promising business opportunities in Thi-Qar discussed by vendors

PROMISING BUSINESS OPPORTUNITIES	NUMBER OF MENTIONS BY VENDORS
Vegetables	3
Greenhouses	3
Livestock breeding	2
Irrigation facilities support	1
Supporting local poultry	1
Facilitation of licenses for establishing fish farms	1
Rice	1
Cooking oil (corn)	1
Wheat and barley	1

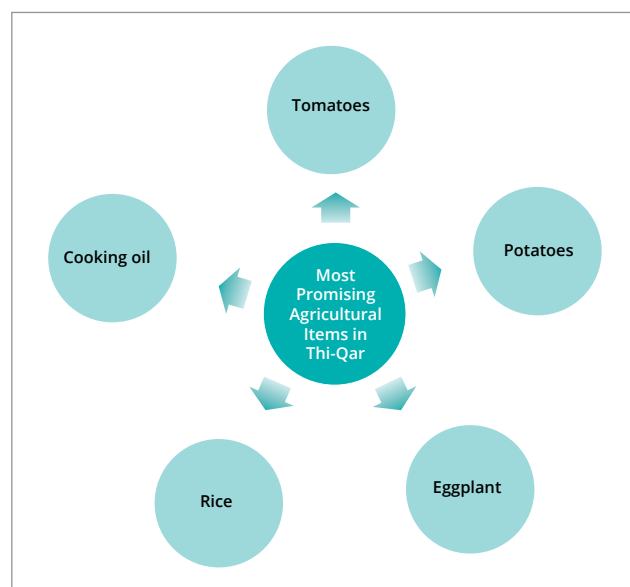
Consumers also advanced some recommendations for improving the functioning of the market. The most mentioned include the improvement of market cleanliness, which appears to be especially pressing in Thi-Qar. Support of domestic products and regulations or even banning of imports is also important, according to consumers, along with the monitoring of market prices, the establishment of quality control measures and prohibiting street vending. See the table below for details.

Table 42: Recommendations for improving the functioning of the market as reported by consumers in Thi-Qar

RECOMMENDATIONS MARKET FUNCTIONALITY IMPROVEMENT	NUMBER OF CONSUMERS
Improvement of market cleanliness and food safety	9
Import regulations/support domestic products	7
Monitoring of prices	5
Prohibiting street vendors	4
Quality control	4
State subsidies disadvantaged families	2
Retail re-organization by product	2
Livestock	2
Fish farming	2
Poultry	2
Market infrastructure improvement (paving)	1
Cooperatives establishment	1

In conclusion, among the most obtained goods and most popular items sold by vendors, tomatoes, potatoes, eggplants, rice and cooking oil are found. In addition, except for tomatoes, these could be produced locally at a cheaper price, according to consumers. Out of the most popular products, tomatoes, potatoes, rice and cooking oil are considered very profitable by vendors.

Figure 7: Most promising agricultural items that could be supported in Thi-Qar



3.2.4 Muthanna

Consumers reported regularly obtaining tomatoes, eggs, cucumbers, onions, cheese, potatoes and eggplants, among the most mentioned. Goods obtained occasionally include fish, cooking oil, meat, bananas, chicken, flour and rice. Most consumers mostly believe that the items available are affordable, reported by 69 per cent, with the remaining listing at least one item that was not affordable to them, including meat (mentioned by 4), fish (3), oranges (2), apples (2), bananas (2), kiwi (2), pomegranate and tea.

Twenty-seven per cent of consumers reported not being able to always find some agricultural items in the market. Details on the items were not provided. One consumer mentioned not being satisfied with some products in the market – potatoes, tomatoes and eggs – due to high prices and a mismatch between the product and the actual needs. However, many did not provide an answer regarding dissatisfaction with one product.

Table 43: Findings on demand and supply of most important agricultural goods, Muthanna

CONSUMERS				VENDORS	
Goods obtained regularly (n=26)	Goods obtained once in a while (n=26)	Imported goods but cheaper if produced locally (n=26)	Available but not affordable (n=26)	Most popular goods sold (n=18)	Most profitable goods sold
Tomatoes (25)	Fish (18)	Eggs (15)	Meat (4)	Fish (13)	Tomatoes (6)
Eggs (24)	Cooking Oil (16)	Dairy (15)	Fish (3)	Potatoes (7)	Carp fish (4)
Cucumbers (21)	Meat (16)	Tomatoes (9)	Chicken (2)	Tomatoes (7)	Chicken (1)
Onions (20)	Bananas (15)	Potatoes (6)	Oranges (2)	Eggplants (6)	Meat (1)
Cheese (19)	Chicken (13)	Oranges (6)	Apples (2)	Onions (6)	Apples (1)
Potatoes (18)	Flour (13)	Lemons (4)	Bananas (2)	Cucumbers (5)	
Eggplants (17)	Rice (13)	Watermelons (3)	Kiwis (2)	Meat (5)	
Green vegetables (9)	Beans (12)	Meat (3)	Pomegranates (1)	Barley (2)	
Green pepper (8)	Lentils (12)	Eggplants (3)	Tea (1)	Chicken (2)	
Apples (5)	Sugar (12)	Carrots (3)		Fruit (2)	

The most popular items sold by vendors include fish, potatoes, tomatoes, eggplants, onions, cucumbers and meat. The most profitable items sold by vendors include tomatoes, fish (specifically carps), chicken and meat.

Twenty-eight per cent (or 5 vendors) reported not being able to satisfy the demands of consumers. Three vendors explained that the problem was related to an insufficient quantity of stocks. In addition, high purchase costs from suppliers (2), suppliers not being able to supply the quality/design wanted (2), suppliers not being able to deliver the quantities ordered (2) and lack of transportation were also mentioned.

Vendors also listed some business opportunities in Muthanna. While these provided a variety of responses, which were somewhat difficult to group, the most mentioned include various types of support to fish farming in Muthanna, including the establishment of fishponds, direct financial support to fishermen and the establishment of fish feed processing businesses. Cucumbers as well as vegetables and fruits in general were also among the most mentioned.

Due to a lack of irrigation water, two vendors believed that the latter is essential for supporting local farming.

Table 44: Promising business opportunities in Muthanna reported by vendors

PROMISING BUSINESS OPPORTUNITIES	NUMBER OF VENDORS
Vegetable cultivation (including cucumbers, tomatoes, eggplants, onions)	7
Support fish farming (including financial support to fishermen, establishment of breeding ponds, establishment of factory for fish feed)	3
Fruit cultivation	2
Irrigation water availability	2
Potatoes cultivation	1
Production of fodder	1
Sesame cultivation	1

PROMISING BUSINESS OPPORTUNITIES	NUMBER OF VENDORS
White corn cultivation	1
Fertilizers and pesticides provision	1
Establishment of nurseries	1
Price monitoring	1
Establishment of mills	1
Supporting livestock	1
Poultry fields establishment	1
Greenhouse cultivation	1

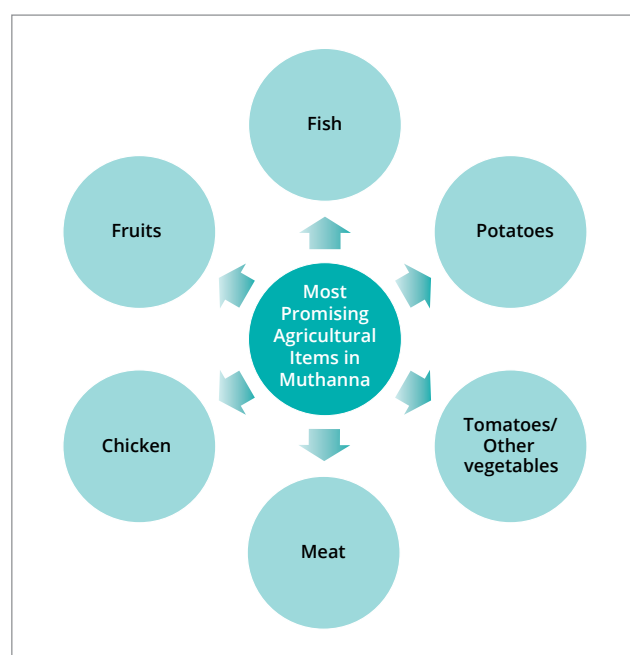
Consumers mentioned some possible fixes to the current market. Among the 65 per cent who were able to suggest an improvement, the most mentioned include an improvement of hygiene and a general improvement of the market's infrastructure, including its appearance and general support to farmers. See the table below for details.

Table 45: Recommendations for improving the functioning of the market as reported by Consumers in Muthanna

RECOMMENDATIONS MARKET FUNCTIONALITY IMPROVEMENT	NUMBER OF CONSUMERS
Market hygiene	6
Market infrastructure and appearance	5
General support of farmers/agricultural projects	4
Support local products/increase competitiveness local product	1
Organizing retail by type of product	1
Irrigation water availability	1

In conclusion, among the most obtained goods and most popular items sold by vendors, fish, potatoes, tomatoes, eggplants, onions, cucumbers, meat, chicken and fruits in general are found. Among these, tomatoes, potatoes, meat and fruits (specifically oranges, lemon, and watermelon) could be also produced locally at a cheaper price, consumers believe. Tomatoes, fish (particularly carp fish), chicken, meat and apples appear to be very profitable for vendors too. In addition, fish farming also appeared as an important business opportunity, according to vendors.

Figure 8: Most promising agricultural items that could be supported in Muthanna



4. AGRICULTURAL VALUE CHAIN ANALYSIS

4.1 SWOT ANALYSIS AND SELECTION OF PROMISING VALUE CHAINS

Following the context analysis and the consumer and market vendor surveys, the next step in the process was to identify and select the value chains for this study. Selecting an appropriate value chain requires a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats). The following key elements have been used for the process of evaluating each value chain with high potential:

1. **Availability of local capacities and skills** for value chain development of the specific product.
2. **Market demand** for the specific products in the chain by local, regional and international customers and consumers.
3. **Potential market size**, depending on the size of the geographic area, population size and population density.
4. **Market trends** that will affect the consumers' buying habits.
5. **Presence of industry forces** that may affect the value chain positively or negatively, including international as well as internal issues such as government policy, and structural or technological changes.

6. Competitor analysis of direct competition (i.e. between producers/vendors of the same products) and indirect competition (i.e. between producers/vendors of similar or substitutable products or those competing for the same market). Special attention will be given to the competitiveness of local producers with imported products.

