

# Explorative Study Agricultural Development in Iraq and the federal Kurdistan Autonomous Region

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# Executive Summary

## Objectives

The Government of the Netherlands aspires to increase its support for the stabilisation of Iraq and empower people to build a new future after years of decline and stagnation. The agriculture and food sector in Iraq is a vital sector in Iraq's economy. Though the agricultural sector provides employment and income to a large proportion of the population, the sector's capacity to feed the population has been heavily affected by several decades of sanctions, violent conflict, imports of cheap foodstuffs and water scarcity. The objectives of this report were threefold:

1. To carry out the analysis of the existing farming systems, the enabling environment for sustainable, nutrition-sensitive and inclusive agricultural Value Chain (VC) development and possibilities for employment in rural areas.
2. To carry out the analysis of the strengths/weaknesses of the current public agricultural policy and identify opportunities and constraints for the inclusion of VC actors; in particular local VC actors and possible Dutch VC actors.
3. To assess the possible role of research institutes and the local and Dutch private sector in the revitalisation various agriculture sectors.

This report identifies opportunities, challenges and possible actions for a constructive engagement with the agriculture and food sector in Iraq.

## Key findings

Iraqi farmers are not competitive compared to their neighbouring peers (in terms of price and quality) and as such there is little economic incentive for farmers to be involved in farming. In addition the agriculture sector is missing the required support from the government.

A serious involvement by the Government of the Netherlands can enhance the agriculture competitiveness and increase employment in the sector, with a well-developed strategy and sufficient funding. Such a strategy should address the sector's problem of market access and competitiveness. This can be done in two ways. The first is to support the establishment of productive alliances, an approach which aims to strengthen the position of smallholder producers in the value chain. The second pathway is the support to integrated value chain development.

We identify the following sectors as promising for development and they can be matched with Dutch agriculture expertise:

- The vegetable sector shows high potential for improvement. Peri-urban horticulture is present and further improvement is possible. This improvement should not only be sought

at the level of the production, among others by means of protected cultivation and training to improve product quality, but also should add to the ability of farmers to create stronger connections with markets (e.g. productive alliances).

- The Iraqi dairy sector and poultry needs to be re-established after its collapse in 2003, with the involvement of the Iraqi private sector. Two opportunities should be considered. One is the further development of the current processing industry, and the other is the re-establishment of dairy collection stations. These could be considered for both central and South Iraq, as the Northern and Kurdistan Region.
- The potato sector is a promising sector and is labour intensive. The sector has seen serious growth over the last few years due to involvement of Dutch potato seed suppliers. Most potatoes are produced in the Kurdistan Region, though there are potential in other regions too, such as Mosul and north-west of Baghdad, an important potato producing region in Iraq in the recent past
- There seems to be good potential for aquaculture. One of the alleged successes of aquaculture is that there is no competition with subsidised exports from Turkey and Iran, as is the case in other sectors.

The actions should be along the following lines: 'Business to business', 'Knowledge to knowledge' and 'Government to government'.

The possible Dutch involvement will have to grow 'by evolution' and cannot be 'ordered by design'. Considering the amount of choices that need to be made (areas, subsectors, activities, parties involved, financing strategies, etc.), the various uncertainties (e.g. in terms of political and social circumstances in Iraq) and the need for further development of ideas jointly with the Iraqi government and private sector, it seems a good idea to define an 'Inception Project' with the duration of 1 or 1.5 years that facilitates further explorations of opportunities through various studies.

## **Method**

Data for this report have been collected by means of a desk study and field visits. For the desk study, we reviewed reports. We also consulted the databank of the World Bank<sup>1</sup> and the FAO<sup>2</sup> to retrieve basic data about the rural population, employment and agriculture.

The team conducted two study missions, one to the Kurdistan Region in Iraq and to Baghdad, Kerbala, Najaf and Basra with field visits, interviews, expert meetings and workshops. In this report we present our main findings and recommendations. We make a distinction between the Kurdistan Region in Iraq and the other parts of Iraq.

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<sup>1</sup> <http://databank.worldbank.org/data/home.aspx>

<sup>2</sup> <http://www.fao.org/statistics/databases/en/>

## Introduction

The Government of The Netherlands' latest policy document on international cooperation (MoFA, 2018) includes: (i) prevention of conflict and instability; (ii) reduction of poverty and social inequality; and (iii) promoting sustainable inclusive growth and climate action worldwide. In the context of this policy, the Government of the Netherlands aspires to increase its support for the stabilisation of Iraq and empower people to build a new future after years of decline and stagnation. An economy which creates new employment opportunities and makes smart use of resources may contribute to such a new Iraq. Though Iraq is an oil-rich middle-income country, it is one of the most fragile countries in the world. Decades of violent conflict, sanctions, corruption and mismanagement have deeply affected political institutions, social cohesion, education and the economy. Moreover, water shortage due to a variety of reasons, including climate change, is affecting Iraq.

The agriculture and food sector is a vital sector in Iraq's economy (FAO 2018). Today, employment in agriculture is about 20% of the total employment in Iraq. For women, employment in agriculture is even as high as 44% of the total employment for women, while for men this is 16%. Moreover, agriculture is the most important source of rural employment (FAO 2012). The backbone of the agriculture and food sector are small-scale farmers.

International organisations like the World Bank Group, the United Nations Development Program and the Food and Agricultural Organization FAO emphasise that the agriculture and food sector can play an important role in rural job creation and income generation and, relatedly, therefore is an important sector that can contribute to political and economic stability. The agriculture and food sector in Iraq is labour intensive and able to absorb large amounts of labour, upstream (input supply and primary production), midstream (handling and processing) and downstream (distribution and marketing). In addition, evidence suggests that every additional job created in agriculture generates an additional 0.8 non-agricultural job while 1 percentage increase in the agriculture gross domestic product GDP results in an increase of the total employment with 1.2% compared to only 0.35% for the industrial sector (Group 2018).

This report has been written against the background of the ambition of the Netherlands to contribute to stability in Iraq through cooperation towards development of the agriculture and food sector. This study presents the findings of an explorative mission which had the following objectives (see the terms of reference in the relevant Appendix):

1. To carry out the analysis of the existing farming systems, the enabling environment for sustainable, nutrition-sensitive and inclusive agricultural Value Chain (VC) development and possibilities for employment in rural areas.

2. To carry out the analysis of the strengths/weaknesses of the current public agricultural policy and identify opportunities and constraints for the inclusion of VC actors; in particular local VC actors and possible Dutch VC actors.
3. To assess the possible role of research institutes and the local and Dutch private sector in the revitalisation various agriculture sectors.

Data for this report have been collected by means of a desk study and field visits. For the desk study, we have reviewed reports by international organisations such as the FAO, WFP, World Bank, UNDP, government reports and academic literature. We also consulted the databank of the World Bank<sup>3</sup> and the FAO<sup>4</sup> to retrieve basic data about the rural population, employment and agriculture. The team conducted two missions, one to the Kurdistan Region in Iraq (25-29 June 2018) and to Baghdad, Kerbala, Najaf and Basra (25 August - 3 September 2018) with field visits, interviews, expert meetings and workshops (see Appendix for a list of activities and interviews).

In this report we present our main findings and recommendations. The report makes a distinction between the Kurdistan Region in Iraq and the other parts of Iraq. This has two main reasons. The first reason is that Iraq is a federation by constitution and the Kurdistan Region has its own legislative, executive and judiciary institutions, and hence has the authority to make, implement and enforce policies. The second reason is that the nature of agriculture in the north of the country, which largely coincides with the Kurdistan Region, and the rest of Iraq is different. The geography of Iraq is marked by mountains in the north and agriculture is mainly rainfed. In the southwest deserts are predominant, and arid plains in the central and southern regions. In these areas agriculture is irrigated and concentrated around the two main rivers, the Tigris and the Euphrates.

We conclude our report with suggestions for a fruitful contribution towards the development of the agriculture and food sector in Iraq. We identify opportunities for development of the agriculture and food sector, based on areas in which the Netherlands can make significant contributions. In doing this, we focus on horticulture, potato and livestock/dairy. This does not mean that other sectors of agriculture in Iraq, such as e.g. the date sector, do not have potential for development, but that in the context of this explorative study we did not have the opportunity to look at it in detail. The wheat sector, which is heavily regulated by the central government, and intertwined with the public distribution system (PDS), a left-over of the Oil For Food (OFF) program, is worth a study in itself. The core of this report is compact, with a focus on opportunities, challenges and possible actions. Background data to the agriculture and food sector and water resources are included in several Appendices. Also, we included an Appendix with summary reports of the various meetings and interviews held.

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<sup>3</sup> <http://databank.worldbank.org/data/home.aspx>

<sup>4</sup> <http://www.fao.org/statistics/databases/en/>



The agriculture and food sector is plagued by a wide range of challenges: upstream, midstream and downstream. This may easily result in despair. At meetings with policy makers and international organisations we have been asked whether we had been able to find just one example of a success in the agriculture and food sector today. We did indeed find successful and encouraging initiatives. The most important finding is the resilience of the sector and the perseverance of farmers and others active in the sector. In spite of 30 years of severe disruptions and violent conflict the agriculture and food sector still is a main sector of employment and livelihood for thousands and thousands of farmers and others active in the sector. However, given the scale of disruptions, any improvement takes place in the form of a process of small steps, not big leaps. Therefore, we agree with the approach of 'think big', both in the sense of strategic objectives and a long term perspective, and to 'go small'.

Moreover, given the complexities, ranging from a more or less collapsed infrastructure for a few sectors to the 'not-so-enabling environment' for agriculture, any engagement might have to be made with a 'prepared-to-fail' attitude, i.e., the instabilities in the overall conditions might cause potentially well-developing initiatives to fail in the end. In Iraq, the reality shows that one has to be prepared to encounter disappointments, while acting with the will to make a difference. Many of the stakeholders in the agriculture and food sector we have met during our field visits had the will to make such a difference.

# Context

## National context

On a total population of 37.2m, the rural population in Iraq is about 11m people or 30% of the total population today. The urban population is about 26m people or 70% of the total population (World Bank online dataset). Though decline and stagnation of the agricultural sector has contributed to a rural-urban migration (RFSAN 2016: 3), urban unemployment has induced some people to move back into agriculture (World Bank 2016: 19).

Agricultural growth is considered a potential driver of poverty reduction for the rural poor, and if agricultural development comes together with a better allocation of resources within households this may contribute to a better health and nutritional status of children too (World Bank 2017: 59). Agriculture is the most important source of rural employment. For women, employment in agriculture amounted about 44% of the total women employment, while for men this was 16% of total men employment in 2017, compared to 26% for women and 13% for men in 2000<sup>5</sup>. Most rural households have an agricultural plot (Beer 2016; Eklund, Abdi, and Islar 2017).

The bulk of Iraq's agricultural output attributed to small-scale farmers (Beer 2016: 301). The dominant farm system comprises of farms with a size less than 10 hectares, often scattered over several plots, although the rain-fed farms of the North tend to be larger (averaging 10 to 30 hectares) than the irrigated farms of the Centre-South (averaging 1 to 2.5 hectares). Sharecropping is widespread and so are disputes over land rights.

The area suitable for agriculture is about 9.3m hectares, which is approximately 25% of Iraq's surface. The total area under cultivation is much smaller, estimated in between 2-4 million hectares, of which 1.2m hectares is cultivated in the Kurdistan Region. Cereals and grains represent by far the largest share of the agriculture land. Wheat is also the most regulated crop (RFSAN 2016: 9). It is bought by government silo's at a pre-declared price above market price. Barley is mainly produced for fodder (Beer 2016: 73). Roots and tubers comprise potatoes representing a national acreage of almost 7,800 hectares with a production of 191,000 tonnes. Fruit and dates orchards are well suited to Iraq's temperate hillsides and to more arid regions where irrigation water is available. Over 300,000 hectares are permanently in tree crops — mostly dates, but also some olives, grapes, oranges, apples, and other fruit orchards. Date palms are the most important tree crop farmed in Iraq and have traditionally been Iraq's main export after petroleum. Vegetable production and fruit orchards predominate in the high-rainfall zone in the north, wheat occupies most of the medium-rainfall zone, and barley is the main crop in the low-rainfall zone. Winter wheat and barley are planted in the

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<sup>5</sup> International Labour Organization, ILOSTAT database. Data retrieved in November 2017.

fall (October) and harvested in the late spring (April-June). The northern region is rain fed, the plains along the rivers north-south are irrigated.

The variegated topography of the region includes various micro-climatic zones, but basically the region can be divided into three rainfall regimes: high (700-1,100 mm), medium (400-700 mm), and low (under 400 mm). Both water quality and quantity is a problem. Also lack of control over water availability is a problem due to upstream construction of dams in Turkey and Iran. Moreover, rainfall in the mountains feeding the Tigris and Euphrates has failed to meet expectations and is expected to drop with 25-50% in the coming decade due to climate change (Immerzeel et al. 2011). Disputes over water rights are frequent. In the rain fed areas in the north farmers cultivate a single crop per year, while farmers in the irrigated areas in central and south Iraq often grow a second crop. While in the rain-fed areas, primarily in the north, the main crops are wheat and barley, which are planted in fall and harvested in spring, in the irrigated central and south Iraq horticulture and fruit production prevail.

Livestock (sheep and goats, cattle, camels, buffaloes), inland fisheries and backyard poultry raising are important as a source of protein and income for the rural population. Livestock production in the past represented 30-40% of the total value of agricultural production and contributed significantly to household nutrition. Performances of small ruminants, namely sheep and goats, were severely reduced during the last two decades, due to massive selling outside the Iraqi borders, loss of genetic potential and reduction in herd size. The small ruminant sector in Iraq also suffers from the lack of any kind of organisation among the producers (FAO, 2017: 20)

In spite of being located downstream of the Tigris and Euphrates rivers, Iraq can be considered as one of the most water-scarce regions of the world. Large-scale water management problems are already apparent in the region. Aquifers are over-pumped, water quality is deteriorating, and water supply and irrigation services are often rationed—with consequences for human health, agricultural productivity, and the environment. There is overwhelming evidence that Iraq is currently already facing a water shortage problem and that the problem will increase considerably in future because of various reasons (IRIS, 2017; Perababi, S.O., 2010; Nadhir A. Al-Ansari, 2013), of which the most important are the construction of dams in the neighbouring countries Turkey and Iran, which severely affects water supply to Iraq; climate change and frequent drought cycles, which will decrease water availability, political instability and neglect of the water infrastructure, resulting in damage and decline, and the strategic plans in general and of investment in particular to ensure the best use and development of water resources and its optimal use for household and production requirement.

### **International context**

The UN has a two-year Recovery and Resilience Programme, RRP (launched in February 2018). The RRP is envisioned as a nexus framework, which builds on the work which has

been done by other partners in Iraq (UN, 2018). RRP projects build on the work that has been done by humanitarian partners to support displaced and host families during the conflict and also on the efforts made by the Government and UNDP to stabilise the cities and districts newly liberated from the Islamic State of Iraq and the Levant (ISIL). The RRP is also forward looking, helping to lay the foundations in the social sectors and at the community level that will allow Iraq to reach the objectives set out in the country's Vision 2030 and the Government's National Framework for Reconstruction and Development. The aim of the RRP is to fast-track the social dimensions of reconstruction and has the following components. A set of three RRP components will be specifically targeted to areas where violent extremism may emerge. These are (1) Preventing Violent Extremism; (2) Revitalising Communities; (3) Restoring Agriculture & Water Systems.<sup>6</sup>

The World Bank, FAO, IFAD and other international organisations are all currently developing programmes. The World Bank is in the process of designing a national agricultural reform plan for Iraq (World Bank 2018), which is a USD 300-400m plan to restructure policies and rebuild the value chain. In our conversations about the plan with a World Bank expert, it was argued that Iraq will not be able to compete on price with neighbouring countries, and that Iraq has to compete on value. According to the World Bank this requires a policy change, as most of the budget of the Ministry of Agriculture is currently used for the support of wheat production, allegedly a support of a low value product produced by relatively big farmers (Personal conversation with a World Bank expert, 30 August 2018). The FAO has recently prepared: (1) a Road Map for the National Food Security Committee in Iraq; (2) their component of the RRP 2018-2020 in the 'Restoration of agriculture and irrigation water systems sub-programme', while IFAD has contributed, among others, to a Smallholder Agricultural Policy Analysis.

It is impossible to present a complete overview of all developments in Iraq in the context of the USD 1.1bn RRP, but it is clear that:

- All organisations are looking for international 'partners' and 'synergy' in their endeavour to cooperate with Iraq to reach the objectives set out in the country's Vision 2030 and the Government's National Framework for Reconstruction and Development. It may have been, for instance, in such a context that the FAO and the EKN in Baghdad convened (2016) and participated in an Iraqi-Dutch Business Forum on Dairy, attended by high-level officials representing the Government of Iraq as well as various national Universities and the Iraqi private sector.
- Any actions considered by the Government of the Netherlands would need to be 'positioned' in the larger international cooperation effort. The fact that the size of the Government of the Netherlands' efforts will be modest in comparison to the large size

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<sup>6</sup> Furthermore, a set of six RRP components are national in scope: (4) Promoting Sustainable Returns; (5) Decentralizing Basic Services; (6) supporting survivors; (7) Expanding Political Participation; (8) Engaging Youth; (9) Promoting Community Reconciliation.

of the RRP will make it relatively easy to select a few possible actions that will 'fit' in the larger overall plans currently under development.

# Opportunities

## Introduction

From being a smallholder food producing country covering its needs, Iraq has become a major importer of food. Agriculture's capacity to feed the population and its role in the economy has been heavily affected by several decades of sanctions, violent conflict, imports of cheap foodstuffs and water scarcity. As a result, value chains have been disrupted, connections between producers and markets distorted, the enabling infrastructure of extension and mechanisms for ensuring product quality and food safety collapsed, and the curriculum of the educational system outdated, among others.

Iraq's agricultural sector represents a vital component of Iraq's economy, but has been affected by disrupting policies, mismanagement and conflict. To be able to recover, farmers and other actors in the agriculture and food sector have to be able to deal with a legacy from the past, but also series of future insecurities, including political instability, markets and climate change, and the spectre of violence are never far away. Therefore, the main challenge the agriculture and food sector in Iraq faces is not only to re-develop relations and capabilities, but to develop them in such a way people and institutions are able to cope with risks. Some risks are related to the production process, such as disease and pests, while other risks are related to market and the price producers receive, uncertainties surrounding policies and political violence, and risks related to climate change. Any successful development approach needs to anticipate risks. These risks can be addressed through a 3R approach: repair, relatedness, and re-enchantment (see Box 1)

#### Box 1: The 3R approach

The repair, relatedness and re-enchantment approach is adapted from the thinking of the geographer Ash Amin about resilient cities, yet which can be extended to the rural areas. The basic assumption is that our lives take place in an environment of insecurities. These insecurities are the result of the instable economic, political, and technological networks in which we operate. The registers repair, relatedness and re-enchantment are ways to mediate these insecurities. In this context, repair refers to the ability to make improvisational responses or develop coping mechanisms to risks unforeseen. In Iraq, these are risks emerging from the market, instable political climate, violence and climate change. Projects implemented should be aware and include an appraisal on how to address relevant insecurities. Since the agriculture and food sector takes place within the context of a production networks and markets, *relatedness* needs to be a key issue of attention. In Iraq, the disruption of value chains, extension services and the disconnection between sector, science and policy, underlies problems in marketing, problem identification and policy development. Relatedness therefore refers to the re-establishment of productive relations between actors in the agriculture and food chain. *Re-enchantment*, finally, is of importance against the background of the darker narratives of violence and corruption. The insecurity imposed by markets, institutional environment and climate change have undermined the belief that the future bears improvements and resulted in the longing for a past. The nostalgia for Saddam Hussein which can be sensed, but also the attraction of ideologies that promise a return to a glorious past, have been fed by contemporary state in which there is not much hope for a better future. This is why dealing with insecurities is not only about restoring relations and equipping people in such a way that they can operate in an environment of risks, but also about the development of a positive story-line which creates the belief to make firm steps forward. (Source: adapted from Amin 2006: 1009).

#### **'Productive alliances' and 'Integrated value-chain initiatives'**

In the context of addressing the environment of insecurities, we identify two possible pathways. The first pathway is referred to as productive alliances, an approach developed by the World Bank and which aims to strengthen the position of smallholder producers in the value chain by contributing to their ability to deal with insecurities and (unfair) competition in the market (World Bank 2016). The second pathway is the support to what we refer to as integrated chain development. These are initiatives, which function on the basis of an organisation and control of the whole chain by one actor. The difference between a productive alliance and integrated chain development is that the first refers to cooperation and coordination between specialised actors while the latter refers to the ability of an actor to control the whole chain, from supply to marketing. Examples of the latter are the production and marketing of potatoes in the Rovia region between Dohuk and Arbil in the Kurdistan region and the production and marketing of vegetables and dairy products in the Kerbala and Najaf region. The few successful agriculture initiatives that we came across appeared to be integrated chains. These initiatives come with the danger of elite capture.

#### *Productive alliances*

Through the availability of cheap imports from neighbouring countries on the market, farmers in Iraq are in a disadvantaged position, yet far from being outcompeted on the market. On the contrary, available data show that production increased near to urban areas (FAO 2012: 21).

Our observations also confirm that farmers near urban markets invest in vegetable production, however struggle with maintaining post-harvest quality as a result of a lack of storage facilities. Moreover, farmers are confronted with high transaction costs because they have to transport the produce to the market themselves, and because of a failure of public institutions to monitor and enforce product quality and food safety standards. To increase the coverage of demand from local produce, farmers' access to markets needs improvement. This improvement of access has two important dimensions, namely measures which contribute to the development of post-harvest quality and new farmer-market relations (*repair*). This could be realised through the establishment of productive alliances of producers. Productive alliances aim to strengthen connections (*relatedness*) between producers, buyers and the public sector on the basis of a business proposition (*re-enchantment*). The business proposition describes the capital and facilities needed to strengthen the linkage of producers with the market (World Bank 2016). The business proposition of productive alliance between vegetable producers, wholesale and municipality describes the capital needed to improve post-harvest measures and facilities, market access, and that of the relevant institutions that enforce product quality and food safety. The productive alliances in vegetable production and marketing can be created and supported near urban centres in the north, such as Suleymania, Arbil and Dohuk, but also around other cities in Iraq.

Iraq used to be self-sufficient in dairy products (FAO, 2016. *Event report*). However, dairy production has collapsed and most of the dairy products consumed in Iraq are imported. Of the production capacity, 40% of the local milk production is processed by industrial dairies and another 40% by artisanal 'cottage' dairies. For the development of the dairy sector, support for the smaller 'cottage' dairies which are close to consumers, among others by improving the delivery system, pasteurisation and bottling, may be a strategy to consider (UNIDO 2010: 7). This may help to strengthen producer-market connections. The expectation is that support to the small cottage industry may also contribute to the 'recovery of agriculture and agro-industry; safer food production; better access of poor consumers to milk; poverty alleviation of farmers and job creation in the dairy sector' (UNIDO 2010: 8). This should be accompanied by a policy to support domestic products and reduce imports from neighbouring countries.

### *Integrated value chains*

In Rovia and Suleymania in the Kurdistan Region and in the Kerbala and Najaf region in central-south Iraq we have seen successful private initiatives. These initiatives were marked by an *integrated value chain approach*, in which they covered the whole chain, upstream (input supply and primary production), midstream (handling and processing) and downstream (distribution and marketing). Moreover, these initiatives also provided training on the job, had their own trial fields for variety selection, and provided extension services. The initiatives we have encountered range from gardening (ornamental plants) to potatoes, vegetable production and livestock, among them sheep production, dairy cows and poultry.