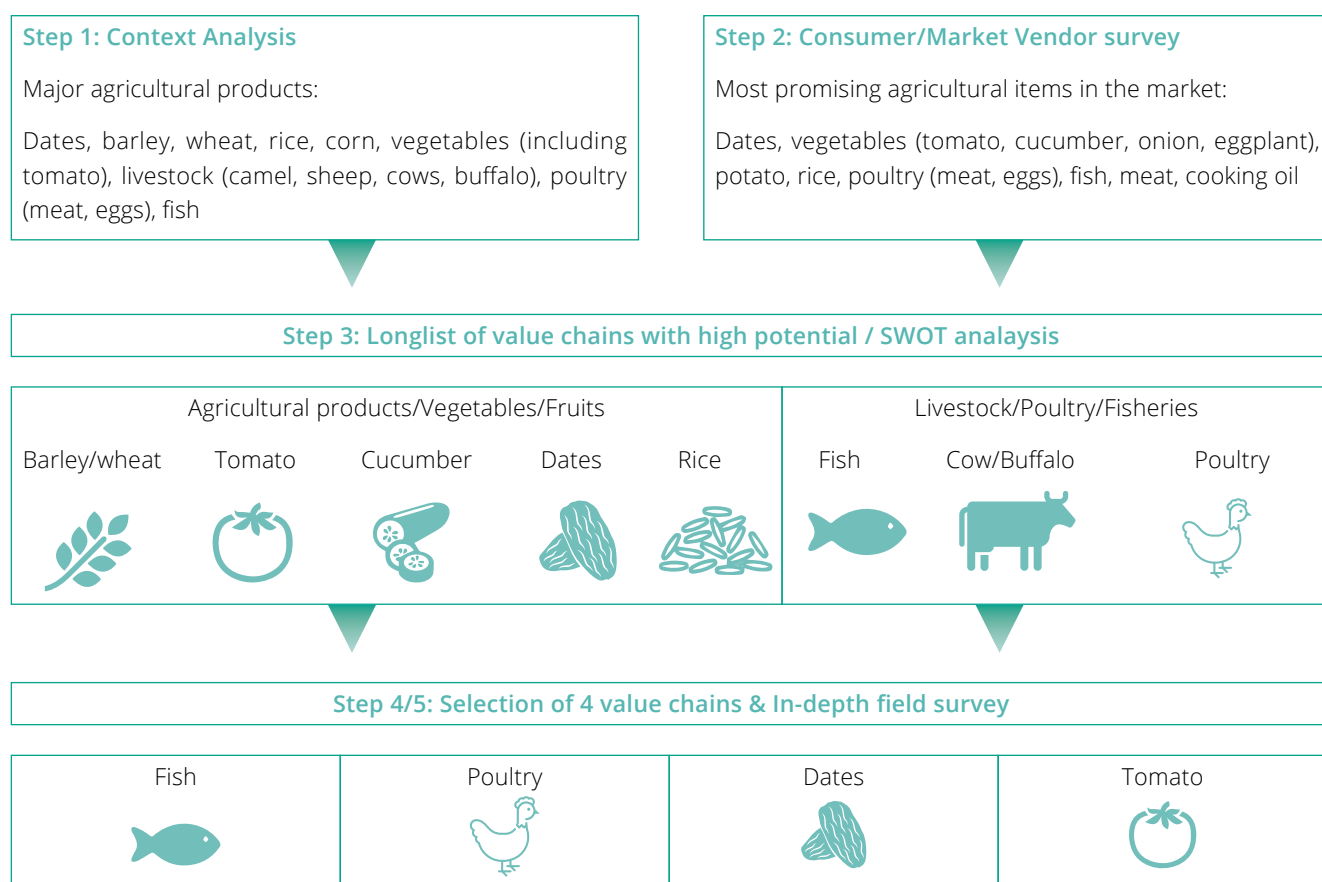
7. Profitability of the value chain.

During a workshop with the IOM teams in the southern region, a total of eight value chains with high potential for Basra, Missan, Thi-Qar and Muthanna were identified.¹⁴⁷ For each of these chains, a SWOT analysis was carried out, which can be found in Annex A.

The selection of the most promising value chains was based on the findings of the consumer and market vendor survey, as well as on the context analysis and general insights of the value chain experts and IOM staff in the four governorates in the south. Figure 6 shows which phase in the process led to the selection of each value chain.

¹⁴⁷ Since the data from the Consumer and Market survey in Muthanna were not yet available, during this workshop, the focus was on Basra, Missan and Thi-Qar. Nevertheless, Muthanna was included in the selection of value chains as well, based on the context analysis and the insights of the IOM team and of the value chain consultants about Muthanna.

Figure 6. Value Chain Analysis process



The value chains with high potential are the following:

Value Chains with high potential	Governorate where this value chain is most prominent
Agricultural products/Vegetables/Fruits	
Tomatoes	Basra/Thi-Qar/Muthanna
Cucumbers	Basra/Muthanna
Dates	Basra/Muthanna
Barley and wheat	Missan/Thi-Qar
Rice	Missan/Thi-Qar
Livestock/Fisheries	
Fish	Basra/Muthanna
Cows and buffalos	Basra/Missan/Thi-Qar
Poultry	Missan/Thi-Qar

Next, based on a comparison of the SWOT analyses for each potential value chain, a final selection of the four most promising value chains was made. The main arguments for the selection of the four value chains are listed in Table 46.

During the workshop, a score was assigned to each potential value chain on a scale of 1–10, to be able to compare and rank them.

Table 46: Arguments for selection of value chains in the South of Iraq

SELECTED VALUE CHAIN	MAIN ARGUMENTS FOR SELECTION	SCORE BETWEEN 1–10
Fish	<ul style="list-style-type: none"> • The South of Iraq is famous for high quality fish • Very profitable • High job creation potential • Fish poisoning is less of a problem in the South compared to other regions 	8.5
Poultry	<ul style="list-style-type: none"> • High job creation potential • High demand for both meat and eggs • Low investments needed 	8
Dates	<ul style="list-style-type: none"> • High demand • High export potential 	7.5
Tomato	<ul style="list-style-type: none"> • Profitable • Good opportunity for job creation • Good processing opportunities 	7.5

4.2 VALUE CHAIN ANALYSIS PER SUBSECTOR

For each of the four selected value chains, a detailed value chain analysis, including a value chain map, for the southern region has been carried out. This analysis was informed by interviews with a selected number of key informants:

1. Agricultural producers (this category includes farmers, livestock or fish producers, depending on the value chain);
2. Wholesalers and retailers (middlemen, large traders, shop owners, restaurant owners);
3. Industry experts (equipment suppliers, chemicals, feed, seeds and other inputs, processors such as graders and packers, slaughterhouses, food production factories);
4. Local authorities (Chamber of Industry or Commerce, Provincial Council / Committee on Industry, Trade and Agriculture, agricultural advisors/extension officers).

The goal of these interviews was to obtain deep insights into the functioning and the shortcomings of the value chain, as well as to create a value chain map of the multiple ways that the products in the four selected subsectors get to the consumer, from raw materials inputs to the point of consumption. The maps are based on a combination of qualitative and quantitative data and information. During a workshop with IOM staff and the value chain consultants, a first draft version of the value chain map was developed, becoming the basis for the maps included in this report.

For each value chain, the focus of the data collection was on one or two governorates, depending on where this subsector has the highest potential or is already best developed with room for further expansion:

- Dates: Basra/Thi-Qar
- Fish: Missan/Basra
- Poultry: Thi-Qar/Muthanna
- Tomato: Thi-Qar/Muthanna

In the next sections, for each value chain, the following themes will be explored:

- Context
- Value chain map
- Value chain actors
- Cost structure and prices
- Communication and information flows
- Relationships (governance) in the value chain
- Government support to development of the value chain
- Opportunities and challenges for value chain development
- Potential for investment and job creation in the value chain

The last section provides an idea about the potential for investment and job creation in the value chain, to understand in which areas of the value chain cash grants are needed.

4.2.1 DATES

Focus area: Basra/Thi-Qar

Context

Dates are a flagship Iraqi product, and are the country's only major agricultural export crop, although currently there is no export of dates from the southern region. Iraq, which once produced around 75 per cent of the world's dates. Over the last two decades, production has strongly decreased due to the shift in economic focus to oil, and because decades of conflict devastated date farms.¹⁴⁸ In the past, processing of dates was a very important economic activity all over Iraq, especially in Basra and other southern governorates. The former state-owned "Dates Processing and Marketing Company", under the Ministry of Agriculture, used to have branches in almost every governorate. One of the largest branches was based in Basra, where all dates destined for exports had to go through a very thorough quality check. However, after 2003, the state-owned company ceased its operations, and domestic date production declined. In 2019, Iraq still produced around 639,315 tonnes, accounting for around 7 per cent of the worldwide total. However, Iraq's production is only a fraction of the production of major date producers such as Egypt, Saudi Arabia, Iran and Algeria, who together account for more than 60 per cent of global production.¹⁴⁹

Officially, Iraq has banned the import of dates to protect its farmers. However, given its porous borders, the market is flooded with dates from neighbouring Iran, which offers better water supply and incentives to its farmers.¹⁵⁰ The export of dates accounted for only 0,13 per cent of total

Iraqi exports in 2016, which is negligible compared to the export of oil which accounts for around 99 per cent of total exports. However, according to agricultural experts, dates are one of the most promising subsectors for short-term expansion, with good export potential and offering efficiency gains from import substitution.¹⁵¹ The Al-Zahdi cultivar is the main variety for the production of dates in Iraq, contributing to about 52 per cent of the total production of Iraq.

In the south of Iraq, the major producers of dates are Basra and Thi-Qar. In 2014, with a production of 47,000 tonnes, Basra was the fifth largest producer of dates in Iraq, after Baghdad, Babylon, Kerbala and Diyala.¹⁵² Date palm cultivation is spread throughout Basra Governorate, with higher concentrations in the areas adjacent to Shatt Al-Arab and other rivers.¹⁵³ In 2019, the total number of productive palms was estimated at 810,000, with an average production of 33,380 tonnes in 2019.¹⁵⁴ In 2018, Kuwaiti investor Abdul-Aziz al-Babtain, owner of a large conglomerate, started a date scheme worth USD 58 million, with 5,000 date trees some 150 kilometres from the southern city of Basra. The investor plans to grow 100,000 trees within six years.¹⁵⁵

In 2014, Thi-Qar was the eighth largest producer of dates, with a production of 38,000 tonnes.¹⁵⁶ The governorate also had an estimated 250,000 m² of palm groves, which represented another significant export of the area.¹⁵⁷ The total number of productive palms was estimated at 695,000 with an average production of 44,270 tonnes in 2019.¹⁵⁸

Value chain map

On the next page, the value chain map for dates is presented.

148 Reuters, 2018, Iraq to plant 70,000 date palms to revive once legendary crop. Available from: www.reuters.com/article/iraq-farming/iraq-to-plant-70000-date-palms-to-revive-once-legendary-crop-idUKL8N1TS3RN.

149 FAOSTAT, Production Quantity, Dates. Available from: www.fao.org/faostat/en/#data/QC.

150 Reuters, 2018.

151 FAO, 2012, Iraq Agricultural sector note.

152 UNESCO, 2019b, Assessment of the Labour Market & Skills Analysis, Iraq and Kurdistan Region-Iraq, Agriculture.

153 Ministry of Planning, CSO, 2020.

154 Data obtained from Central Statistical Organisation (CSO), Ministry of Planning, 2019.

155 Reuters, 2018.

156 UNESCO, 2019b, Assessment of the Labour Market & Skills Analysis, Iraq and Kurdistan Region-Iraq, Agriculture.

157 UNHCR, Thi-Qar Assessment Profile, 2006. Available from: www.refworld.org/docid/471f4c9d5.html.

158 Data obtained from Central Statistical Organisation (CSO), Ministry of Planning, 2019.

Value Chain map for Dates (Basra and Thi-Qar)

Inputs:

Inputs procured from Basra:

- Seedlings
- Fertilizer
- Pesticide

Production:

Main production areas in South of Iraq:

- Basra
- Thi-Qar

Part of the harvest is wasted because of dust, salt water and lack of storage facilities. Waste products are sold as fodder to other farmers.

Distribution:

Farmers sell their produce to wholesalers, shopkeepers or directly to consumers.

Wholesalers sell to retailers/shopkeepers.

There is a small processing industry in Basra, mainly for packaging dates. A small number of companies process and sell dates stuffed with walnuts or honey.

Some waste occurs during processing and transportation.

Retail:

Retailers sell dates to consumers.

Main location for consumers in Basra is Old Basra Market, in other governorates dates are sold in the main market

Export:

At present, no export of dates from south Iraq

Sales to other governorates:

Wholesalers sell to other governorates.

Main destinations: Baghdad, Kerbala, North of Iraq

Retail:

High demand from consumers, each household consumes 50-100 gr per person per day

Consumers:

Same as above

Value chain actors

Input suppliers

All inputs to produce dates are procured from Basra. This includes seedlings, fertilizers and pesticides.

Production

In the south, Basra is considered the main date production site, both in terms of quality and quantity. Dates are produced on both small and large palm date farms. Some farmers only have a small number of trees, which only supplement other income generation activities. The number of palm trees per farmer varies considerably, with some farmers owning up to 500 palm trees on five donums of land (or 1.25 hectares), producing also different types of dates. Date palm pollination is done by hand in March, while the harvest takes place in July. Annual cropping decisions are made according to market demand during the season.

A large waste of dates occurs during the production phase mainly due to dust, salt water, lack of pesticides and lack of proper storage facilities. Some dates get spoilt during transportation. On-farm storage capacities ranges between 2 and 10 tonnes because of variations in market demand. Some of the stock that is no longer suitable for consumption is sold as fodder for livestock. According to one wholesaler, "Sometimes there is a delay in selling the product that causes spoilage and the farmer's lack of interest in the product." To reduce waste, the same wholesaler also recommended to create a modern market, large and clean warehouses and increasing the farmer's interest in the product.