Typically, successful initiatives have started small and developed through diversification and not specialisation. A process of specialisation takes place when the farm concentrates on the production of particular goods or services, while obtaining inputs and other services from the market. However, because the agriculture and food sector has been disrupted, supplies and outlets may not be available or cannot be guaranteed over time. Successful initiatives mostly diversified by taking up activities in other stages of the supply chain. So in the Kurdistan Region a potato trader is not only involved in the import and storage of tuber, but also in production, extension and marketing. To improve the capacity of farmers, the trader organises educational exchanges to the Netherlands. A gardener in the Suleymania region not only sells ornamental plants, but also produces them and designs, develops and maintains gardens for clients. In Kerbala and Najaf vegetable and livestock farms of the Al-Abasi and the Al-Alawiya shrine are successful because they have strong production-market connections. Problems these initiatives have to cope with vary. Some have to do with a lack of enforcement of regulations and control, such as the spreading of disease (phytophthora) because of the (illegal) import of infected tuber, the availability and quality of labour, or the availability and quality of water.

## **Water**

It is clear that for Iraq there are far more challenges with 'water' than opportunities. To overcome current and future water shortage, countries have a range of options at their disposal to respond and adapt (adapted from Immerzeel et al., 2011). These options can generally be summarised into the following broad categories:

- Increasing water productivity ('more crop per drop' or 'more cash per splash'). This can include an improvement of the water transfer coefficient and soil-less culture in greenhouses, where water can be saved by using new techniques.
- Preventing losses in the domestic, industrial and agricultural use of water. At irrigation system level, management of the main system should be improved to prevent losses as much as possible and for the field level of water use 'water user associations' may be very helpful in improving water use efficiency (as in other countries).
- Increasing reuse of water from domestic, industry and agricultural use. Good care should be taken of water quality and the purposes for which the reuse water will be applied.
- Increasing supply is often also mentioned, but for Iraq this is a major topic: upstream countries are also expanding their supply by e.g. building dams, which is at the cost of the Iraqi population, economy and environment. International diplomacy is probably the best method to deal with this important issue.
- For many of the options mentioned above, capacity in institutions and among farmers needs to be further developed (and general awareness of the water shortage issues is also required).
- Certainly, emphasising the improvement of water quality is the most important requirement in the context of increasing water resources in Iraq. The quality of water in Iraq has deteriorated manifold over the last two decades due to the lack of enforcing

the application of the existing laws and regulations on water quality degradation. Possible actions are improvement of the water quality by refining brackish or polluted water.

Summing up, any engagement with opportunities should identify the main challenges which should be addressed, directly or indirectly. The agriculture and food sector in Iraq faces multiple challenges at the level of policy making and implementation, institutional collaboration, licensing procedures, the enforcement of existing regulations, impact of extension services, infrastructure, distribution and logistics chain, processing capacity, marketing, trust in local products, water management, water availability and water quality, to name a few. We will discuss the most important challenges against the background of the opportunities identified.

### **Employment**

The private sector is weak and stagnant and has not been able to generate significant employment (World Bank 2017: 2). A positive exception is agriculture. The agricultural sector makes a significant contribution to total employment in general and rural employment in particular. Small-scale farmers are the back-bone of the agricultural sector, the second most important employer in the country and the most important provider of employment in the rural areas. Employment in agriculture is about 20% of total employment in Iraq. For women, employment in agriculture amounted to about 44% of the total women's employment, while for men this was 16% of total men's employment in 2017, compared to 26% for women and 13% for men in 2000.<sup>7</sup>

Agriculture is the most important source of rural employment, and, more generally formulated, is an important source of rural livelihood (FAO 2012). However, it is difficult to determine the exact scope. Some figures suggest that almost 50% rural households have an agricultural plot; while 7% of the households in urban areas have an agricultural plot (Beer 2016: 301). A survey conducted in the Kurdistan Region suggests that 74% of the households in rural areas are engaged in agriculture (Eklund, Abdi, and Islar 2017: 9).

Agricultural growth is considered a potential driver of poverty reduction and employment for the rural poor, and if agricultural development comes together with a better allocation of resources within households this may contribute to a better health and nutritional status of children too (World Bank 2017: 59). Yet farmers face poor access to formal credits (commercial and government banks), while the capacity to provide credits of informal networks (trader, community) is limited (Oxfam 2016: 24). It must also be noted that agriculture is not a preferred sector of employment and much of the labour is provided by IDPs and refugees from Syria.

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<sup>7</sup> International Labour Organization, ILOSTAT database. Data retrieved in November 2017.

## Challenges

### Policy

Over the last decade, the agricultural policy of the central government and the Kurdistan Regional Government (KRG) aimed at a stable, competitive and sustainable production while generating rural employment and protect the natural environment. In practice, however, Iraq's agricultural policy was mainly focused on supporting the production of wheat. Though the wheat productivity is high – at equal level with neighbouring countries – the support for wheat production results in the budget going to a small group of larger farmers.

The Central Government of Iraq and the KRG policies aimed at agricultural growth through the increase of private investment in agriculture. Yet in spite of such intentions, the current institutional framework is not conducive to private sector investment in agriculture. Problems include unclear requirements for registering and closing businesses, license requirements, limited communications infrastructure, difficult access to finance and a non-competitive business environment that lacks transparent and clear legal frameworks for rules-based market competition. There are no incentives to invest in agricultural processing industries or value chains because of the complicated administrative and regulatory system, the considerable shortcomings of the public agencies that are in charge of the advisory and technical services, erratic price policies, inefficient and outdated marketing networks, very little market information and complicated and time consuming export/import procedures (FAO 2017: 48). Access to credit is difficult outside governmental ad hoc subsidised credit programmes: private capital investment resources are lacking, as are credit initiatives available to farmers. The near absence of institutional credit has made the cost of capital prohibitive for agricultural producers and discouraged private investment.

Policy makers we spoke to acknowledge that plans made have not been implemented, while stakeholders mention neglect and lack of interest for the agriculture and food sector. They dispraise not only the decline of the agriculture and food sector since 2003 and the lack of a coherent vision for the future of the sector, but also the failure to implement and enforce standing policies, among other food- and product safety regulations and protection against what they refer to as dumping practices from Turkey, Iran and Jordan. Many of the stakeholders think that the failure to implement and enforce policies that support the local production is due to relations of political elites with importing companies and business interests. Trust in politics and policy makers is low.

### Data

The data sector in agriculture in Iraq is disorganised, intermittent, outdated and in many cases non-existent. Information on agriculture and markets is limited and of poor quality (World Bank 2015: 19; World Bank 2017: 5; Jaradat 2002; Aziz 2017: 6). A survey on forestry and

grassland does not exist (KRG 2017: 16). Soil and water maps are not available or are outdated (World Bank 2015: 19). Statistics used seem to be contradicted by evidence-based research. For example, an analysis of satellite data on the Kurdistan Region suggests that yields have declined since 2000, yet official statistics suggest an increase in productivity (Eklund, Persson, and Pilesjo 2016). Land around urban areas which was previously used for cereal production has changed in land use or become fallow, suggesting urban expansion. Moreover, a negative trend in vegetation in winter crops is reported, which might point towards land degradation.

Yet for well-informed decision making, reliable data are a must. In the current process of policy making, general statements and beliefs are not substantiated by data and knowledge of the sector. Several actors in the Kurdistan Region express their displeasure with the fact that policy makers continue to refer to the destruction of the countryside in the 1980s under Saddam Hussein, while the discussion today should be based on data on actual developments in the sector.

### **Private Sector**

Though Iraq and the Kurdistan Region in Iraq are regarded as free market economies and the agro-food sector is said to have low barriers to entry for the private sector (World Bank 2018: slide 4), the administrative and regulative system is complicated and requirements for licensing, registering and closing business unclear (World Bank 2017: 5). In Iraq, including the Kurdistan Region in Iraq, market access is dependent on personal relations between private parties and dominant families, who hold key positions in political parties and government. These results make the market in Iraq more a 'limited access order' than a 'free market' (Aziz 2017: 112) and lead to 'elite capture' (World Bank 2018). Citizens and business people believe that corruption is the most important policy challenge in Iraq (World Bank 2017: 20, 72).

In the agricultural sector, it is said that licences are hard to obtain if one does not have the right contacts. Contracts are granted to businessmen with good relations with the dominant families, who in many cases control the important political and government positions, and who mostly sub-contract the work again after taking their share. The current administrative and regulative system comes with bribery for getting licences, extortion in the form of forced payments through coercion of threats, such as the payment of 'taxes' or for the clearing of goods at customs, and elite capture, for example in the enforcement of exclusive contracts. People indicate that there is the law on the one hand and politics on the other hand.

### **Productivity**

Policy-makers in Iraq and the Kurdistan Region consider low productivity as one of the main problems of agriculture. World Bank and the FAO come to similar conclusions, arguing that agriculture in Iraq is characterised by low-input/low-output (FAO 2012: 17) and consequently have a low productivity (World Bank 2017: 36, 95). Yet most horticulture farmers we spoke

have invested in irrigation, tunnels and imported high-quality seeds. However, they complain that quality control on inputs is virtually absent and therefore product quality is not guaranteed. Fake seeds and other low-quality inputs are on the market and difficult to distinguish from real. Moreover, stakeholders, such as farmers, wholesale and trading and processing companies, contest the view that low farm productivity is the main problem. They consider marketing the main problem. Farmers argue that the government may want them to produce more, but that they see no possibility to sell the products if they do so. The main problem farmers face is not productivity, but a lack of protection against cheap imports from in particular Turkey and Iran. A World Bank expert we talked to says that both Turkey and Iran support export of their produce to the Iraqi market as a strategy to get foreign currency. Given the marketing problem, the World Bank expert also indicates that stimulating farmers in Iraq to increase production only will contribute to a further over-supply at the market and a drop in prices (World Bank expert, personal communication 30 August 2018). In addition to the problem of over-supply at the market, most farmers have to cope with high transaction costs due to problems in public service provisioning and distribution. Some of the farmers we have visited have to connect their farm to the grid, while one would expect this to be a government service. We have visited farms which have to construct and maintain an unpaved road towards the farm and bring electricity to their farm, which then become costs which have to be covered by the income from their produce. Moreover, most farmers bring their produce to the market by themselves, which also leads to relatively high transaction costs. All in all, there are times that there is little incentive for farmers to be active in agriculture.

### **Post-Harvest**

Post-harvest management aims to reduce loss and maintain a good quality of the harvested produce for the market. The limited availability of cold storage facilities is mentioned as one of the key problems in post-harvest management. One of the obstacles to the spread of cold storage is the availability of electricity. However, as some of our respondents commented, a cold storage is not a hospital, and when the quality of the product is negatively affected by improper harvesting and handling methods, this cannot be compensated for in a cold storage. Causes of post-harvest loss may range from harvesting methods which damage the product, inappropriate packing, packaging and storage, poor storage conditions and transport conditions. Basic recommendations for maintaining post-harvest quality and safety of produce are the same for different distribution systems, such as direct marketing, local marketing, export marketing. However, the level of technology to create the conditions varies in accordance to distance, climate, the intended use (fresh versus processed) and the market. If fresh products are marketed nearby, careful harvesting and handling and proper sanitation practices may be sufficient for assuring the quality of fruits and vegetables. Sometimes, better practices may make a difference, such as harvesting during cooler periods of the day or during the night, preventing injuries during harvesting, ventilation in non-refrigerated vehicles i.e. When distances increase and temperatures are high, cooling, refrigeration and packaging may become essential. Yet investments are only productive if the added costs can be absorbed in the market price of products (Kader and Rolle 2004).

### **Food safety**

Post-harvest measures and better market access need to be addressed in tandem with measures to improve food quality and food safety. Local produce is substandard and vulnerable to competition by imports because of the lack of food safety and quality regulations and enforcements (World Bank 2015: 70). Local business people we have spoken to in the Kurdistan Region in Iraq confirm the lack of food safety standards and control. Farmers tend to overuse pesticides. As a result, local products are often perceived as of inferior quality. Some of our informants argue that locals are willing to pay twice the price for imported products. However, these imported products are not necessarily of higher quality. Though Iran and Turkey produce high quality products, local traders are said to prefer the low quality products, with which they can earn higher profits.