Farmers have also rated (from irrelevant to highly significant) a set of factors that influence their decisions on whether to do business with major buyer(s) or not, including:

The price offered by the buyer(s)	Highly Significant
Long-term prospects of continued sales	Highly Significant
Finance offered	Significant/ Highly Significant
Practical help/advice offered	Significant
Strength of the personal relationship with buyers	Significant
The security of ongoing business with buyers	Significant
The volume buyers will acquire	Average
Lack of alternatives	Average

Distribution

Farmers sell their dates to wholesalers, who will then sell to retailers. Some farmers also sell directly to small shopkeepers or to consumers. The relationships between farmers and traders are generally very good with high trust reported. As one farmer put it: "I have been working with the same wholesaler for more than 12 years and I'm satisfied because there is credibility and confidence in the work and there is no need for formal contracts." Farmers are rewarded by the wholesalers if they produce high-quality dates. Often, wholesalers sell the highest quality dates (Al-Barhi) to other governorates (including Baghdad, Kerbala, as well as to the Kurdistan Regional Government). One wholesaler mentioned that he usually sells one trailer of 20 tonnes of dates to Erbil per season.

In Basra, most retailers sell their dates in the Old Basra Market. The quantities sold vary between 50 and 200 kg per day. The sales price of locally produced dates to consumers varies from 3000 to 4000 IQD/kg. The price of Iraqi dates is higher than the price of imported dates. The difference is explained by their higher quality and freshness, which is why consumers generally prefer Iraqi dates despite the higher price. At present, there is no export of dates from the south of Iraq.

Wholesalers usually buy from different farmers, both inside and outside Basra Governorate. Certain types of dates are not available in Basra. Farmers supply dates daily, from the beginning of the season in July until the end of the date season in September. Wholesalers buy about 80 kg of different types of dates (Berji, Sair and Brim) per day.

There are several wholesalers buying and selling dates in Basra market. One wholesaler estimates his market share at 30 per cent.

Processing

As indicated above, processing of dates used to be a very important economic activity all over Iraq, and especially in Basra. At present, most farmers sell their dates without any form of processing, accounting for around 99 per cent of total production. A small number of farmers and wholesalers process the dates by adding date syrup and nuts, which they sell directly to consumers on special order, accounting for around 1 per cent of production.

There are very few date processing factories in south Iraq, but there is a small industry for packaging dates. Dates are usually processed in so-called pressing factories, in which the dates are pitted, pressed and packaged. The work is mostly done by women, who are involved in the pitting, and is followed by the pressing of the dates into a mould in a regular box size (usually of 0.5 or 1 kg); the dates are then

packaged into boxes that are suitable for consumers.

One owner of a date packaging company produces 100 kg of dates per hour, but she indicated that this is not enough to satisfy market demand. For the processing of dates, more equipment is required to increase production. The company owners say that they are thinking about changing the current products offered in the market by adding other date products and changing the packaging. One company is currently conducting a study to shed light on the prospects for product diversification. The canning of dates is also mentioned as an interesting opportunity. However, lack of financial liquidity is preventing the introduction of such innovative ideas.

The dates industry provides job opportunities for women, especially in date pressing. Some women process dates at home, which is seen as a success story for their business and could be replicated.

Consumption

All over Iraq, consumers have a high demand for dates. On average, each household consumes 50–100 gr of dates per person per day. According to traditional beliefs, the number of dates consumed by one person should be an odd number.

According to wholesalers, consumers demand dates that are clean, sold at reasonable prices and of good quality. There are different types of dates that the consumer prefers, such as Albarhi, Alburaim and Alsayer. At the same time, wholesalers indicate that they would still like to know more about consumer preferences to be able to better respond to market demand.

Cost structure and prices

The main cost drivers for dates wholesalers are transport (from the farm to Basra), renting of a shop, services and hiring of workers. The sales price of the wholesaler is determined based on the quality of the dates (especially cleanliness), the purchase price paid to the farmer, as well as the sales prices in other shops. The prices are not fixed because there is no uniform price in the market. The profit margin of wholesalers is between 25 to 30 per cent.

The average prices of dates along the value chain, produced in south Iraq, are as follows:

ACTOR IN THE CHAIN	SALES PRICE
Farmer	2500 IQD/kg
Wholesaler	2750 IQD/kg

Retailer	<ul style="list-style-type: none"> • Iraqi dates: 3000 IQD/kg (normal varieties) to 4000 IQD/kg (special variety of Barhai dates) • Sales price of dates from Basra in Erbil: 6000-7000 IQD/kg
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One of the main problems affecting local date production are imports from Saudi Arabia, which are sold at much cheaper prices – between 1000 and 2000 IQD/kg. This price makes it very hard to compete for Iraqi date farmers. By reducing the costs of production, Iraqi dates could become more competitive, and production could be increased. In addition, the devaluation of the Iraqi dinar in late 2020 could in theory help to make Iraqi dates more competitive, but in practice, this has not yet made any difference.

Communication and information flows

The farmers are generally very satisfied with the suppliers of materials, as they provide reliable information on pesticide or fertilizer types and how to use them, what type of seed to use, and other information. They usually have long-term business relationships (of up to 10 years), which indicates a mutual satisfaction. Regarding the use of pesticides, farmers would welcome more detailed information. The farmers receive useful and reliable information from wholesalers, especially about the types of dates that are in demand. One farmer indicated that it would be good if buyers provided more feedback on the quality of the dates and how to improve it.

Relationships (governance) in the value chain

Farmers are also generally willing to invest with anyone to develop and expand the farm. They are currently not aware of any downstream investment plans. The farmers interviewed do not have any objection to working together to develop the value chain and to exchange information and experience.

Sometimes wholesalers experience problems with farmers who are asking for high prices, or with customers who are buying on credit and are not able to repay. Nonetheless, there is a high level of trust with most farmers as well as with most customers. The wholesalers interviewed have been buying from the same farmers for the last 20 years because they deliver high-quality products and are honest and reliable. They do not work based on formal contracts to buy and sell. As one wholesaler put it: “There are customers who come to buy dates from me because there is sincerity in the dealing, and I also sell on debt.”

Wholesalers interviewed have never received any kind of support from Business Support Providers (BSP), donors or state-owned agencies. They do not have any certificate or standard of quality, but only rely on their working experience and trust from their business partners. They also indicated that they are motivated by the future prospect of the dates value chain. Wholesalers are open to the idea of partnering with other actors in the chain to develop employment opportunities for unemployed youth and increase their income. As one interviewee explained, "There are good expectations of an improvement in the market, increased sales in the future and adding more workers." The business development centre at the Basra Chamber of Commerce provides training for shop owners, as well as courses on how to deal with banks and human resources.

Government support to the development of the value chain

According to farmers, the support provided by the Government or other organizations for date cultivation is limited. Nevertheless, farmers need to develop their skills in modern agricultural techniques. According to the Basra Agriculture Directorate, there is a lot of exchange of experiences in date agriculture, as well as efforts in the provision of training courses for farmers. As well, there is a project for tissue cultivation of palms implemented by the Basra Agriculture Directorate. The same department is also cooperating with the Faculty of Agriculture in Basra on how to develop date palms. In 2019, the faculty conducted a study informing the development of date palm by the Basra Agriculture Directorate, which included the surveying of farmers and date laboratories.

In general, formal cooperation with other organizations or vocational training centres, at both the international and local level, is limited. The only ongoing cooperation project on dates is with the German Cooperation Agency (GIZ), and aims at establishing training courses for unemployed youth. As well, according to the Basra Chamber of Commerce, there is an ongoing project for a date palm plantation farm in Al-Zubair.¹⁵⁹ Within the governmental agricultural institutes, financial resources are limited. However, human resources are available in abundance, in addition to expert support for agricultural projects and local economic development.

In Basra, training is offered to workers by the packaging companies, mostly in packing, cleaning, machinery operation and product marketing. Because of the general lack of skills among people who want to work in the dates industry, there

is a need to extend the trainings offered, especially on how to harvest dates, on recognizing the different types of dates, on how to clean dates, on how to operate the machines used in date processing, and finally on how to market dates. At present, there are no vocational training centres offering these types of trainings in Basra (nor elsewhere in the south of Iraq). There is also a need for business management trainings, especially on how to market date products and on access to finance for entrepreneurs.

Opportunities and challenges for value chain development

Opportunities:

- Increasing local date production holds vast potential, especially in Basra due to the suitable climatic conditions.
- Special varieties of dates, such as Barhai, can be sold at very high prices. When dates are sold in Erbil, profit margins of 150–200 per cent are possible.
- By limiting the import of dates and by reducing the production costs, Iraqi dates would become more competitive and production could be increased. The devaluation of the Iraqi dinar in late 2020 could be considered a potentially positive factor in stimulating exports.
- According to industry experts, by investing in the dates value chain, in setting up date pressing factories, additional employment could be generated because there is a very high demand for dates from Basra due to their high quality.
- The dates industry provides very good job opportunities for women; at present, women are working in the date industry and there are opportunities for expansion, especially in date pressing.
- The export market offers opportunities for farmers and traders who can produce high-quality dates for niche markets, such as Fairtrade or ecologically certified dates, for which there is growing demand in Europe and North America. There is also potential for exports of processed dates, such as dates stuffed with walnuts or honey dates.
- There is potential to introduce new date products offered in the market, in adding other products and in changing the packaging. A study is currently being carried out by one of the processing companies.¹⁶⁰ The canning of dates is also mentioned as an interesting opportunity.

¹⁵⁹ This project is implemented in Basra and Muthanna, funded by GIZ and implemented by USAID, to establish an advanced library for producing Palm dates by using Tissue Agriculture.

¹⁶⁰ There is no information on who conducted the study nor any information on the study outcomes.

Challenges:

- A lack of support from the Iraqi government to farmers, especially in providing pesticides. In the past, the government had a support plan to distribute pesticides, but since 2003 farmers must procure it themselves.
- High waste of dates during production, which can be solved by training farmers in good agricultural practices, in improved storage, packing and transportation.
- The presence of imported dates from Iran and Saudi Arabia has created unequal competition because of the lower prices of the imported varieties. Even though the quality of the imported dates is lower, many consumers often prefer imported dates because of the low purchasing power and high levels of poverty in Iraq.
- A lack of financial liquidity is preventing processing companies from introducing new and innovative date products to the market.
- A lack of industrial land to establish date processing factories along a lack of support from the government in this regard.

Potential for investment and job creation in the value chain

In conclusion, the highest potential for investment and job creation in the date value chain in south Iraq includes the establishment of date pressing factories and date syrup factories. The rationale is the very high demand for dates from the south, particularly from Basra, because of their high quality. Dates from the south could be sold throughout Iraq and exported as well. The export market offers opportunities for farmers and traders, who can produce high-quality dates for niche markets. Date syrup also holds high potential for export, especially to the Gulf.

Establishing date pressing factory – estimated investment cost and job creation

Date pressing factories rely on many workers. Pressing dates begins with removing the seeds from the dates and placing the pitted dates in aluminium moulds of 0.5 kg or 1 kg. This is followed by pressing them with a simple device that is used to manually press the dates and give them the shape of the mould. The dates are then wrapped with cellophane and put into a cardboard box. The number of workers in each factory is about 30 (most of them women).

The daily production capacity of one small plant is about three tonnes of pressed dates. The production period in this factory when relying on dates produced in the same season (and without storing large quantities), is about six months.

However, if large quantities of dates are stored, work can continue throughout an entire year. The investments needed for a factory consist of:

- Five hand presses
- Ten metal tables
- Two cellophane heating irons
- Aluminium moulds of 0.5 kg and of 1 kg (10 pieces each).