### **Processing**

A competitive food processing industry in Iraq is absent. There are a number of initiatives by private investors to establish modern processing plants (e.g. in the potato sector). However, these initiatives face serious challenges in terms of a constant supply of raw materials, (cheap) import and high investment costs. The construction of modern processing plants requires active involvement of foreign suppliers to install equipment. Due to the current security situation, contracting security services to safeguard a level protection is required and this adds significant costs to the investment, according to an interviewed actor.

### **Water**

The Middle East and North Africa (MENA) region can be considered the most water-scarce region of the world and large-scale water management problems are already apparent in the region. Aquifers are over-pumped, water quality is deteriorating, and water supply and irrigation services are often rationed—with consequences for human health, agricultural productivity, and the environment.

Very large parts of the MENA region are hyper arid to very arid. The Kurdistan Region is classified as semi-arid and the remaining parts of Iraq range from 'arid' to 'hyper-arid'. Although the Kurdistan Region has often been mentioned to be rich in water resources (having e.g. five large rivers running through it), climate change projections show that precipitation in Kurdistan is seriously decreasing (with reductions of possibly 40%).

All this is overwhelming evidence that Iraq is facing a serious water shortage problem and that the problem will increase considerably in future. There is also a trans-boundary issue in water, the main rivers of Iraq are arising from the north, north west and east, coming from surrounding countries. These countries are also affected by a rapid increase of water demand and construction of dams in the neighbouring countries severely affects water supply to Iraq.

Salinity in Central and Southern Iraq (ICARDA, 2012; ICARDA 2013) is so pervasive that its impact on farming systems is a major constraint to agricultural productivity. A strategic focus is needed on investment in salinity management at the farm scale.

It is important to reduce the salinity levels in the Tigris and Euphrates rivers, especially in their lower reaches. This is critical not only for agriculture but also for the communities that rely on these rivers for their drinking water and other needs.

### **Employment**

Agriculture is people's work, and for any policy to be successful, the way in which people make indications have to be taken into consideration. Importantly, many households have diversified their incomes, most likely not only because of a lack of income security in agriculture, but also due to a preference for a government and sometimes private sector job. Some farmers we met are able to mobilise family labour, but several farmers indicated that children stay in the city, where they study, look for or actually have a job outside agriculture. Some of the farmers we met also have additional income from a city job. Other farmers we met have an additional income from direct government payment, for example from retirement, being a former peshmerga, being a former political prisoner or families of martyrs.

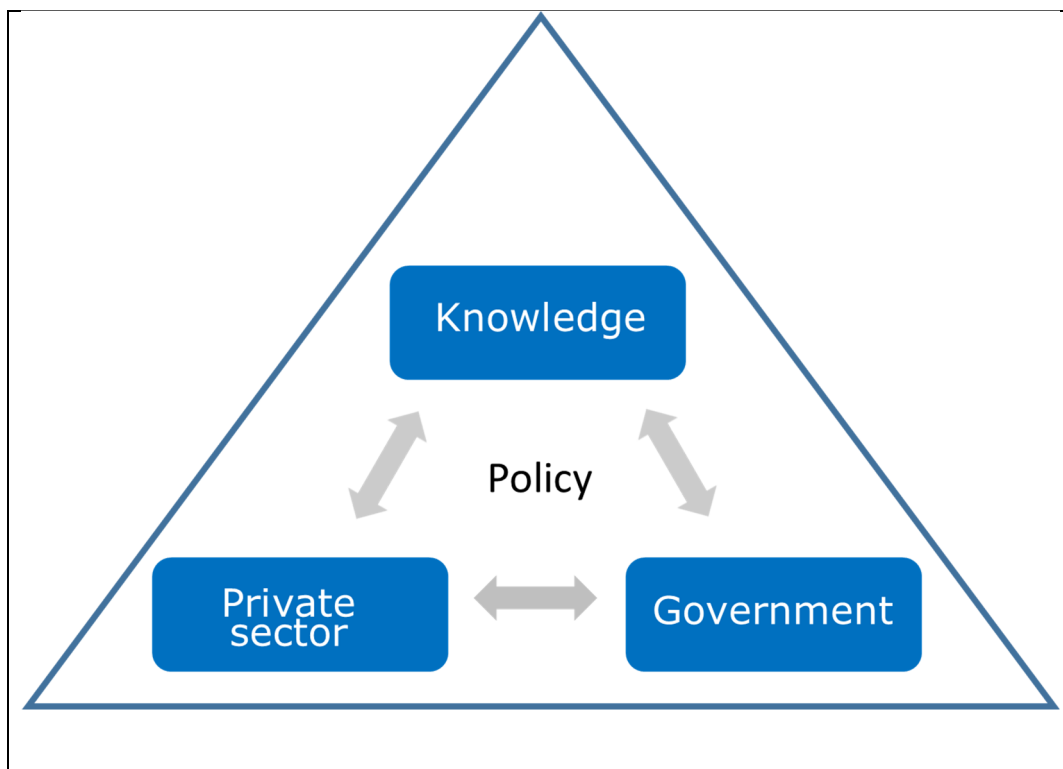
Young generations do not prefer employment in the agricultural sector, and parents prefer their children to explore career opportunities in the public sector or high profit private sector, such as the medical sector. In the north of Iraq, most of the manual labour in agriculture is provided by refugees from Syria and internal displaced persons, mostly Yezidi. The agricultural sector also uses labour power from Egypt and Asia (Bangladesh and Nepal). We have identified three arrangements in which labour from outside the region is employed. These are 1) the hiring of permanent labour (mostly non-IDP), 2) the hiring of day-workers (mostly IDPs) and 3) sharecropping arrangement, in which the owner brings in the land, and the workers (a group of close families) provide labour.

From research in the wider region, it transpires that households employ conscious income diversifying strategies. While they hire external labour, families allocate family labour to different forms of work, with some members working on the farm, while others work in the city as a civil servant or in the private sector. For some families the farm is an important source of income, but for others a fall-back option in times of crisis, when people are not able to maintain their livelihood in the city. Though one of the policy objectives is to create employment opportunities in the agricultural sector, farmers' households strategies may be based on income diversification.

## Possible Actions

There are various opportunities for agricultural development in Iraq. However, two of the main problems is the lack of a consistent policy which is well thought through and the disruption of the value chain, as a result of which farmers in Iraq are put in a disadvantaged position compared to competitors. Connecting knowledge, practice and policy, the so-called 'golden triangle', is considered vital to the success and innovative power of the agriculture and food sector in the Netherlands. It is based on a number of linking principles and connection mechanisms), which are schematically presented in the figure below.

Figure: The agricultural knowledge and innovation



### Projects

One of the main challenges identified is the disconnection between production and markets. The creation of productive alliances are considered one way to revitalise the agriculture and food sector and may furthermore contribute to the availability of safe food. The development of such productive alliances on horticulture near urban centres looks most promising, since vegetable production near urban centres has shown a growth over the last years. Since this is a growth in spite, and not thanks to current policies, it underlines the potential strength of this



sector and the possibility for further growth when alliances can be forged. We also mentioned the potential of productive alliances in dairy farming. The other strategy for coping with insecurity is integrated chain development. This strategy aims to diversify (and not specialise) and engage with upstream (input supply and primary production), midstream (handling and processing) and downstream (distribution and marketing) activities. These initiatives are successful, because they reduce risks related to delivery in the supply chain, both risks related to late or non-delivery, but also risks related to quality of inputs. These initiatives also reduce risks related to marketing. However, to be able to cover the whole chain, these initiatives cope with the need to invest capital in the whole range of diversified activities, from supply to production, storage and distribution.

The 'possible actions' to be considered by the Government of the Netherlands will depend on (i) the level of 'investment' that the government is prepared to take up for a joint undertaking with the Government of Iraq and the private sector in Iraq, as well as (ii) the 'level of ambition' to do so. There are various levels for the Government of the Netherlands to execute a joint programme with Iraq, ranging from say 'modest' to 'ambitious'. Paramount in the development of a joint Iraq-Netherlands programme is long-term commitment, from both sides, in transparent political will as well as with finance.

The 'possible actions' we identified are listed below along the following lines: 'Business to business', 'Knowledge to knowledge' and 'Government to government'. This is in the understanding that in the 'golden triangle' there are also other lines of communication.

### **Business-to-Business**

Direct investments from the Netherlands in Iraq are virtually absent and not likely to take place in the short term. However, several companies in the agriculture and food sector have business relations with partners in Iraq. This includes the sale of seeds and tuber and machinery. Some companies in the agriculture and food sector also invest in the training of farmers and provide short-term credits to agricultural companies. The development of relations is partly dependent on the development of a robust agriculture and food sector in Iraq. In this context, several Business-to-Business activities may be identified.

- The potato sector is a promising sector and has seen a growth over the last few years. A further development of the sector may be considered, among others by the support to already running exchange and training, which do not only focus on the production and storage of potato, but also on disease management for farmers and policy makers. The business partners may further develop their needs and activities along the road.
- The commercial dairy sector in Iraq has largely collapsed after 2003. As a result, the Iraqi dairy sector needs to be re-established, with the real involvement of the Iraqi private sector, who have (repeatedly) requested support from the Netherlands. Two opportunities should be considered together. One is the further development of the current dairy cottage industry, and the other is the re-establishment of dairy collection stations. These could be

considered for both central and South Iraq, as the Northern and Kurdistan region, which due to climatological conditions are appropriate environment for dairy processing as well.

- The vegetable sector has a high potential for improvement. Peri-urban horticulture is already growing and further improvement is possible. This improvement should not only be sought at the level of the production, among others by means of greenhouse technology, but also in the relation to the ability of farmers to create stronger connections with markets. In this field, the Netherlands could invest in the development of productive alliances between smallholder farmers and market parties in cities. Moreover, training in production techniques and collaboration within productive alliances could be provided. The Training of Trainers (ToT) approach should be considered and could also be implemented in a regional context.
- Although we only interviewed one fish farmer (in South Iraq) and briefly discussed the issue with experts at one of our workshops in Baghdad, there seems to be a good potential for fish culture. One of the alleged successes of fish production is the lack of highly subsidised competition from Turkey, Iran and Lebanon.

Activities to be considered are many and can e.g. include:

- Study visits and exchange of experiences on a range of topics, including control of diseases, seed certification, product quality and food safety control, post-harvest, packaging and marketing etc.. This may seem a multitude of topics to be considered, but that is inherent to the holistic approach of establishing 'productive alliances' or 'integrated chain development'. This could be facilitated for example through the PSD Apps.
- Trainings, at vocational and university level. Interviewed private sector stakeholders claim that the present Iraqi educational system is not leading to the right capabilities of graduates and there is a need for capacity development at an institutional level (see also knowledge-to-knowledge).
- Agricultural fairs or shows, not only large scale shows, but also smaller, regional shows, may contribute to the exchange of knowledge and experiences, and contribute to the development of the agriculture and food sector.

### **Knowledge-to-Knowledge**

The Iraqi agricultural knowledge sector is in dire need of international cooperation and the NL knowledge sector can play an important role. It should be kept in mind that often development starts with cooperation of knowledge partners (and it is also a kind of cooperation that is relatively 'resilient' to instability). Activities to be considered are many and can e.g. include:

- Study visits, organised in collaboration with or by the private sector in the Netherlands, may contribute to the strengthening of the agriculture and food sector in Iraq and directly benefit further collaboration. These visits may be organised for example for groups of

producers, retailers and policy makers separately, but mixed groups could also be considered as a bonding mechanism.

- For the development of skills and competences a range of training courses are available, but also 'tailor-made' courses can be developed, such as courses for agriculture, horticulture, livestock and fisheries, but also management, entrepreneurship and management skills.
- Exchange visits of relevant Iraqi academic staff in order to advance knowledge, courses curricula, etc..
- Provision of modern equipment (laboratory, machinery, etc.) for educational purposes.
- MSc fellowships and PhD fellowships to enhance the creative and innovative potential of students and staff.

**Example of a knowledge-to-knowledge activity: Review and renew curricula**

Many of the education institutions have been disconnected from the outside world since the beginning of the sanction in 1990. As a result, many of the instructions are recycling outdated curricula. Reconnections to the outside world may contribute to a hard needed renewal of the educational system. During a meeting at the University of Baghdad, the university board expressed the desire to review courses and educational programmes and update existing curricula. This, however, should run parallel to a strategy of capacity building at master, PhD and faculty staff level. An action in this field, should not target one university, but preferably several ones with agricultural colleges, such as University of Baghdad, University of Mosul, University of Basra, University of Suleymania, and the University of Dohuk. A similar action could be taken review courses and educational programmes and update existing curricula of Technical vocational education and training institutions.

**Government-to-Government:**

The private sector and knowledge is paramount in agriculture. Nevertheless, the government has an important role:

- Enabling farmers to produce, which includes supportive policy, knowledge exchange and enforcement of a robust regulatory framework. This requires a reliable data and information system, the development of the agriculture and food sector and the development of capacity in government institutions.
- Policy needs to be better based on data, facts and evidence-based information. Today, 'plans' for enhancement of agriculture more resemble random wish lists than a well-informed set of principle on which to base decisions and develop the agriculture and food sector on the short, middle and long term, supported by stakeholders in the chain and by implementable action plans.

- The investment climate for agriculture needs enhancement, which includes transparency, licencing, proper allocation of subsidies, etc..
- There seems to be a preference of making new plans (with often considerable sizes) but it should be understood that the current agricultural system needs attention as well: enforcement of policies for food safety and product quality (seeds, fertilisers, quality of the plastics for the tunnels, etc.) is critical if one wishes to develop the current agriculture and food sector.

**Example of a government-to-government activity: Support the development of an agricultural information and data system**

There are no reliable data available on the agriculture and food sector in Iraq. The datasets used are estimations at best. Development of a systematic for the collection and comparison of data is necessary. Reliable data is an important pillar for any policy and development plan. In addition to the development of a reliable system for data collection, analysis of satellite based time series data, may be used to monitor and analyse land use, crop cultivation, crop yields, and environmental impact, among others, and support policy makers or agricultural extension offices in their work and to make evidence based decisions. Policy makers need access to up-to-date and reliable information on prices, costs, incomes and the market. The objective should be to establish the Agricultural Information Centre that will play a central role in agricultural information management in Iraq. The development of a reliable data and information system could be done as a collaboration between knowledge institutes and policy makers, contributing to a productive exchange between the knowledge sector and policy.

In the table below we have summarised the priority of activities on short and long term

	B2B	K2K	G2G
Productive Alliances			
Short term (< 2 years)	High	Low	High
Long term (> 2 years)	High	Medium	Medium
Integrated chain development			
Short term (< 2 years)	High	Medium	High
Long term (> 2 years)	High	Medium	Medium
Coordinating Capacity			

An important concluding point is that there is an urgent need to further investigate the feasibility of the mentioned 'possible actions' as mentioned at the round table with bilateral and international donors (USAID, AUSAID, WFP). Nothing should be started without a

reasonable confidence that the right institutions and the right people are involved. Actions should be taken with the understanding that the Iraqi agriculture can only be revitalised and managed by Iraq.

### **Studies to assess feasibility**

Possible study areas:

- More in-depth studies on the different sectors identified (e.g. horticulture, potato, dairy) to have a broader understanding of the more specific challenges and opportunities of these sectors, among others in Mosul, which was an important potato growing region in the past.
- Employment Impact Study: One of the policy-objectives is to create employment opportunities in the agricultural sector as a contribution to stability. In order to be able to assess how a higher demand for labour is addressed we need to know the labour strategies of farmers in the region. We propose to make a quick scan of the income and labour provisioning strategies of farmers and rural households. The objective of the quick scan is to assess how a higher demand for labour is being addressed and to what extent policies are likely to contribute to lower unemployment among new generation.
- Post-harvesting Impact Study: To reduce loss, maintain a good quality and competitiveness a quick scan of harvesting methods, packing, packaging and storage, and transport should be made (Kader and Rolle 2004). An exploration of possible post-harvest measures should start with i) an understanding of the magnitude and causes of loss, both in terms of quality and quantity, from harvest to market, ii) harvesting practices, packing and packaging, transport, storage, and marketing, iii) an evaluation of the impact of simple modifications in the current practices and facilities, such as stage and time of harvesting, method of harvesting, storage, transport etc., iv) provide training on best and worst practices.
- Various types of plastic greenhouses are used for vegetable and flower production in Iraq. However, none of the observed types seems to be suitable for the climatic conditions. We propose to support studies to develop a sustainable design for the plastic greenhouses that are more suitable for the climatic conditions and are also able to recirculate drain water for improved water usage.

### **Coordinating capacity**

For a joint Iraqi-Netherlands programme the establishment of a coordination capacity is crucial<sup>8</sup>. The aim of this coordination capacity to liaise between the various national and international partners involved (including private sector and knowledge) in the wide range of

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<sup>8</sup> Wageningen UR has extensive experience in guiding this type of programmes in other parts of the world

activities identified at this point in time as well as possible activities that will pop-up during the early years of implementation of the programme. The choice how to position this coordinating capacity is important for the success of the programme, it needs to be guided and directed closely by the EKN, while alleviating the administrative load that will pile up when a programme with many 'possible actions' will be taken up and explored further.

## Conclusions

In the previous chapters we have identified opportunities, challenges and possible actions for a constructive engagement with agriculture and the food sector in Iraq. The opportunities are identified along two tracks. The first is the formation of productive alliances in order to create better producer-market combinations in horticulture, dairy and poultry. The second is the support to integrated chain or whole chain initiatives, which are marked by the integration of production and market. Both productive alliances and integrated chain initiatives are means to deal with the insecurities created by markets, the institutional environment, and the disconnection and lack of trust within the value chain. These productive alliances and whole chain initiatives have the potential to link the productive capacity in Iraq towards market demand. For a joint Iraqi-Netherlands programme the establishment of a coordination capacity and commitment of both governments is crucial.

Though the agriculture and food sector in Iraq is a vital sector in Iraq's economy and already provides employment and income to a large proportion of the population, the challenges it faces today is enormous. We have underlined several times the disarray within the agriculture and food sector as a result of sanctions, political instability, violence and mismanagement. A support to the agriculture and food sector with the aim of an improvement of the quality of life and economic well-being in the rural areas should take into account the important role of (small) farmers and women. An engagement should also think of mechanisms to prevent elite capture.

The Dutch Governments gives a negative travel advise to most parts of Iraq which makes it difficult for Dutch Small and Medium Enterprises (SMEs) to conduct direct business that involves travelling. However applying the regular 'PSD tools' that are available (see Appendix 11) is still possible and the programmes enable various relevant activities. Most of the tools are primarily designed for the Dutch private sector and application to specific programmes has its own procedure and have their own strengths and weaknesses. Strengths include e.g. the fact that the Government of the Netherlands takes the first loss in difficult environments/fragile states, and weaknesses include that these 'tools' are very laborious to implement and complex for businesses to navigate, both in the Netherlands and overseas. Many SMEs operating in places of insecurity and high risk deliberately deploy coping strategies rather than realising their growth ambitions (and these coping strategies are likely to differ from the promising investment plan that is submitted to PSD support channels).

A serious involvement with the agriculture and food sector, which moves beyond trade of the Dutch private and public sector only, asks for a long-term strategy and sufficient funding.

However, this 'serious involvement' will have to grow' by evolution' and cannot be 'ordered by design'. Considering the amount of choices that need to be made (areas, sectors, activities, parties involved, financing strategies, etc.), the various uncertainties (e.g. in terms of political and social circumstances in Iraq) and the need for further development of ideas jointly with the Iraqi government and private sector. It seems a good idea to define a kind of 'Inception Project' with the duration of 1 or 1.5 years, a fitting vehicle for the coordinating capacity.

Preferably the ToR for this 'Inception Project' is prepared by the authorities in the Netherlands (EKN, CG and The Ministry of Foreign Affairs) and financing should be provided by the government of The Netherlands. This 'Inception Project' will have to provide the enabling environment to, e.g., (i) carry out some quick 'no-regret' activities; (ii) investigate the various proposals that (will) come from Iraqi and Dutch companies and institutions; (iii) identify the inputs required by the Iraqi authorities (keeping in mind that the KRG has its own mandate) for a real improvement of the agriculture and food situation in Iraq; (iv) assist the various interested parties to make use of the various Dutch PSD tools; (v) identify possible synergy to be reached by teaming up with national and international partners in Iraq.

Such an 'Inception Project' has the advantage that it focuses on the development of a programme, it reduces the administrative load normally related to having a wide range of small activities, and it gives the Dutch authorities the free hand to shape a possible future cooperation on agriculture and food in and with Iraq.



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## Appendices

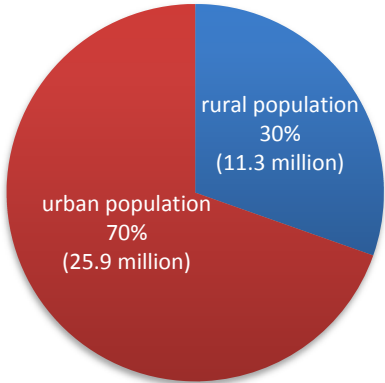
**Appendix 1: Key-data on development of the rural population in Iraq, employment and the role of agriculture in maintaining and creating rural employment.**

Rural population

The rural population in Iraq is large and remained relatively stable at 30% of the total population over the last few decades. Though the relative population declined, the rural population continues to grow, yet not at the same pace as the urban population.

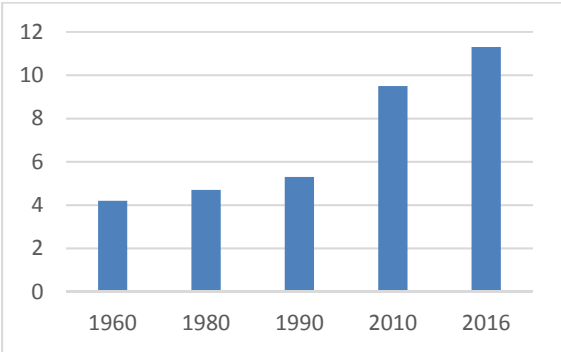
Of a total population of 37.2m, the rural population in Iraq is about 11m people or 30% of the total population. The urban population is about 26m people or 70% of the total population (Figure 1).

Figure 1 Urban and rural population of Iraq in 2016 in absolute and relative numbers (source: World Bank online dataset)



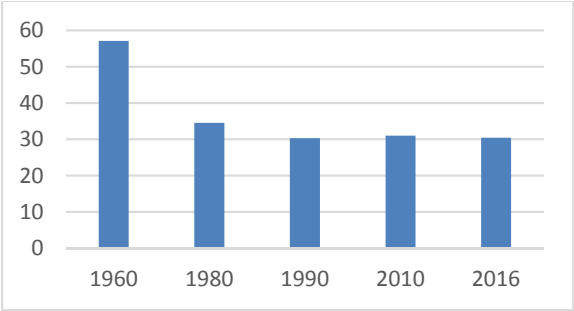
In spite of a rural-urban migration, the rural population in Iraq increased in absolute numbers over the last decades from 4.1m to 11.3m people (figure 2). Decline and stagnation of the agricultural sector has contributed to a rural-urban migration (RFSAN 2016: 3). In the Kurdistan Region in Iraq (KRI), the economic crisis has induced people to move back into agriculture (World Bank 2016: 19), however lack of basic services, in particular health care and education, is pushing people back to urban areas (Eklund, Abdi, and Islar 2017: 11)

Figure 2 Rural population in Iraq in absolute numbers in million (source: World Bank online dataset)



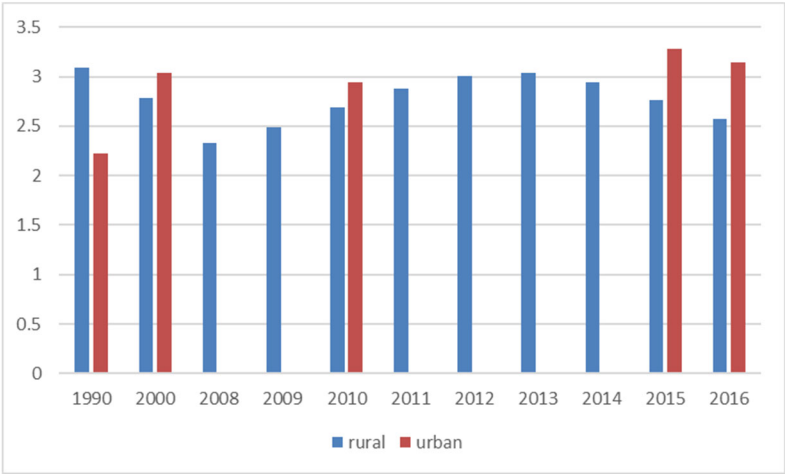
Though the rural population declined in relative numbers if we take a time span of 50-60 years, it stayed relatively stable at around 30% over the last 25 years (table 3).