Initial investment costs:

- Cost of equipment USD 2,500
- Initial investment needed: USD 2,500

Operating costs:

- Salaries = USD 500 /Month x 30 workers USD 15,000

Operating cost per year: USD 15,000 per month x 6 months = USD 90,000

Total investment cost for the first year:

(Initial investment + operating cost) = 2,500 + 90,000 = USD 92,500

Employment creation:

Overall, 60 factories could be potentially established in south Iraq (30 in Basra, 10 in Missan, 10 in Muthanna and 10 in Thi-Qar). Based on 30 workers per factory, this means that the total employment created would be 1,800 jobs.

Total potential job creation: 1,800 jobs**Establishing a date syrup factory – estimated investment cost and job creation**

A medium-sized factory operates in shifts of two rounds per day, with each round needing 3.5 tonnes of dates. It is preferable to use the Zahdi dates, which are grown in abundance in Iraq at a relatively low price compared to other varieties. The same variety contains a high juice ratio and contains a medium degree of fibres, which allows to produce the largest possible amount of date syrup. The date syrup is locally called Debs syrup, and it has high potential for export, especially to countries in the Gulf. Establishing one factory would require the following machinery and equipment:

- A cleaning line for raw dates, including a conveyor belt of 6 meters for cleaning the dates from gravel and dirt
- A large tank used for steaming dates. The tank is 2.5 meters large and 2 metres deep
- A steam generation system with a capacity of 3 tonnes of steam per hour

- Five manual squeezing machines A juice collection tank and drawer for the increased concentration device (evaporator) to increase the concentration of date molasses
- A semi-automatic filling machine with a nylon shrinking machine
- A 150 kV generator
- A pure water source

Initial investment cost:

– Machine cost	USD 180,000
Initial investment needed:	USD 180,000

Operating cost:

- Fuel for the generator = 40l/hour x 8 hours x 25 day x 0.4USD/L = USD 3,200
- Salaries = USD x 500/ month x 25 workers = USD 12,500
- Maintenance cost (10% of total investment cost/12) = USD 1,500

Operating cost = USD17,200 x 12 months = USD 206,400

Total investment cost for the first year:

(Initial investment + operating cost) = 180,000 + 206,400= USD 386,400

Employment creation:

It is estimated that it would be feasible to establish four factories in southern Iraq (one in each governorate: Basra, Missan, Thi-Qar and Muthanna), which means that the total number of jobs created would be 100, based on a calculation of 25 workers employed per factory.

Total potential job creation: 100 jobs

4.2.2 FISH

Focus area: Missan/Basra

Context

Traditionally, fisheries have not been very prominent in the Iraqi economy. However, fisheries have always been important in south Iraq. Fishing activities started to develop since

2004 and have become a main protein source for many Iraqis. Because Iraq only has a 50 km² of coastline, nearly all fish production is in fresh water (rivers, lakes, dams and marshes).¹⁶¹

Inland capture fisheries represent more than 50 per cent of total fish production, inland aquaculture around a third, while sea capture represents only 10–15 per cent of fish production. The total area under aquaculture production in Iraq is estimated to be 7,500 hectares. Fisheries consist of fish farms that rely on pond aquaculture in the central and southern part of Iraq. The most common fish species are carp (common, grass and silver). Fish farms are usually small private firms. There are only a few relatively large fish farms.¹⁶²

Fishing is mostly concentrated in the southeast of Iraq and in the Iraqi marshlands (in the Gulf, Shatt Al-Arab and Basra’s marshes). Nearly half of all fisheries (fishermen, vessels, and farms) are found in Basra, Missan and Thi-Qar governorates, while Baghdad and Babylon process most fish. The biggest fish markets are in Baghdad and Basra. At present, there is no fish export.¹⁶³

As noted in Chapter 2 (Context analysis), the marshes have always been famous for river fishing, where the most sought-after types dwell, such as the Carp (or Samti), Bini, Khatan, and Shelech, with 3,480 tonnes of catch recorded in 2019.¹⁶⁴ Farming ponds and fish farming floating cages are present in both Basra and Missan, with most sales going to the markets in Basra and Muthanna.¹⁶⁵ In Missan, there are 79 fish farming ponds, with a total annual production of 6,214 tonnes in 2019. In Basra, many fish farms appear to have stopped, according to the latest data available with only 6 out of 44 still functioning. Fishing has been one of the livelihood activities most heavily impacted by the degradation of the marshlands; fish populations have seriously decreased, especially economically valuable fish species, due to the intrusion of saltwater, overfishing and invasive species. Fishing still occurs on a small scale – at subsistence level – where the quantity and quality of haulage varies and cannot be relied upon as a means of livelihood, as suggested in the context analysis.

Value chain map

The value chain map for fisheries is presented in the following page.

161 UNESCO, 2019b.

162 UNESCO, 2019b.

163 UNESCO, 2019b.

164 Agriculture directorate in Missan, Fisheries department and Marshes recovery department, 2020.

165 REACH, 2020.

Value Chain map for Fisheries (Missan and Basra)

Inputs:

Equipment:

- Small boats and trawls for fishing in the marshes.
- Fish feed (soya, white corn, barley) for fishing in cages produced in Missan.
- Baby fish procured from traders in Basra.

Production:

Main fishing area is Missan, with only river fish produced. Main types of fish are buni, samti (carp), shaboot, zoori. Also production in fish ponds but relatively small.

In Basra, only sea fish is produced. Main types of fish: shrimp, nouibi, zubaidi.

Distribution:

In Missan, fishermen sell to wholesalers.

Wholesalers sell the fish locally in Basra/Missan.

Processing: most fish is sold fresh, but some fish is dried or salted.

Retail:

Missan: wholesalers sell to retailers, who sell to consumers on the market in Missan.

Basra: wholesalers sell fish to retailers and other wholesalers.

Export:

At present, no export of dates from south Iraq

Sales to other governorates:

Sales to Najaf and Al-Qadissiya to wholesalers, then to retailers.

Retail:

Iraqis consume fish at least once a week. During Eid, people usually eat a special kind of dried fish.

Consumers:

Same as above

Value chain actors

Input suppliers

Different type of equipment is needed for fisheries, depending on the type. For fisheries in the marshes, small boats and trawls/fishnets are needed. For fish cage farming, fish feed (soya, white corn, barley), which is produced locally in Missan, is needed. The price of fish feed is 450,000 IQD/tonne. Small fish is also needed, often bought from traders in Basra, who buy them from the College of Agriculture (Basra University). The price is 750 IQD/baby fish. In Missan, small fish are also sold by traders but in smaller quantities.

The production of boats and fishnets is still done in a traditional way. Experts note that there is room for innovation in this sector, as it is currently controlled by a small number of families who have done this from generation to generation. Training is needed to produce traditional boats and fishnets as not many people have these skills. As one industry expert stated, "This is a very specialized career, nobody knows it but a few families, so if orders increased, we would need to recruit workers to assist in producing boats and fishnets."

Production

In Missan, which is the main fishing area in south Iraq, there are two types of fisheries:

1. Wild fish from the marshes: total production was 3,400 tonnes in 2019. This sector creates employment for many people living in the marshes (with a total population of 21,000 people), providing a source of livelihood.
2. Cultivated fish in cages: total production was 6,300 tonnes in 2019, but the number of people employed is unknown.

The main types of river fish caught are albani, alshabut, samti (carp), alkutan, shuji and zoori. Total production in Missan is 10,000 tonnes per year. Fishermen can catch more fish when the water level rises. There is also production in fishponds, but it is relatively small.

In Basra, only sea fish is produced. Main types of sea fish are shrimp, nouibi, and zubaidi. In the Um Qaser/Fao district in Basra (near the Arab Gulf), more than 80 per cent of all people work in fisheries. The profession is passed on from generation to generation; most of those born in the marshes are taught how to fish by their fathers. There are registered and non-registered fishermen, so it is difficult to estimate the total number of people employed in the sector.

According to the fishermen interviewed, there is no waste in the value chain. There is no stock of fish and it is sold immediately after fishing. Even when there is a delay in selling the product, it does not affect the quality because the fish remains inside the water ponds.

Fishermen have also rated (from irrelevant to highly significant) a set of factors that influence their decisions on whether to do business with major buyer(s) or not, including:

Long-term prospects of continued sales	Highly Significant
Strength of the personal relationship with buyers	Highly Significant
Finance offered	Significant/ Highly Significant
The security of ongoing business with buyers	Significant
The volume buyers will acquire	Average/Significant
Lack of alternatives	Average/Significant
Practical help/advice offered	Average/Significant
The price offered by the buyer(s)	Average

Distribution

In Missan, fishermen sell to wholesalers in the marshes, and the same goes for fishermen who fish in cages. The wholesalers also sell both locally and outside Missan/Basra, mainly to Najaf and Qadissiya. Usually, fish is sold daily to wholesalers in the same location, directly after the fish is landed.

The wholesalers in Missan sell to both shop owners and consumers. Most wholesalers sell to retailers, who sell to consumers on the big market in Missan. In Basra, wholesalers sell fish to retailers and other wholesalers. Transport is done by cars, which have a special basin to keep the fish fresh. The wholesalers interviewed sell 10-100 kg of fish per day.

There are several fish traders in Missan, who compete with each other; one wholesaler estimated having a 25 per cent market share.

At present, there is no export of fish from south Iraq. Previously, it was common to export fish to bordering provinces.

Processing

Processing is limited. Most of the fish is sold fresh, whereas some is dried or salted.

Consumption

According to the fishermen interviewed in Missan, the final consumers are people in Missan as well as people from Najaf and Qadissiya. Consumers buy fish from certain shops based on the price, quality and the diversity and availability of fish species.

Most Iraqis consume fish at least once per week (usually on Wednesdays). During Eid, people eat a special kind of dried fish.

Cost structure and prices

The main cost drivers for wholesalers are the renting of premises and workers' salaries. The selling price is mainly determined by the purchase price; a small amount is added to it as profit. Prices are not fixed because there is no uniform price in the market. The profit margin for wholesalers is 15–30 per cent.

The average prices of fish along the value chain, produced in south Iraq, are as follows:

ACTOR IN THE CHAIN	SALES PRICE
Fisherman	2500 IQD/kg
Wholesaler	3000 IQD/kg
Retailer	<ul style="list-style-type: none"> • Average price for normal varieties: 4000 IQD/kg • Selling price is higher for male than female fish because of better taste • Most expensive types of fish are albani, alshabut, samti (carp) buni (selling price on the market): 15,000 IQD/kg Shrimp (sales price on the market): 10,000 IQD/kg for medium size, 15,000 IQD/kg for jumbo size

Communication and information flows

One fisherman explained that he obtains information from wholesalers or retailers about fish prices in the local market, and the information is very useful. The fishermen have no need for any other information in the chain.

According to the interviewed wholesalers, the information on the needs of consumers comes directly from the consumers. Wholesalers indicated that they would like to have better information on fish demand.

Relationships (governance) in the value chain

The fishermen interviewed are very satisfied of the relationships with their suppliers, as they have been doing business for over 30 years and can rely on them. Fishermen are generally willing to invest with others to develop and expand their business. They are currently not aware of any downstream investment plans. The fishermen interviewed have no need

to work together with other fishermen and exchange information and experience.

One fisherman stated that there are no formal contracts between them and the buyers: "We do not need a contract because they are honest in dealing with us, for 30 years now." He also expressed that there is a bonus for high-quality fish, as the price will be higher.

Wholesalers indicated that they never received any support by Business Support Providers (BSP), donors or state-owned agencies. Wholesalers do not have a certificate or standard of quality; they rely on their own experience. They always buy from the same fishermen, with whom they have built trade relationships lasting over 25 years.

One of the wholesalers interviewed indicated that the business prospects are very good and that she is thinking of expanding her business. The wholesalers have no objection to working with other upstream or downstream chain members, for example to share information, pool resources and implement quality management systems.

Government support to development of the value chain

According to the Missan Agriculture Directorate, there is no cooperation with international and local organizations, only with IOM. In general, there is a lack of financial resources to develop support programmes for farmers, livestock owners and fishermen.

The needs for training exist in the field of management, marketing of products and on how to manage natural resources. The only types of training provided now are on how to use agricultural pesticides and how to raise fish and livestock. This training is provided by the Department of Agriculture. No loans are currently provided by the government to fishermen to set up or expand their business.

Opportunities and challenges for value chain development

Opportunities

- There is a high consumer demand for fish, so fisheries will continue to be profitable.
- Fisheries also provide a good source of employment for both men and women.
- In the fisheries sector, the production of small fish is a promising opportunity for investment in the value chain, as the small fish are currently bought from Basra at relatively high prices. If local producers could provide fish at lower cost to fishermen, this would lead to lower production costs throughout the value chain.

- There is also potential for investment in the local production of boats and fishnets, which is currently done in a traditional way but offers room for innovation.

Challenges

- For fisheries in the marshes, the shortage of water represents a major challenge as it has led to a reduction of available fishing ground. As a result, it is becoming more difficult to provide enough fish to the market.
- A major issue is the lack of sufficient permissions for fishermen because of the shortage in water sources.
- For fisheries in cages, the susceptibility to disease among fish is higher.
- One of the main barriers to entering the fisheries sector is the lack of access to finance.
- There is very strong competition with imported fish from Iran, which is sold at a lower price but is also of inferior quality.
- At present, there is no vocational training provided by any organization in the field of fisheries.

Potential for investment and job creation in the value chain

In conclusion, the highest potential for investment and job creation in the fish value chain in the south is that of small fish breeding businesses. If professionally implemented with the necessary health and veterinary conditions, this sector could be considered an excellent source of income for small businesses.

Establishing a small fish breeding business – estimated investment cost and job creation

One business requires the provision of five ponds, each 3 metres in diameter and 1 meter in depth. Each basin accommodates the production of 3000 to 4000 small fish (one week old). Alternatively, the small fish can be purchased from the Ministry of Agriculture at a very low price, not exceeding IQD 10,000 for every 1000 small fish (or fingerlings).

The idea behind this type of business is to raise the fingerlings until they are one month or one month and a half old, which are then sold to fish breeders in open or closed ponds for IQD 500–750 per fish. This pricing means that 1,000 fish can generate revenues of IQD 500,000–750,000.

The machinery and equipment required for this type of business consists of five tanks with a water pump and two devices for water oxygenation (run by a small electricity generator of 5 kVA).

Initial investment cost:

- Machinery and equipment cost = USD 3,000

Initial investment needed: USD 3,000

Operating cost:

- Salaries for 5 workers = USD 500 x 5 workers = USD 2,500

Operating cost per year:

USD 2,500 per month x 12 = USD 30,000

Total investment cost for the first year:

(Initial investment + operating cost) = 3,000 + 30,000 = USD 33,000

Employment creation:

It is estimated that it would be feasible to establish 20 businesses in the south (10 in Basra and 10 in Missan), which means that 100 jobs would be generated, based on the calculation of five workers per business.

Total potential job creation: 100 jobs

4.2.3 POULTRY (EGGS)

Focus area: Thi-Qar/Muthanna Context

Poultry raising has always been an important sector in Iraq. In rural areas, poultry keeping at the household level has a long history, mainly for subsistence purposes. There is also commercial poultry production, which started in the 1960s, and continued expanding. The commercial industry consists of two separate subsectors: one focusing on broilers, which are raised for producing meat, and another on layer poultry farming, for egg production. Large-scale poultry farming mostly focuses on one of the two types, either meat or egg production.¹⁶⁶ However, chicken and egg production experienced a major setback in 2014 and 2015 because of the avian flu outbreak and a ban on poultry imports from several.¹⁶⁷ Poultry production is on the rise again, as shown in the two charts below.

¹⁶⁶ Goal and Big Heart Foundation, 2016, Agricultural Market Assessment, Egg and sheep value chains.

¹⁶⁷ UNESCO, 2019b.

Figure 9: Poultry (meat) production in 2016–2019 (in tonnes); Source: CSO.

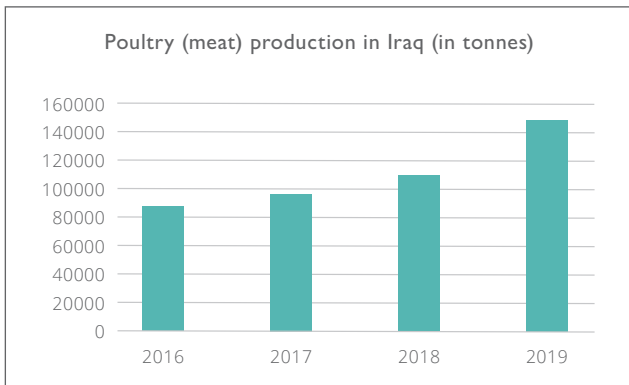
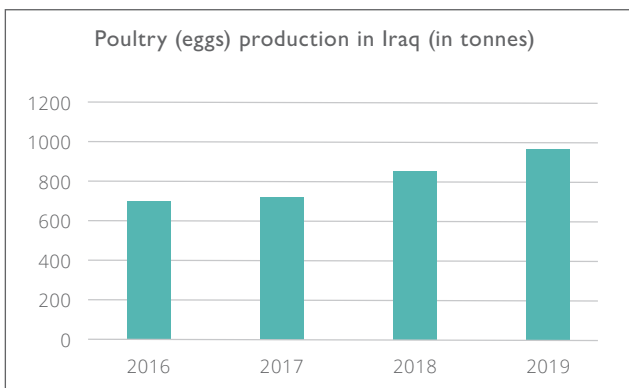


Figure 10: Poultry (eggs) production in 2016–2019 (in tonnes); Source: CSO.



Across the southern region, the outlook for poultry farming is mixed. It has lately become less important in Basra and Missan, as shown in the Context Analysis section. In Missan, this decrease was due to lack of investors and lack of support from the Agricultural Bank. The total chicken meat produced in Missan in 2019 amounted to 3,972 tonnes.¹⁶⁸

On the other hand, poultry farming increased considerably in Thi-Qar, reflected in an increase in the quantity of locally produced eggs. As a result of local plans by the Thi-Qar Directorate of Agriculture to convert poultry fields from ground to cage breeding and due to the partial implementation of a government decision to support local production, egg production came close to achieving self-sufficiency.¹⁶⁹ In 2020, 23 chicken production businesses (for meat) and 94 egg production businesses were recorded in Thi-Qar.

Value chain map

In our research, the focus was on egg production because it is considered as having the greatest potential of job creation in the southern region. The chart on the next page shows the value chain map for poultry, focusing on egg production.

168 Data obtained from CSO, 2020

169 Thi-Qar Agriculture Directorate, 2020

Value Chain Map for Poultry – Egg Production (Thi-Qar and Muthanna)

Inputs:

- Matured brown chicken (imported).
- Chicken feed (imported corn/locally produced wheat).
- Electricity or kerosene for heating.
- Cartons for packaging of eggs (imported).
- Veterinarian support.

Production:

Manual harvest of eggs.
Some farms use automated processes for packing eggs.

Distribution:

Distribution takes place via wholesalers and agents in the local market.

Retail:

Eggs are sold in the local market by retailers.

Export:

At present, no export of dates from south Iraq

Retail:

High local demand from consumers.

Value chain actors

Input suppliers

For egg production, the following inputs are needed:

- Mature chickens (brown); these chickens are imported from Turkey at a cost of USD 6 each.¹⁷⁰
- Chicken feed: corn (imported) and wheat (produced locally). Feed is sold at IQD 700,000 per metric tonne.
- Electricity for heating the battery hens/cages; sometimes producers use kerosene.
- Cartons for packaging of eggs (imported from Iran).
- Veterinarian services.

According to several industry experts, the demand for chicken feed exceeds supply. Chicken feed produced in Thi-Qar is exported to neighbouring governorates, such as Basra and Missan. There is also a chicken feed plant in Muthanna. Especially for corn and vegetable oil, there is potential for increased local production. Vaccines and medicines could be produced locally.

Production

The production of eggs takes place throughout the year, with manual harvesting. A lower production of eggs would result in higher imports. Imported egg laying hens lay eggs until they are 1.5 years old, after which they are sold for their meat (but at a lower price than a broiler hen).

Sorting takes place during the collection of eggs. Brown eggs are sold at higher prices; the same goes for jumbo eggs with two yolks, which are sold at double price. Producers clean the eggs and stamp them with an expiration date. The eggs are then packed. Only one farm in Thi-Qar uses automated packaging of eggs.

Some farmers use battery hens/cages, which are imported from Turkey. These battery hens lay many more eggs than traditional hens – in one project, 60,000 eggs were produced daily. According to industry experts, there is high potential of increasing egg production due to the very high and stable local demand.

Waste levels are at about 5 per cent for both inputs and egg production. The waste during egg production is due to broken eggs, usually 10 per each box of 300 eggs. These waste levels are normal for poultry fields and egg production and should not be considered high. Chicken waste is sold as fertilizer at IQD 400,000 per tonne to farmers.

Producers have also rated (from irrelevant to highly significant) a set of factors that influence their decisions on whether to do business with major buyer(s) or not, including:

Long-term prospects of continued sales	Highly Significant
Strength of the personal relationship with buyers	Highly Significant
The volume buyers will acquire	Significant
The price offered by the buyer(s)	Significant
Finance offered	Relevant
The security of ongoing business with buyers	Relevant
Lack of alternatives	Irrelevant
Practical help/advice offered	Irrelevant

*Distribution*¹⁷¹

Distribution takes place through wholesalers and agents in the local market who sell the eggs directly in the local market.

For battery cages, traders contract the production factory to buy future production among. Daily, traders collect the eggs from the poultry producers and transport them to the retailers using their own trucks. Producers who do not use battery cages, tend to sell to the smaller distributors daily. Occasionally, they also sell directly to the consumer.

Processing

No further processing of eggs is currently taking place.

Consumption

All eggs are sold to local consumers; there are no sales to other governorates or export. Consumers are generally satisfied with the quality of eggs, traders reported.

Cost structure and prices

No information was obtained about the main cost drivers and profit margins for poultry farmers and other actors in the value chain.

Because of the volatility in egg prices, the government has put a maximum sales price of IQD 6,000 per crate of 30 eggs.

170 At a small scale, there is some reproduction of imported hens in Hilla, Babel Governorate.

171 It should be noted that all interviews with wholesalers (2 in Thi-Qar and 2 in Muthanna) were done with buyers of chicken for meat, and no interviews were held with buyers of eggs, so there was only very limited information available on egg distribution.

The average prices of eggs along the value chain, produced in the south, are as follows:

ACTOR IN THE CHAIN	SALES PRICE
Farmer	5,000 IQD/30 eggs
Wholesaler	5,250-5,500 IQD/30 eggs
Retailer	6,000 IQD/30 eggs

Communication and information flows

Producers obtain information from their input suppliers about the quality of the laying hens, vaccines and feeds. They also make use of a veterinarian to check the laying hens' health. Producers indicate that they also receive useful information about what is required in the market, as well as on the price and quality of imported products in the market. They would be interested to have more detailed information about the consumers' preference to be able to adapt the specifications as needed.

Relationships (governance) in the value chain

The relationship with input suppliers is good, because there is credibility and contracts are signed by the two parties. Producers are also satisfied with buyers, because they are committed to the price agreed with the producer. A more stable relationship would improve their relationship even more.

Producers indicated that they would be willing to invest in the future based on a continued relationship with their buyer or another downstream member of the chain. At the same time, one egg producer stated that they do not need to work with other farmers, for example to share information, pool resources, accumulate produce for a buyer, and implement quality management systems. The egg producer interviewed was somewhat reticent about sharing information because he is the only egg producer in the governorate, and for that reason he is not eager to cooperate with other chain members.

Government support to development of the value chain

Apprenticeship is not common in the poultry industry. Apprenticeship could be further developed. Training needs are mostly in the field of poultry management. The Agriculture Department provides some trainings in the field of poultry, but this is not known to all actors in the value chain.

For Muthanna and Thi-Qar governorates, the following information was provided during interviews with government officials:

Muthanna

In Muthanna, government officials indicated that they support investors in establishing projects. By providing financial resources and soft loans, the government supports all parties and organizations that intend to work in the poultry sector, and it is keen to provide full support to contractors and owners of investment projects.¹⁷²

An integrated poultry project is currently being developed, consisting of meat chicks, table eggs, a model poultry slaughterhouse, an egg hatchery and an integrated fodder plant. The project also covers the cultivation of wheat and other feed materials, veterinary care and water stations for poultry. This project will employ about 4,500 workers during the construction phase and around 1,000 permanent workers during implementation. The lands that have been granted to the investors amount to 100,000 dunams (or 25,000 hectares). This will make Muthanna an important producer of both eggs and chicken meat.