Figure 3 Share of the rural population in Iraq (source: World Bank online dataset World Development Indicators)



The growth of the rural population declined, but is 2.6% a year. The growth of the urban population is 3.1%.

Figure 4 Growth of the rural and urban population in % (source: World Bank online dataset World Development Indicators)

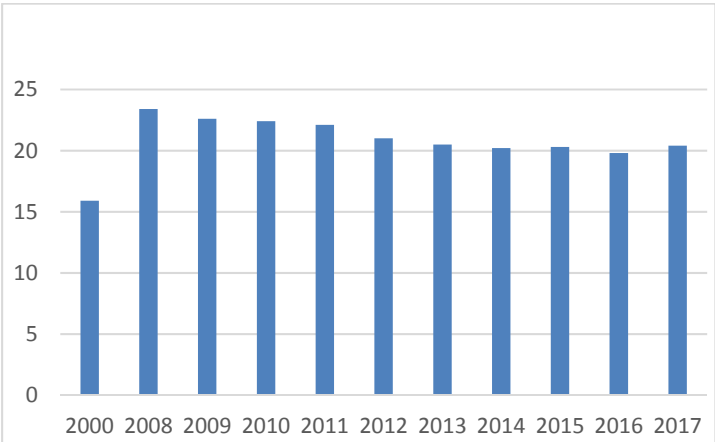


The figures show the importance of the rural population for policy making. Though the rural population declined in relative number when taking a time-frame of 50-60 years, it maintained itself at a level of 30% of the total population over the last three decades, and continues to grow in absolute numbers.

Rural employment

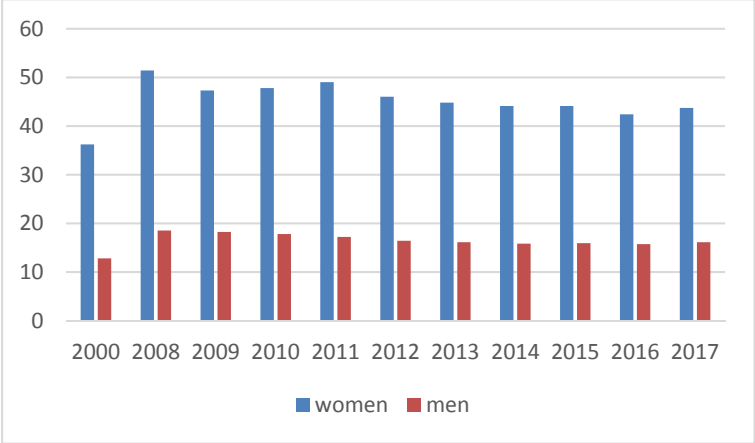
Agricultural growth is considered a potential driver of poverty reduction and employment for the rural poor, and if agricultural development comes together with a better allocation of resources within households this may contribute to a better health and nutritional status of children too (World Bank 2017: 59). Employment in agriculture is about 20% of total employment in Iraq (figure 5).

Figure 5 Employment in agriculture in % of total employment (source: World Bank online dataset World Development Indicators)



For women, employment in agriculture amounted about 44% of total women's employment, while for men this was 16% of total men's employment in 2017, compared to 26% for women and 13% for men in 2000<sup>9</sup> (table 8).

Figure 6 Employment in agriculture in percentage of total employment for men and women (source: World Bank online dataset)



Agriculture is the most important source of rural employment, and, more generally formulated, is an important source of rural livelihood (FAO 2012). However, it is difficult to determine the exact scope. Some figures suggest that almost 50% rural households have an agricultural plot; while 7% of the households in urban areas have an agricultural plot (Beer 2016: 301). A survey conducted in the Kurdistan Region in Iraq suggests that 74% of the households in rural areas is engaged in agriculture (Eklund, Abdi, and Islar 2017: 9).

<sup>9</sup> International Labour Organization, ILOSTAT database. Data retrieved in November 2017.

Poverty rates are higher in rural areas (39%) than in urban areas (16%) (FAO 2012: 23). Poverty is related to the sector of employment. Poor households tend to work in agriculture, transport, storage and communication sectors. With a high percentage of women working in agriculture, this makes women more vulnerable to poverty than men.

#### Box 1 Food insecurity

Almost 1m people are food insecure and another 6-12m people would fall into this category without the public distribution system PDS<sup>10</sup> (WFP 2016: 106), which delivers a food basket of mostly imported foods to households for about 5% of the market value covering 100% of the minimum daily caloric needs (FAO 2012: 24). The most important food items in the public distribution system are (per person per month): 9 kg of wheat flour, 3 kg of rice; 2 kg of sugar; 1 litre of oil, and for households with infants smaller than 1 year powdered milk: 8 packs of 450 grams<sup>11</sup> (WFP 2016: 108).

There are important regional disparities. About 44.3 % of the total population is food secure; in the Kurdistan Region in Iraq this is 38.5%. While 53.2% of the population is vulnerable to food insecurity, this is 59.4% in Kurdistan. In Iraq as a whole, 2.5% is food insecure, while this number for Kurdistan is 2.1% (WFP 2016: 18).

#### Agriculture

After oil and the public sector, agriculture is Iraq's most important economic sector in terms of employment (%). It is also thought that agriculture can play an important role in promoting stability, poverty reduction, and food security (USAID 2006: 30; FAO, KRG, and UNDP Year of publication not known).

The bulk of Iraq's agricultural output attributed to small-scale farmers (Beer 2016: 301). Most of the farms have a size less than 10 hectares, often scattered over several plots, although the rain-fed farms of the North tend to be larger (averaging 10 to 30 ha) than the irrigated farms of the Centre-South (averaging 1 to 2.5 hectares). Sharecropping is widespread and so are disputes over land rights.

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<sup>10</sup> This public distribution system (PDS) was a public food programme established by the Ba'ath regime to counter the effects of the sanction on the civilian population in Iraq. The PDS system was expanded under the United Nations Oil For Food Program. After the fall of the regime in 2003, the PDS continued. The PDS is much critiqued, because it keeps prices of food products low, not giving incentives to farmers to produce, and because products in the basket are imported. Yet without the PDS, many people would become food insecure.

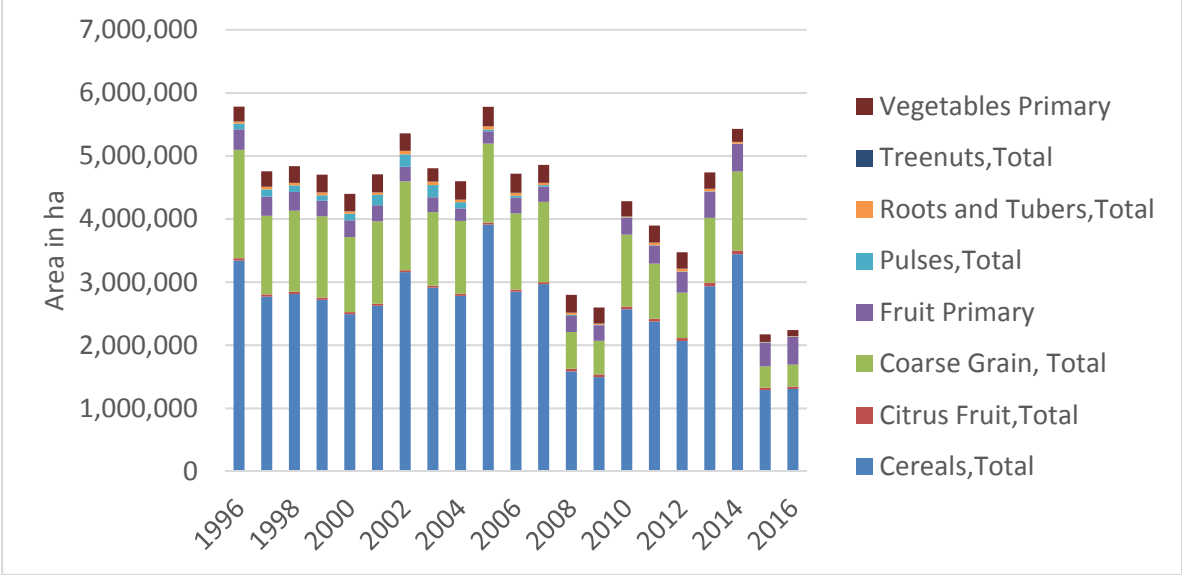
<sup>11</sup> In the Kurdistan Region it is reported that rice, oil and sugar were not always provided in monthly rations in 2016



Most farmers cultivate a single crop per year, with the exception of some of the areas where irrigation is available. Cultivable land in Iraq is about 9m hectares, about 22 % of the total land area of 44m hectares. However, of this 9m hectares the land under cultivation is between 4 and 5.5m hectares,<sup>12</sup> of which 1.2m hectares is cultivated in the Kurdistan Region in Iraq. The other 78% are not suitable for cultivation due to harsh climatic conditions and poor soils (Glen R. Gibson, Campbell, and Wynne 2012: 887). In addition, recent analysis of satellite based time series data, shows that farmers in Iraq have problems to maintain high intensity agriculture, with farmers in IS controlled territory were able to maintain high intensity agriculture to a wider extend (Eklund et al. 2017).

Cereals and grains represent by far the largest share of the agriculture land. Other crops have a relative small area. Roots and tubers compromise potatoes representing a national acreage of almost 7,800 hectares with a production of 191,000 tonnes.

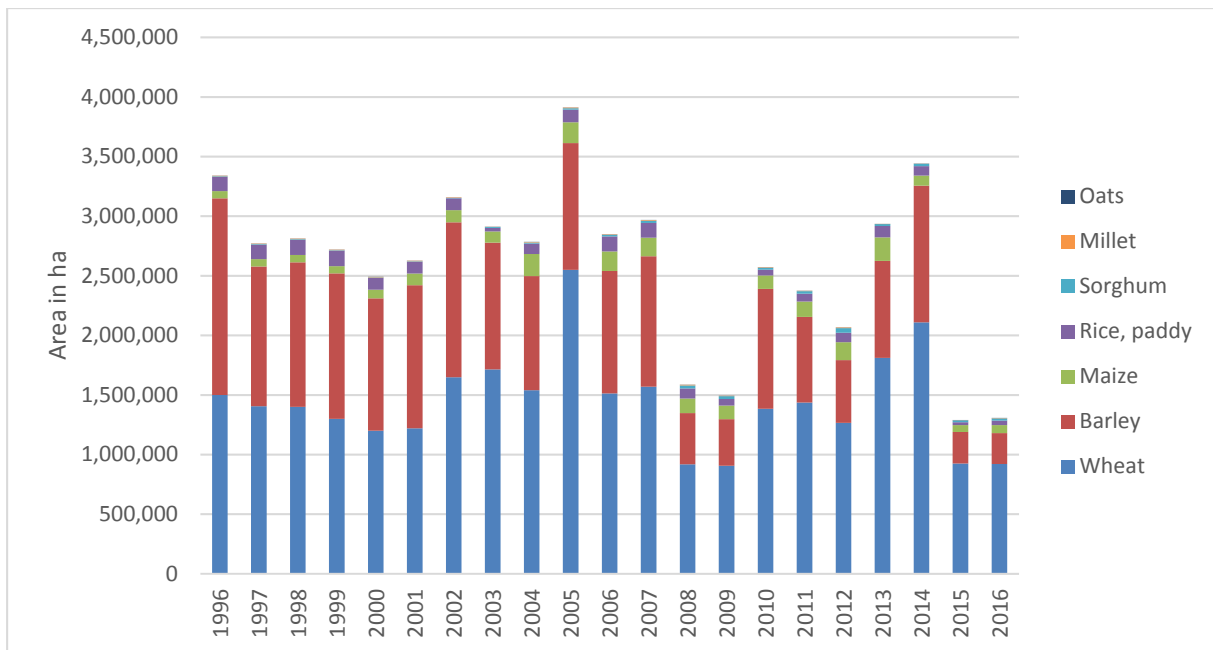
Figure 7 Main crops produced (source: FAOStat)



Wheat and barley are the two main (winter) cereal crops grown in Iraq (Figure 8). Wheat is also the most regulated crop (RFSAN 2016: 9) with prices to farmers above market price. Barley is mainly produced for fodder (Beer 2016: 73).

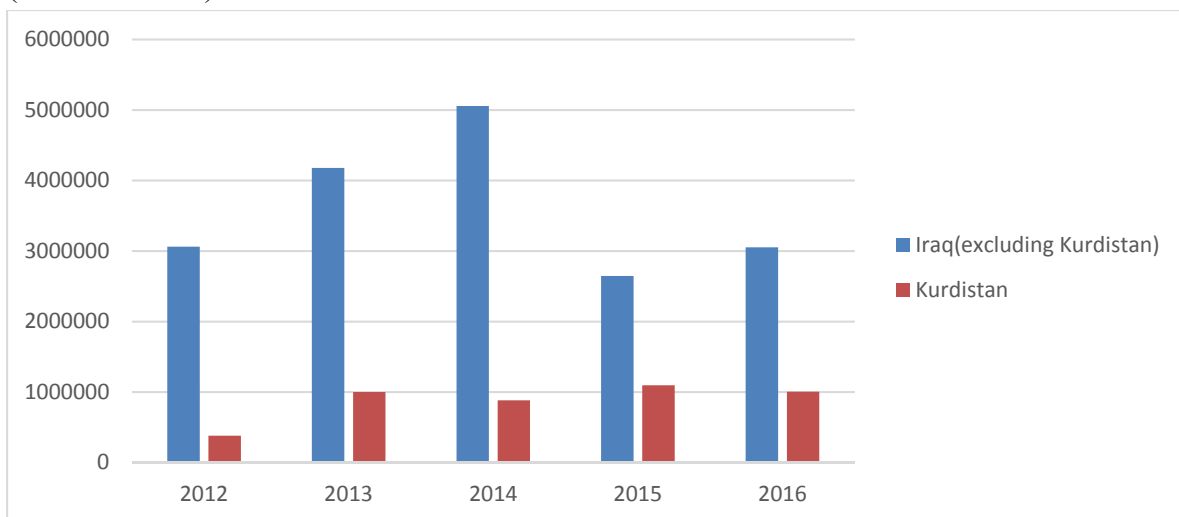
Figure 8 Main cereals produced in Iraq (source: FAOStat)

<sup>12</sup> Retrieved on 28 May 2018 World Bank Online Databank, World Development Indicators



Wheat production increased in the period 2012-2014 in Iraq (excluding the Kurdistan Region in Iraq) from 3.1m tonnes to 5.1m tonnes, but declined with almost 50% to 2.6m tonnes in 2015. In 2016, production reached again the 2012 level with a production of 3.1m tonnes. In the Kurdistan Region, statistics suggest production increased from 380,000 tonnes in 2012 to over a million tonnes in 2016 (see Figure 9).

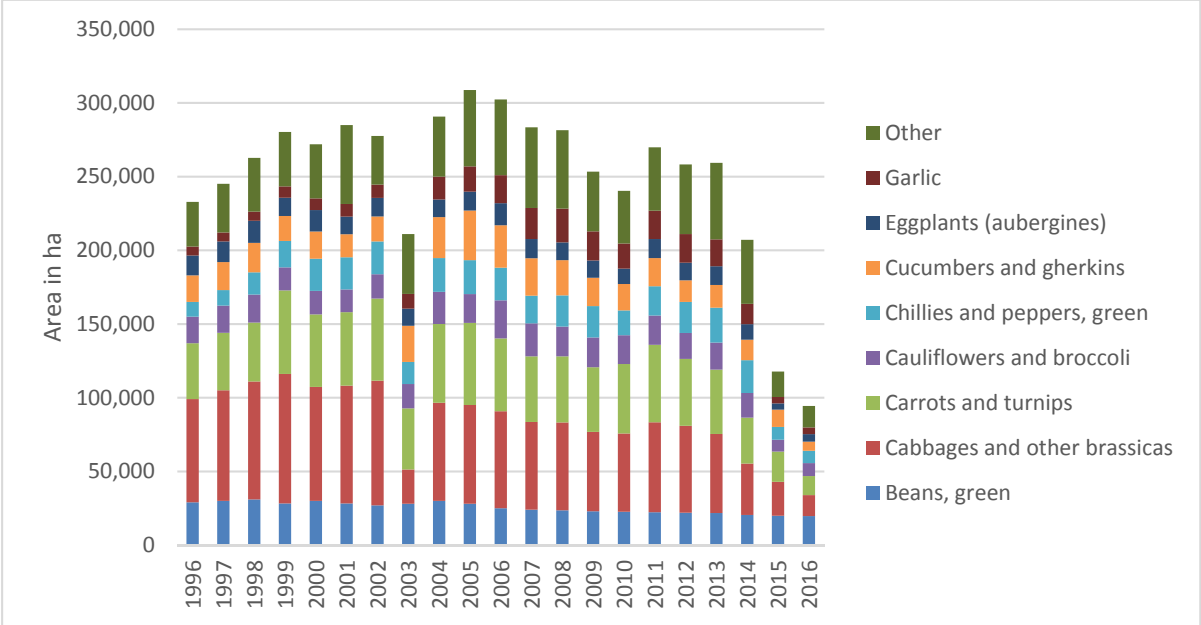
Figure 9 Wheat production in Iraq (excluding the Kurdistan Region in Iraq) and Kurdistan (WFP 2016: 27)



In the rain-fed areas, primarily in the north, the main crops are wheat and barley, which are planted in fall and harvested in spring. In the irrigated central and south Iraq summer crops prevail (FAO 2012: 18).

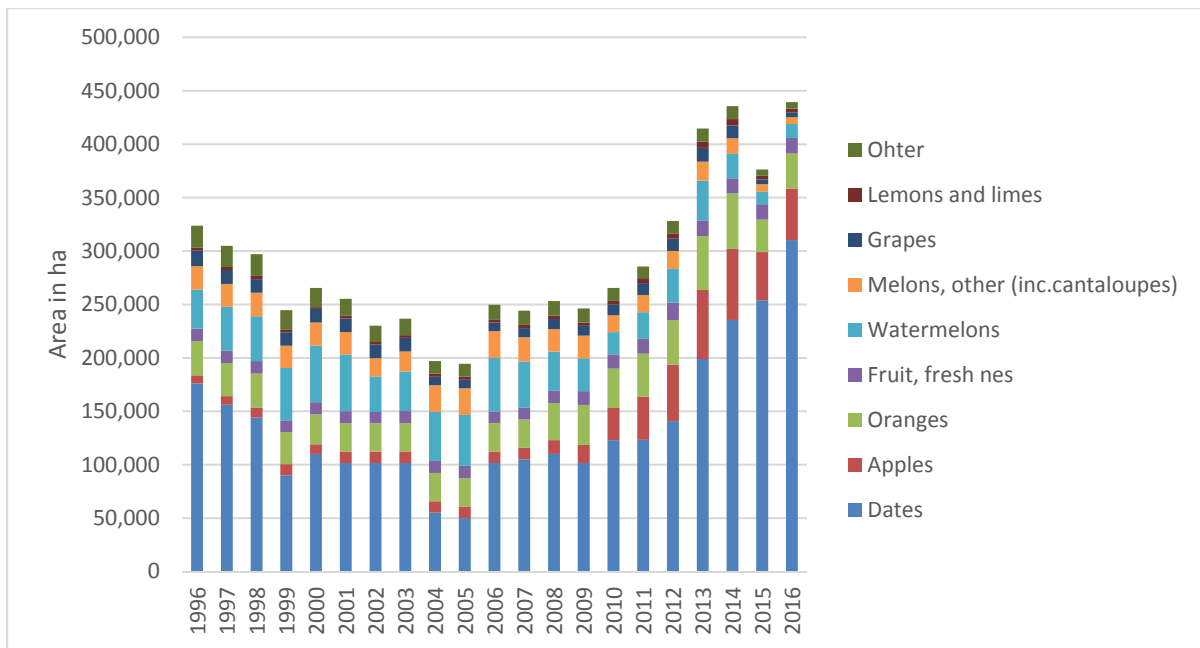
Vegetable production increased near to urban areas (FAO 2012: 21). In the Kurdistan Region, farmers invest in tunnels for the production of vegetables, and use hybrid seeds. Tomatoes, cucumber and (hot and sweet) pepper are the most important vegetable crop produced in tunnels in the Kurdistan Region, while vegetables like zucchini, pulses like chickpea and fruits like watermelon and melon are mainly produced in the open ground. About 60 to 70% of vegetables consumption are supplied by imports from neighbouring countries, often out competing the local supply stated by various interviewed vegetable farmers. This results in the wasting of food, which is either left to rot at the farmers field when prices are meeting a low, or wasted at the wholesale market, sometimes in truckloads.

Figure 10 Main vegetables produced in Iraq (source: FAOStat)



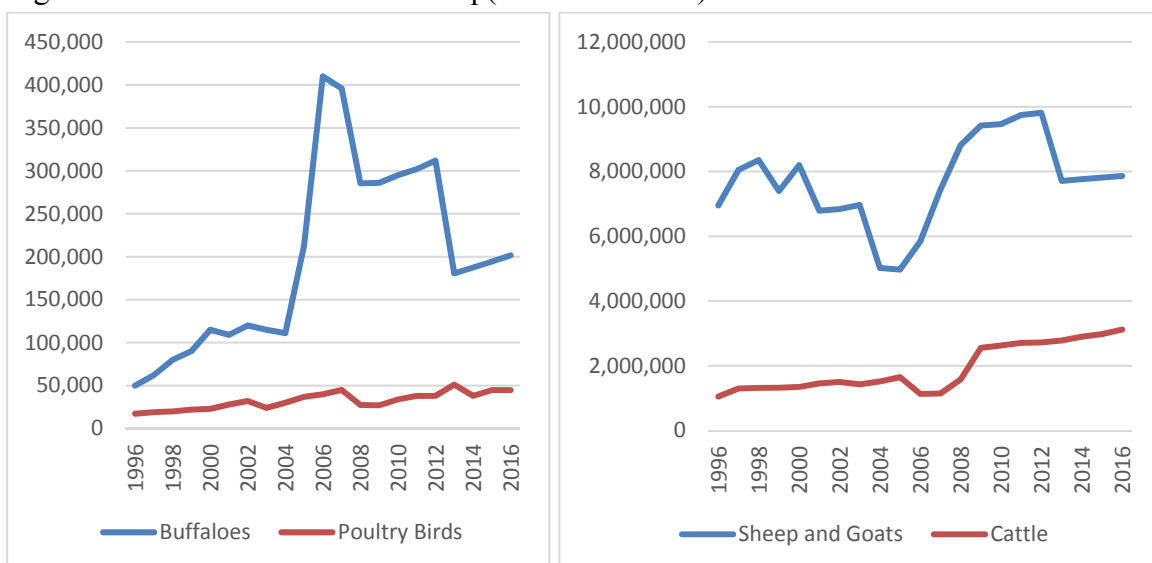
Fruit and dates orchards are well suited to Iraq's temperate hillsides and to more arid regions where irrigation water is available. Over 300,000 hectares are permanently in tree crops — mostly dates, but also some olives, grapes, oranges, apples, and other fruit orchards. Date palms are the most important tree crop farmed in Iraq and have traditionally been Iraq's main export after petroleum.