The government also supports farmers with seeds and chemical fertilizers provision. In Muthanna, the government is conducting studies and providing training to poultry farmers through the Department of Agriculture. The government official interviewed also indicated that the United States Agency for International Development (USAID) has opened a veterinary laboratory in Muthanna to facilitate the detection of bird flu H5N1. The respondent also mentioned cooperation with the International Committee of the Red Cross. These projects are supported by providing the expertise and assistance of agricultural engineers and veterinarians. Also, vocational training courses are provided to the poultry farmers by the College of Veterinary Medicine, the Veterinary Directorate and the Agricultural Advisory Directorate.

The official interviewed also indicated that the door is open to all organizations, agricultural colleges and the Department of Agriculture to provide appropriate training for the development of the poultry sector according to the needs of the country.

Thi-Qar

According to the Agriculture Department, the government's policy for local economic development and value chain development is to provide guidance to the farmers on the latest developments in agricultural projects through training extension programmes, including continuous follow-up and the establishment of demonstration fields. In the past, there

172 The government institutions providing soft loans or their conditions are unknown.

were also projects that supported farmers by providing them with poultry cages for eggs and meat, and with distribution of turkeys; there are currently no such direct support projects. There is, however, credit available to farmers from the Agricultural Bank to support projects at a 4 per cent interest rate, for which the government is granting licenses for new projects in line with the specifications.

There is reportedly very good cooperation with the private sector and implementing partners in attending training workshops. There is also coordination with the Veterinary Hospital to contribute to vaccines, as well as cooperation with the College of Agriculture to assist students in research. Currently, there are no projects related to developing poultry farming. At present, there is no cooperation with civil society organizations.

In terms of financial support, there are currently no resources available to farmers. The government offers support through the expertise provided by engineers and technical staff specialized in all agricultural fields.

The farmers' training needs include poultry field management, practical education in agricultural engineering and veterinary medicine. There are also training programmes in vaccines and chicken feeding. FAO is the only international organization currently providing training to farmers in Thi-Qar, together with the Agricultural Extension Office.

Opportunities and challenges for value chain development

Opportunities:

- There is high demand for eggs as well as chicken meat by local consumers.
- Poultry farming could become very profitable if the production costs were reduced and disease prevention took place.
- There is potential for job creation, also for women.
- The Iraqi government recently banned the import of eggs, offering opportunities for expanding local egg production.
- The best opportunity for investments in the poultry value chain include local production of chicken feed and the setting up of chicken farms for egg production.
- Several training programmes are offered to poultry farmers by the Agriculture Department (supported by FAO).
- With the support of USAID, a veterinary laboratory has been set up in Muthanna to facilitate the detection of bird flu H5N1, which could be also replicated in other governorates.

Challenges:

- The investment cost for starting a poultry farm is high, and there is a lack of access to finance.
- High cost of inputs for egg production.
- Volatile exchange rates lead to varying cost levels of imported inputs.
- There is lack of technical skills in the south of Iraq to start a poultry farm.
- There is lack of government support in providing materials for building poultry facilities.
- Obtaining a license for starting a poultry farm is a complicated process.
- Avian flu is a common threat for chicken, which requires specialized veterinary skills.

Potential for investment and job creation in the value chain

In conclusion, the highest potential for investment and job creation in the poultry value chain in the south includes the local production of chicken feed and improved poultry farming, mostly because 70 per cent of the cost of chicken production consists of chicken feed. In the past, the government used to supply chicks and chicken feed, but currently government support is limited, which is the main reason behind the challenges for starting a poultry field. This means that investing in local chicken feed production is the best way to lower production costs among poultry farmers. Also, an investment in improved poultry farms could lead to a higher local production of chicken meat and eggs, which are in high demand locally.

Local production of chicken feed – estimated investment cost and job creation

At present, most poultry farmers buy prepared feed mix because they lack knowledge on how to prepare it themselves. The chicken feed mix bought is also imported. Farmers could instead produce their own feed mix by buying and mixing soybeans, yellow corn, wheat, brimex and salt. They would require support from a vet to determine the appropriate ratios.

The amount of feed needed is 1000 kilos for 10 days (this is calculated as follows: 100 grams/chicken/day x 1000 chicks x 10 days = 1000 kg of feed per 10 days). The cost of buying prepared chicken feed mix is USD 700–800 for 1,000 chicks every 10 days. If farmers prepare the feed mix themselves, the associated costs would be lower, around USD 500. This means that a cost reduction of around 33 per cent is attainable. At present, chicken feed includes some components

that are imported such as soy. The price of soy is very high, so it would also be advisable to find alternatives to soy to be included in the mix, in cooperation with the Ministry of Agriculture.

Another option would include setting up a factory for producing chicken feed mix on an industrial scale. It is roughly estimated that the total investment cost for one year would amount to USD 100,000 to produce 10 tonnes of feed mix per day. Investments are needed in machinery for drying, crushing and mixing, a machine for adding additives and a pellet machine. A more detailed cost-benefit analysis is needed to estimate the total investment cost for the first year and the profits to be made. The number of jobs that would be created by establishing such a factory should also be estimated.

Investment in modern poultry farm - estimated investment cost and job creation

Initial investment cost:

- Building poultry field on own land for 3,000 chickens
USD 8,000
- Cooling system
USD 1,000
- Automatic feeder
USD 1,200
- Generator (medium size generator of 10 KV)
USD 1,000

**Initial investment needed:
USD 11,200**

Operating cost:

- Kerosene/gasoline for the cooling system:
USD 500 per month
- Salaries of workers (USD 500 x 2 workers)
USD 1,000 per month

**Operating cost per year: USD 1,500 per month x 12 =
USD 18,000**

Total investment cost for the first year:

(Initial investment + Operating cost) = USD 11,200 + USD 18,00 = USD 29,200

Employment creation:

It is estimated that two people can be employed in each poultry farm. In Thi-Qar, the potential for new poultry fields is the highest, where it was estimated that at least 25 new poultry fields could be created. This means that 50 direct jobs would be created.

Total potential job creation: 50 jobs

4.2.4 TOMATO

Focus area: Thi-Qar/Muthanna

Context

Although tomato is originally native to South America, it has been cultivated in the Middle East since the end of the 18th Century and now represents a major food crop. Many different varieties of tomatoes are grown across Iraq and are harvested at different times of the year in different parts of the country due to variations in soil and climatic conditions.¹⁷³ Tomato is one of the main vegetables grown in Iraq, with a total production of around 450,000 tonnes in 2018. Tomato is the most widely produced type of vegetable in Iraq (excluding the Kurdistan Region of Iraq), followed by watermelon, cucumber, melon and eggplant.¹⁷⁴

In recent years, vegetable production has increased, particularly near urban centres where relatively modern farming techniques are applied. However, a major challenge for producers and processors has been achieving and maintaining quality standards along the value chain. Currently, about 60–70 per cent of vegetable consumption is supplied by imports from neighbouring countries.¹⁷⁵

The consumer survey carried out in the south found that tomato is highly in demand, often figuring among the most or second most demanded agricultural products. Tomato is also often mentioned as an imported product, which could be produced locally at a cheaper price. According to vendors, the most promising business opportunity available in the governorate includes growing vegetables, especially tomatoes. Another promising business opportunity mentioned is tomato paste processing. Out of the most popular products, tomatoes are considered very profitable by vendors.

Value chain map

The tomato value chain map for the south is found in the following page.

173 DRC, 2020, Analysis of key value chains in the agriculture and food-processing sector in Muqtadiyah, Diyala governorate.

174 Data obtained from CSO, 2020.

175 World Bank, 2019, Iraq Economic Monitor, Turning the corner: sustaining growth and creating opportunities for Iraq's youth.

Tomato Value Chain Map (South)

Inputs:

The following inputs are needed:

- Seeds/ tomato seedlings
- Fertilizer
- Water

Production:

Main production areas of tomato in the south:

- Al-Zubair and Safwan (Basra)
- Chibayish, Shatrah, Dawayah and Rafai (Thi-Qar)
- Missan
- Muthanna

Production mainly takes place during summer in open fields, during winter tomato is sometimes planted in greenhouses.

Distribution:

Farmers sell their produce to wholesalers, shopkeepers or directly to consumers.

Wholesalers sell to retailers/shopkeepers.

Retail:

Retailers sell tomatoes to consumers.

Export:

At present, there are no exports of tomatoes or processed tomato products originating from the South.

Sales to other governorates:

Some wholesalers sell tomatoes to other governorates.

Retail:

High demand from consumers, each household consumes 50-100 gr per person per day

Consumers:

Same as above

Value chain actors

Input suppliers

The inputs needed to produce tomatoes are:

- Seeds: tomato seeds are imported from Spain or the Netherlands. They are first grown into tomato seedlings before being planted
- Fertilizer: most commonly organic fertilizer (animal and Dap fertilizer)
- Insecticides and fungicides
- Water

Production

Tomato production is important in all four southern governorates. Basra is considered one of the agriculturally most important governorates of Iraq, with tomato cultivation concentrated in the regions of Al-Zubair and Safwan.¹⁷⁶ Annual tomato production in Basra was of 37,948 tonnes in 2019.¹⁷⁷ The surplus of tomatoes from Basra is also sold to other governorates. In Thi-Qar, the main production areas are Chibayish, Shatrah, Dawayah and Rafai. There is also tomato production in Missan and Muthanna.

For this research, four farmers were interviewed, two in Thi-Qar and two in Muthanna. Tomatoes are normally produced during a period of six months. Production mainly takes place during summer in open fields; during winter, tomato is sometimes planted in greenhouses. Farmers intercrop different crops with tomato, including cucumber, okra and melon.

After ploughing the land, farmers leave it for some time, then divide it into specific plots, add organic fertilizer (animal and Dap fertilizer) as well as insecticides and fungicides, level the soil and plant the tomato seeds. Tomato harvesting is conducted by hand, which is subsequently packaged in plastic boxes for the market. Farmers base their decision on how many tomatoes to plant on tomato consumer demand and the productivity of the farm.

Two of the main challenges experienced by tomato farmers in Iraq include water scarcity and high temperatures, as the plants require sufficient fresh water, usually from irrigation systems, and do not tolerate high salinity or temperatures above 36°C for extended periods of time.

Waste occurs at different points along the value chain, including:

- A significant loss of tomatoes occurs during cultivation due to agricultural pests. On average, 100 kilos per 2 dunums (or half hectare) of land are wasted.
- Small quantities are wasted at the stage of collecting the crop or during selling because tomatoes get damaged. These tomatoes can be used for manually preparing tomato paste at home. The remaining damaged tomatoes are used as fodder for animals.

According to a wholesaler interviewed, the level of waste in the value chain could be reduced by setting up a processing capacity for tomatoes, such as a tomato paste factory.

Farmers have also rated (from irrelevant to highly significant) a set of factors that influence their decisions on whether to do business with major buyer(s) or not, including:

The price offered by the buyer(s)	Significant/ Highly Significant
The security of ongoing business with buyers	Significant/ Highly Significant
The volume buyers will acquire	Significant/ Highly Significant
Strength of the personal relationship with buyers	Average/ Significant/ Highly Significant
Finance offered	Average/ Significant
Long-term prospects of continued sales	Relevant/ Average/ Significant
Lack of alternatives	Irrelevant/ Relevant
Practical help/advice offered	Irrelevant/ Average

Distribution

After harvesting the tomatoes, farmers place them in plastic boxes, and then sell them to grocery wholesalers, who collect the tomatoes (and other vegetables) by car. Farmers sell tomatoes to the market daily. The crop is bought at a very low price because of the influx of imported tomatoes, which are also sold very cheaply. All trade takes place based on trust, there are no contracts.

Two traders were interviewed for this research in Muthanna, one wholesaler and one retailer. They indicated that they buy tomatoes from Basra (especially Al-Zubair) and from Mosul, depending on the season and on price and quality. The wholesaler buys and sells about 400 boxes per day, the

¹⁷⁶ Ministry of Planning, CSO, 2020.

¹⁷⁷ Directorate of Agriculture, 2020.

retailer four boxes. They both indicated that they do not store tomatoes but sell all tomatoes on the same day.

There are five wholesalers in the market in Muthanna, but many retailers. The wholesaler interviewed has a market share of approximately 35 per cent.

Traders are very keen on hygiene. According to one of them: “we avoid suppliers that sell dirty products, and when the required product is not available, we look for another supplier.” At present, traders do not have any certificates or quality standards, although they think it is important.

There is currently no export of tomatoes because the product does not meet the export market requirements.

Processing

The most popular processed product made of tomatoes is tomato paste, which is used in many dishes in Iraq. Ketchup and tomato-based sauces are also popular. However, at present there is no processing capacity in the south, meaning there are potential opportunities for setting up tomato paste and tomato ketchup factories.

Consumption

According to the farmers interviewed, most tomatoes are sold to consumers and restaurants. In general, consumers demand a tomato of good quality, which is clean, and sold at a low price. It was noted that many consumers prefer local tomatoes over imported ones.

Demand for locally produced tomato and tomato-based products would increase if prices decreased, due to the consumers’ preference for local products.

Cost structure and prices

The main cost drivers for traders are the price of tomatoes, the transport costs, the rental of a market stall and salary costs. Wholesalers usually hire people to work for them. A small amount is added as profit. The wholesaler interviewed in Muthanna indicated that he adds between IQD 500 to 1000 for a box of tomatoes as a profit margin.

There is no single selling price for tomatoes. The price is determined based on supply and demand. When the availability of tomatoes in the market increases, the price decreases.

The profit margin of wholesalers is 1–5 per cent of the buying price of tomatoes, which is very low compared to what was reported in Salah al-Din (up to 50%).

The average prices of tomatoes along the value chain, produced in the south of Iraq, are as follows:

ACTOR IN THE CHAIN	SALES PRICE
Farmer	150-1200 IQD/kg
Wholesaler	350-1350 IQD/kg
Retailer	500-1500 IQD/kg

The price of tomato varies considerably, depending on the volume of imported tomatoes available. When more tomatoes are imported, the price will decrease, but when the borders are closed, the prices increase. The government sometimes enforces minimum prices when prices become too high.

Communication and information flows

Farmers receive information from their input suppliers, other farmers and the Department of Agriculture about the quality of chemical fertilizers and on the use of appropriate amounts of treatment for crops. One farmer interviewed indicated that he would like to receive more information about prices, and about the opportunities for financial support.

Wholesalers are aware of preferred type of tomatoes through information obtained from the grocery stores. For them, consumers’ preferences are very important.

Relationships (governance) in the value chain

Farmers indicated that they have been dealing with the same suppliers for many years, some up to 20 years. One explained: “I market the field product to the owner of the office in the main vegetable market in the governorate. I have a good relationship with him that has transformed over the years into friendship.” A common problem reported by farmers are the delays in payments by their buyers, which is usually solved in a friendly manner. Some traders help farmers before the start of the season in the preparatory period by advancing money so farmers can buy the relevant inputs needed in the agricultural season.

All farmers interviewed are willing to invest in the future based on a continuing relationship with other farmers and buyers in the chain.

The traders interviewed confirm that the relationships with farmers are very good and long standing. According to a wholesaler, "For 15 years, I have been dealing with the same suppliers. I trust them and have a good relationship with them, which has transformed over the years into friendship, exchange of visits and social communication." Both traders feel motivated by the prospects of their business as part of the value chain and are open to work with other members in the value chain.

Farmers do not sign any contracts with buyers but rather work on mutual trust – this is confirmed by wholesalers, who sometimes work with the same supplier for more than 15 years.

Government support to development of the value chain

According to the Department of Agriculture in Thi-Qar, the most important policies pursued by the government to support local agricultural development include:

1. Promoting the use of modern technologies in production through greenhouses and modern irrigation systems.
2. Providing of fertilizers and fodder, as well as disease control.
3. Monitoring and supporting farmers through all the stages of the value chain, from production to marketing.

To support farmers, loans are provided by the Agricultural Bank for purchasing agricultural machinery and for investments in production improvement, including for supporting farmers, to invest in greenhouses to grow tomatoes. The government also provides extension seminars in modern agricultural techniques to develop farmers' skills.

Cooperation with other government agencies includes the following:

- Cooperation with the Agricultural Supplies Company to provide farmers with agricultural machinery;
- Cooperation with the Ministry of Oil to supply fuel for agricultural pumps;
- Cooperation with the Health Department for the nutritional assessment of agricultural products.

The Department of Agriculture in Thi-Qar counts on vast human resources, including engineers and technicians. However, financial resources are lacking. The only revenues come from the rent of the lands provided to farmers and some self-financing projects.

The government cooperates with international agencies in agricultural programmes and projects for the value chain development of palm, tomato, fish and dairy products. The main organizations involved are FAO and IOM to support farmers in Thi-Qar. IOM has implemented agricultural projects to raise the standard of living among farmers and in trainings on modern irrigation techniques. Cooperation between the private sector and the government in Thi-Qar, mainly the Investment Department, includes leasing lands to investors.

According to the Department of Agriculture in Thi-Qar, farmers need professional training in the use of modern irrigation techniques in tomato farms, improved use of seeds and fertilizers with high productivity and improved harvesting methods. Some organizations provide vocational training to farmers, including the Agricultural Extension and Training College in Thi-Qar.

A government official in Muthanna indicated that they are encouraging farmers to plant tomato crops in Najmi and other places suitable for agriculture, and are also providing greenhouses and chemical fertilizers and a suitable environment for investment projects.

Contrary to farmers, who receive some support from the government, the traders interviewed have never received any support from Business Support Providers (BSP), donors or state-owned agencies.

Opportunities and challenges for value chain development
Opportunities:

- If imports of tomatoes from neighbouring countries would be restricted (especially during the tomato harvesting season in Iraq), it would enable local farmers to become more competitive.
- Trainings of farmers and traders are needed on how to set up greenhouses, on the use of modern irrigation techniques in tomato farming, on improved use of seeds and fertilizers with high productivity and improved harvesting methods.
- There is an opportunity to build the tomato paste processing capacity, including in canning. For this to be successful, farmers would need to lower their cost of production, for instance through increased government support for subsidized inputs, or by supporting them in digging artesian wells.

Challenges:

- Two of the main challenges are water scarcity and high temperatures, as the plants require a lot of fresh water, usually from irrigation systems, and do not tolerate high salinity or temperatures above 36 °C for extended periods of time.
- A main problem experienced by farmers is the abundance of local production, which results in high competition.
- Related to the competition issue is also the problem of imports, especially during harvest time, which makes tomato production less profitable.
- Electricity from the grid is often disrupted, so diesel-based generators are needed.
- A major challenge is the lack of processing factories such as canning plants and tomato paste factories.

Potential for investment and job creation in the value chain

In conclusion, the highest potential for investment and job creation in the tomato value chain in the south includes the following:

- The establishment of tomato paste factories
- The establishment of small-scale tomato ketchup factories

The rationale is based on high demand of locally produced tomato paste and ketchup, which counts on a limited local production. As well, the establishment of tomato paste and ketchup factories would boost local employment.

Establishment of a tomato paste factory - estimated investment cost and job creation

The process of producing tomato paste starts by sorting the tomato peel and seeds, followed by the extraction and squeezing of tomatoes. The production capacity of one factory is 10 tonnes of tomato paste per day. For a tomato paste factory consisting of one line of production, at least 25 workers would be needed per factory. For this production capacity, the volume of tomatoes needed is 35 tonnes per day.¹⁷⁸ To calculate the profitability of the factory, a more detailed cost benefit analysis is needed.

Initial investment cost:

- Machinery and equipment cost = USD 500,000

Initial investment needed: USD 500,000

Operating cost:

- Gasoline for the generator (300 lt gasoline/hour for a total of 8 hours/day; 300lt x USD0.40/lt x 8 hours x 30 days) USD28,800 per month
- Maintenance cost (10% of total investment cost of USD 100,000 = USD 10,000/12 months= USD 833) USD 833 per month
- Salaries of workers (USD 500 x 25 workers) USD 12,500 per month

Operating cost per year: USD 42,133 per month x 12 = USD 505,600

Total investment cost for the first year:

(Initial investment + operating cost) = USD 500,000 + USD 505,600 = USD 1,005,600

Employment creation:

It was estimated that two factories (one in Basra and one in Muthanna) could be established, which means the total number of jobs created would be around 50, based on 25 workers per factory.

Total potential job creation: 50 jobs

Establishment of a tomato ketchup factory – estimated investment cost and job creation

There are two options: 1) establishing a ketchup production plant as a small part of the tomato paste production plant; 2) establishing an independent ketchup production plant. Ketchup is manufactured locally and manually inside the factory by using traditional methods (drying of tomatoes under sunlight) to save costs.

A machine is needed for packaging, with the use of a mixer with a volume of 1 cubic meter to add spices and salt to the tomato paste. Production capacity is 1 tonne per day.

Initial investment cost:

- Machinery and equipment cost= USD 5,000

Initial investment needed: USD 5,000

Operating cost:

Salaries for 5 workers= USD 500 x 5 workers= USD 2,500

¹⁷⁸ 3.5 kg of tomato is needed to produce 1 kg of tomato paste.

Operating cost per year: USD 2,500 per month x 12 =
USD 30,000

Total investment cost for the first year:

(Initial investment + operating cost) = USD 5,000 + USD 30,000
= USD 35,000

Employment creation:

It is estimated that it is feasible to establish six businesses in the south (2 in Basra, 2 in Missan, 1 in Muthanna and 1 in Thi-Qar) which means the total employment created would be 30 jobs, based on five workers per project.

Total potential job creation: 30 jobs



5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

This report provides an in-depth analysis of four agricultural value chains that were found to be among the most promising business opportunities in the south of Iraq (Basra, Missan, Thi-Qar and Muthanna). The aim of this study was to understand economic opportunities and gaps in the local economy through value chain analysis. The four value chains analysed are:

- Dates: Basra/Thi-Qar
- Fish: Missan/Basra
- Poultry: Thi-Qar/Muthanna
- Tomato: Thi-Qar/Muthanna

For each value chain, the geographic focus of the research was on the two governorates where this value chain is most

important, as indicated behind each value chain. For each value chain, the main conclusions and recommendations are presented below.

As an overall conclusion, it was found that all four value chains are promising sectors for local economic development and decent job creation. To stimulate local businesses, the dates value chain looks the most promising in terms of job creation. Investing in date pressing factories will generate the highest number of jobs, although the initial investment is quite high. For fish, poultry and tomato value chains, the initial investments needed are significantly lower (except for the investment in tomato paste factories, which is by far the most capital-intensive investment). Table 46 shows the opportunities for cash investment and job creation of the four value chains are summarized.

Table 46: Estimated investment and job creation per value chain in South region

Value Chain/Business opportunity	Estimated investment cost for the first year per business	Estimated job creation per business	Estimated total job creation
Dates - Establishing date pressing factory	USD 92,500	30 jobs	60 new businesses x 30 = 1800 jobs
Dates - Establishing date syrup factory	USD 386,400	25 jobs	4 new businesses x 25 = 100 jobs
Fish - Establishing small fish breeding project	USD 33,000	5 jobs	20 new businesses x 5 = 100 jobs
Poultry (eggs) - local production of chicken feed	No initial investment needed	No extra jobs created; cost reduction of 50% in cost of chicken feed	No extra jobs created
Poultry (eggs/meat) - improved poultry farms	USD 29,200	2 jobs	25 new businesses x 2 = 50 jobs
Tomato - Establishment of tomato paste factory	USD 1,005,600	25 jobs	2 new businesses x 25 = 50 jobs
Tomato - Establishment of tomato ketchup factory	USD 35,000	5 jobs	6 new businesses x 5 = 30 jobs

The estimated social return on investment in dollars per job created for each value chain is summarized in Table 47. The investment needed per job created ranges between USD 3,000 and USD 40,000. It appears that date pressing factories offer the best social return on investment, followed by

small fish breeding projects and tomato ketchup factories. Investing in tomato paste factories is relatively capital-intensive, also per job created.

Table 47: Estimated social return on investment in dollars per job created for each value chain in the south region

Value Chain/Business opportunity	Estimated investment in dollars per job created
Dates - Establishing date pressing factory	USD 3,083
Fish - Establishing small fish breeding project	USD 6,600
Tomato - Establishment of tomato ketchup factory	USD 7,000
Poultry (eggs/meat) - improved poultry farms	USD 14,600
Dates - Establishing date syrup factory	USD 15,456
Tomato - Establishment of tomato paste factory	USD 40,224
Poultry (eggs) - local production of chicken feed	n/a

5.2 RECOMMENDATIONS

Based on the value chain study, the following recommendations can be made for IOM interventions to promote local economic development in conjunction with job creation for people who are in socioeconomically vulnerable situations.

To promote employment of target groups, IOM could consider several actions addressing the final beneficiaries as well as institutional recipients, to boost the sustainability of the intervention.

As immediate actions in support of unemployed people, IOM could:

- Support agricultural value chains of dates, fish, poultry (with a focus on eggs) and tomatoes. The selection of which value chains to develop and which businesses to support needs to be made based on proximity of markets, agricultural areas and the accessibility for traders, as well as the existing skills of the target beneficiaries;
- Develop skills of unemployed people in production, processing and trade of the identified value chains;
- Develop specific feasibility studies for the identified value chains with high market potential in each governorate;
- Provide financial support and technical training for start-up and management of micro-enterprises in the identified value chains;

- Consider partnering with public and private microfinance institutions (including the Agricultural Cooperative Bank) to increase the credit threshold and credit access/collaterals and guarantees;
- For the identified value chains, identify all existing and potential suppliers of vocational training including local businesses, craftsmen and small entrepreneurs, and involve them in the provision of skills development and as a pool of business counsellors and mentors to follow up on the target groups' new businesses. This includes coaching of new entrepreneurs, and making them part of their chains of production and value chains;
- Support the establishment of women and youth sustainable enterprises/cooperative societies involved in production, manufacturing and trading in the identified value chains;
- Support the establishment of self-help groups or cooperatives for promoting saving and credit schemes for setting up small businesses, including for farms, shops, storage facilities and means of transport;
- Promote gender-responsive individual and group endeavours for young women.
- As immediate actions in partnership with national and local institutions and international stakeholders, IOM could:
 - Cooperate with local authorities (including Directorate of Agriculture and Directorate of Trade) in assigning agricultural land and providing extension services to the target beneficiaries;
 - Address one of the major problems in agricultural value chains in the south – water shortages – with international partners and with the relevant government authorities.
 - Strengthen Business Development Services in collaboration with the Chambers of Commerce and Trade in both governorates;
 - Support the Directorate of Labour in both governorates to extend coverage of active labour market measures for unemployed youth, including training needs assessment, initial Labour Market Information, and skills development/vocational training;
 - Advocate for the improvement of local market structures and road infrastructure by the Government and development partners as a necessary condition for the promotion of marketing of locally produced goods as well as for export of goods;

- Advocate for improved government policies around market prices, taxes and customs regulations, focused on a more business-friendly approach, including the facilitation of obtaining export licenses for small businesses;
- Advocate for the ending of the delays in payments to farmers by the government;
- Support small entrepreneurs in developing online shopping services.

The findings of the assessment revealed several gender stereotypes about women based on the cultural and traditional norms and values according to which women should not be involved in business activities. Unemployment among

women is almost three times as high as for men. Through awareness on the benefits of women empowerment, these cultural norms and mindsets could be changed or transformed and both women and men could work together and contribute to the economic and financial welfare of the household. To ensure gender-responsive programming, the following is recommended to IOM:

- Assistance to women to start up and develop business along the recommended value chains;
- Equal access for men and women to technical training and entrepreneurial skills development for decent employment.



ANNEX A: SWOT ANALYSIS FOR THE VALUE CHAINS WITH HIGH POTENTIAL

In this Annex, the SWOT analyses are presented for the eight value chains with high potential. The analysis was done during a workshop with the IOM team from the south region, guided by the value chain consultants. The information is

based on the data collected during the earlier phases of the research, including the context analysis, the consumer and market vendor survey, as well as on the in-depth knowledge and experience of the IOM team in the region.

1. Tomatoes

<p>Strengths</p> <ul style="list-style-type: none"> – There are many farmers who already produce tomato – There are many workers available and already skilled in the sector 	<p>Weaknesses</p> <ul style="list-style-type: none"> – There is no support from the ministry or public sector for tomato farmers – Production surplus expires quickly – There is no facility for making processed tomato products in Basra – There is no fixed place for farmers to sell their produce so they sell out of the back of their cars within the city
<p>Opportunities</p> <ul style="list-style-type: none"> – Multiple ways of preserving and treating (paste, puree, passata, sauce, ketchup) – There is a high demand for fresh tomatoes not only in Basra – There is a need for a legal fixed place to enable farmers to sell their tomatoes 	<p>Threats</p> <ul style="list-style-type: none"> – Imported tomatoes compete with local sales – The price of imported tomatoes is lower, which attract vendors to purchase imported ones – Water salinity affects the south in general (although this differs from farm to farm as some use drip irrigation methods)

2. Cucumbers

<p>Strengths</p> <ul style="list-style-type: none"> – There are many agricultural lands dedicated to cucumber production – There are many workers with skills related to cucumbers – There is a fixed and permitted place for selling production 	<p>Weaknesses</p> <ul style="list-style-type: none"> – Lack of government support for gas/fuel and irrigation systems for producers – The production needs flood irrigation which is not always available in Basra
<p>Opportunities</p> <ul style="list-style-type: none"> – There is a high demand for cucumbers – Basra is famous for a certain type of pickle that is made with cucumber 	<p>Threats</p> <ul style="list-style-type: none"> – The price of imported cucumber is lower, which attracts vendors to purchase imported ones – Water salinity affects the south in general (although this differs from farm to farm as some use drip irrigation methods)

3. Dates

<p>Strengths</p> <ul style="list-style-type: none"> – There are many agricultural lands dedicated to growing dates – Weather in Basra is very suitable for date cultivation – Dates are currently exported, both raw and as processed goods made with dates such as date syrup – There are some small factories that make goods such as date vinegar 	<p>Weaknesses</p> <ul style="list-style-type: none"> – There are not many factories that work in this sector – the Basra Chamber of Commerce mentioned that farmers need support in marketing and packaging – There is no fixed place or venue for production, they are sold through mobile vendors
<p>Opportunities</p> <ul style="list-style-type: none"> – There is a high demand for dates, also outside of the production areas – There is a need for events such as sales fairs of dates 	<p>Threats</p> <ul style="list-style-type: none"> – There is no support from the government – The agricultural area for dates is being used as housing – Water salinity especially in Shatt al Arab River affects date production – Imported dates are also in the market in addition to other date products – People outside Iraq take the date palm trees from Iraq and cultivate them, which then reduces the potential for exports

4. Barley and Wheat

<p>Strengths</p> <ul style="list-style-type: none"> – High demand for both products – Availability of large amounts of land 	<p>Weaknesses</p> <ul style="list-style-type: none"> – Demand from government is very volatile (sometimes low, sometimes high) – Delay in payment from government side to farmers
<p>Opportunities</p> <ul style="list-style-type: none"> – Wheat and barley can stand high temperatures – Both crops don't depend on rain and don't need a lot of water 	<p>Threats</p> <ul style="list-style-type: none"> – Shortage in rain and desertification – Lack of support from the government in providing pesticides

5. Rice

<p>Strengths</p> <ul style="list-style-type: none"> - Sold at high price due to high quality (amber/jasmine) - High demand 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Planting rice needs huge quantities of water and Iraq is suffering from water shortage - Harvesting machines are very expensive – rented from private sector
<p>Opportunities</p> <ul style="list-style-type: none"> - Opportunity for export to other countries at high price - Many products can be produced from rice (e.g. rice wheat, grained rice) 	<p>Threats</p> <ul style="list-style-type: none"> - Shortage of water - Planting rice needs special type of land: low level for water provision

6. Fish

<p>Strengths</p> <ul style="list-style-type: none"> - There is high demand for fish, since it is the one of the foundations of traditional meals in Iraq (cultural importance) - It is profitable for vendors - There are many fish breeding lakes - Basra is known for fish and a good variety are grown in Basra - Price is suitable for most consumers - Reports of poisoning fish are not known about/common in the south as it is rumoured about in the centre of Iraq 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Fish can expire quickly without proper cold chain facilities - Transportation vehicles are not available to move fresh fish from one place to another - No support from the government.
<p>Opportunities</p> <ul style="list-style-type: none"> - Fisheries could be developed for those who wish to fish in the sea - Support to the existing lake - Establishment of a new lake - Producers need coolers, cold storage facilities, factories for canning, providing opportunities for suppliers of this equipment 	<p>Threats</p> <ul style="list-style-type: none"> - The lakes can only support a couple of types of fish (i.e. carp) - Iraqis prefer fresh fish - There are invasive species which consume fish eggs and small fish in some of the water sources

7. Cows and Buffalos

<p>Strengths</p> <ul style="list-style-type: none"> – High demand for cow milk and meat – Many products can be produced from milk (cheese, Iraqi cream, yoghurt) 	<p>Weaknesses</p> <ul style="list-style-type: none"> – High price of animal feed – Need for special treatment and veterinary support – Shortage in dairy factories
<p>Opportunities</p> <ul style="list-style-type: none"> – Availability of marshes, rivers, sub-rivers (Missan and Thi-Qar) – Opportunity to export cows and buffalos to other governorates – Opportunity to export dairy products to other governorates 	<p>Threats</p> <ul style="list-style-type: none"> – Import of cows/dairy products from outside Iraq – Limited support from government to cow and buffalo raisers – Water shortage

8. Poultry

<p>Strengths</p> <ul style="list-style-type: none"> – High demand for eggs and chicken meat – Availability of large number of producers in Thi-Qar 	<p>Weaknesses</p> <ul style="list-style-type: none"> – High frequency of chicken diseases (Newcastle) – Need for special treatment of chicken and eggs
<p>Opportunities</p> <ul style="list-style-type: none"> – By supporting local production, the government will be enabled to prevent the import of chicken meat and eggs – Creating job opportunities (minimum 3 jobs per chicken farm) 	<p>Threats</p> <ul style="list-style-type: none"> – Need for many approvals from government side, need to pay “fees” – High competition with imported chicken or eggs

Based on a comparison of the SWOT analyses for each potential value chain, a final selection of the four most promising value chains was made. The main arguments for selection

or deselection are listed in the table below. During the workshop, a score was assigned to each potential value chain on a scale of 1 to 10, to compare and rank them.

POTENTIAL VALUE CHAIN	MAIN ARGUMENTS FOR SELECTION/DESELECTION	SCORE BETWEEN 1 AND 10
Fish	<ul style="list-style-type: none"> The south region is famous for high quality fish Very profitable High job creation potential Fish poisoning is less of a problem in the south than in other regions 	8.5
Poultry	<ul style="list-style-type: none"> High job creation potential High demand for both meat and eggs Low investments needed 	8
Dates	<ul style="list-style-type: none"> High demand High export potential 	7.5
Tomatoes	<ul style="list-style-type: none"> Profitable Good opportunity for job creation Good processing opportunities 	7.5
Cucumbers	<ul style="list-style-type: none"> Good processing opportunities Not very profitable 	6.5
Rice	<ul style="list-style-type: none"> Shortage of water in South for rice cultivation Harvesting machines are very expensive Difficult sector to develop 	6
Barley/Wheat	<ul style="list-style-type: none"> High government involvement Many studies already done 	5
Cows and Buffalos	<ul style="list-style-type: none"> High investment needed Low job creation potential Difficult sector to develop 	5

This led to the following four selected value chains for the south region: se

1. Dates
2. Fish
3. Tomato
4. Poultry

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