Figure 11 Main fruit crops produced in Iraq (source: FAOStat)



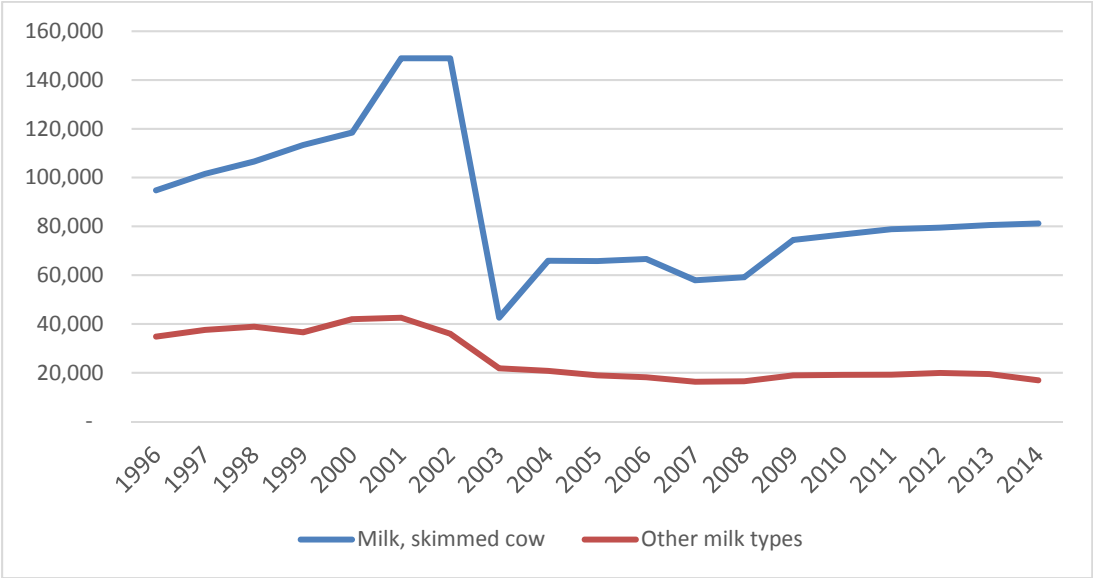
Livestock (sheep and goats, cattle, camels, buffaloes), inland fisheries and backyard poultry raising are important as a source of protein and income for the rural population. Livestock production in the past represented 30-40% of the total value of agricultural production and contributed significantly to household nutrition. Performances of small ruminants, namely sheep and goats, were severely reduced during the last two decades, in comparison with international and regional standards due to massive selling outside the Iraqi borders, loss of genetic potential and reduction in herd size. The small ruminant sector in Iraq also suffers from the lack of any kind of organisation among the producers (FAO, 2017: 20)

Figure 12 Number of animals in Iraq (source FAOstat)



Before the war, large state owned industrial enterprises existed for dairy and poultry production around the main cities. Currently the national milk output is far below the level of 2003.

Figure 13 Dairy production in Iraq (source FAOstat)



Agriculture in the Kurdistan Region in Iraq

The Kurdistan region in Iraq is an important agricultural region. It produces the majority of Iraq's wheat, 50% of its fruit, 40% of its barley and 30% of its cotton. As discussed in the previous Chapter, production of wheat in the Kurdistan Region increased from 380,000 tonnes in 2012 to over 1m tonnes in 2016, according to KRSO statistics. This makes wheat a key crop in the agricultural sector. However, this increase in overall production came together with a notable decline in Suleymania. In Suleymania, production increased from 163,000 tonnes in 2012 to 314,000 tonnes in 2015, but saw a sharp decline to 76,000 tonnes in 2016. In Dohuk production increased from 101,000 tonnes to 329,000 tonnes. In Erbil it increased from 2012 to 2016 was from 102,000 tonnes to 601,000 tonnes (WFP 2016: 27). The increase in production, which was a policy objective of the KRG, came with problems in storage and payment. The capacity of the silos in the region was less than the intake, resulting in the storage of wheat in the open air. Moreover, since the intake exceeded the official capacity, the central government was reluctant in making payments, which led to an effect that many of the farmers still wait for payment (see Box 2).

KSRO yield statistics show an increase of production over the last years. Yet, an analysis of satellite data suggests that yields have declined since 2000. Land around urban areas which was previously used for cereal production has changed in land use or become fallow, suggesting urban expansion. Moreover, a negative trend in vegetation in winter crops is reported, which might point towards land degradation.

Most of the wheat from the Kurdistan Region in Iraq is sold to Baghdad. The central government buys the wheat above market price. When farmers sell the wheat to the government, they do not receive direct payment, but a proof of debt. Currently there are some serious issue regarding the payment to the farmers by the central government (Box 2). As a result many farmers in the region will not sell to the silo due to experiences in late payment. They either shifted to other crops, or left the land uncultivated. The central government claims that not all the wheat sold by Kurdistan's farmers to the state was actually produced by farmers themselves, but imported for the lower market price and then sold for the higher intervention price to Baghdad. Experts from the region we interviewed also claim that farmers bought wheat from Syria against market price in order to sell it for the higher price to the state.

#### Box 2 Water, wheat and wavering policies

Small-scale farmers in the hilly northeast of Dohuk used to grow fruit (apples, peach, apricot etc.) and vegetables (onion, okra etc.). However, when water availability is low during the summer season, the farmers also grow wheat as a winter crop, even though the small plots (many fields are not bigger than 1 dönüm) and the hilly character of the land are not favourable for wheat production.

In the Dohuk region are 3 silos. These silos are located in in Faida, Sheikhan and Zakho. The total wheat storage capacity in the Kurdistan (Dohuk, Erbil, Suleymania, Halabja) region is 225,000 tonnes. The total capacity in Dohuk is 107,000 tonnes. The capacity of the silo in Faida is 30,000 tonnes, the silo in Sheikhan has a capacity of 60,000 tonnes and the silo in Zakho has a capacity close to 17,000 tonnes. Intake of wheat is regionally organised and only registered farmers can deliver to a silo. Farmers in the Summel region are allowed to deliver to the Faida silo, farmers in the Akra and Sheikhan region deliver to the Sheikhan silo, and farmers in Amedi and Zakho region deliver to the Zakho silo.

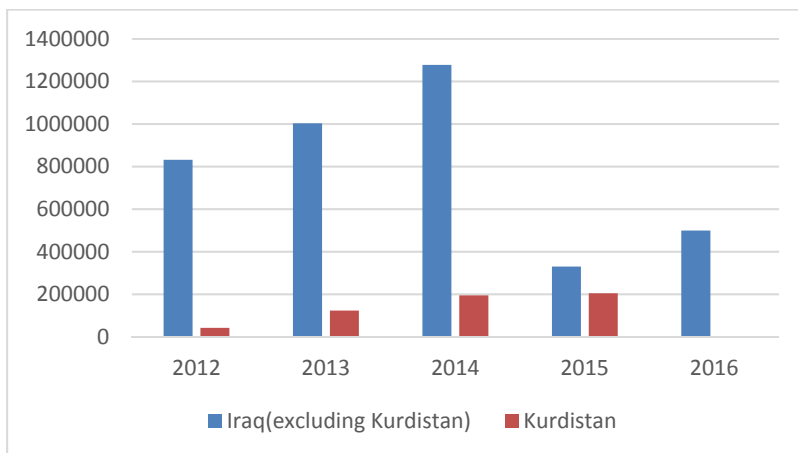
Farmers who sell their wheat to the silos sell to the central government. The Iraqi government determines criteria for the three quality classes and the price for each class. A class is IQD 500,000 per tonne, B class IQD 480,000 per tonne and C class IQD 420,000 per tonne. Farmers told us that the market price is between IQD 350,000 and 380,000 per tonne of wheat.

When farmers sell the wheat to the government, they do not receive direct payment, but a proof of debt. The central government did not yet fully pay farmers in Dohuk over the years 2014, 2015 and 2016. Several farmers in the region have told us they will not sell to the silo due to experiences in late payment. One of the farmers said the central government still owns him approximately IQD 100m over the years 2015 and 2015. In total, it is claimed that over 2014, the Iraqi government owes farmers in Dohuk still IQD 80 bn; over 2015 this is IQD 81bn and over 2016 this is IQD 88bn. The director of the silo says that Iraqi

government fully paid the farmers over 2017. The KRG ministry of agriculture claims that farmers in the Kurdistan Region are entitled to payments totalling IQD 902bn (about USD 767m).

The delay in payment is related to a dispute between the Kurdistan Regional Government and the central government. First, the central government claims that the silos had a higher intake than agreed. This might be related to the KRG policy to stimulate wheat production exceeding the storage capacity. The Faida silo had an intake 3 times its capacity, storing 60,000 tonnes outside the building. Second, the central government claims that part of the wheat sold to the silo was not local production, but had been imported from Syria.

The trend in barley production has been similar, but more sharp with an almost 75% decline in production in 2015 compared to 2014 while in the Kurdistan Region production increased. Table 7 Barley production in Iraq (excluding the Kurdistan Region in Iraq) and Kurdistan (WFP 2016: 28).



## Water

The Middle East and North Africa (MENA) region can be considered the most water-scarce region of the world. Large-scale water management problems are already apparent in the region. Aquifers are over-pumped, water quality is deteriorating, and water supply and irrigation services are often rationed—with consequences for human health, agricultural productivity, and the environment.

Precipitation is seriously decreasing, in a range from 5% to about 40% (with Kurdistan suffering most decrease).

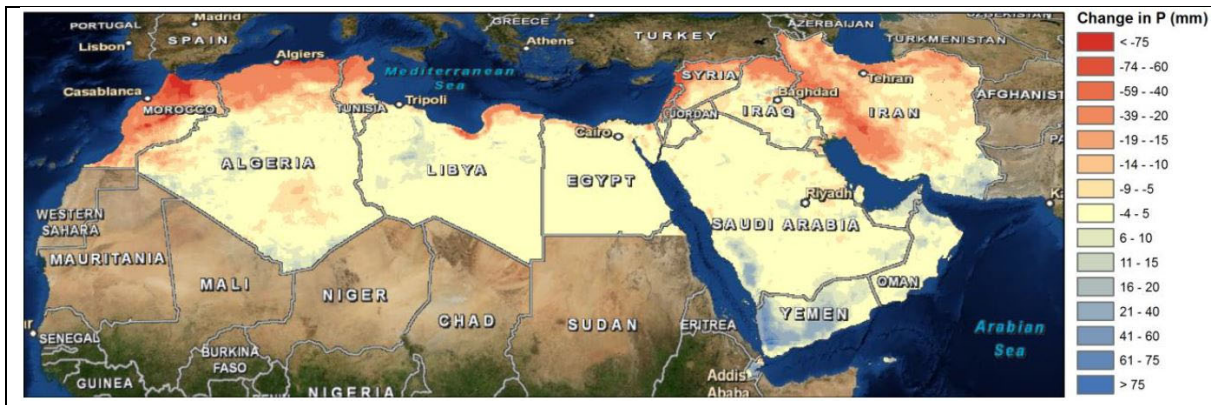


Figure: Total change from 2010 to 2050 in mm for precipitation

Combining rainfall and evapotranspiration enables calculation of an 'aridity index': the ratio between annual precipitation and the reference evapotranspiration. The reference evapotranspiration determines the water requirements and is a function of temperature, radiation, wind speed and relative humidity.

Very large parts of the region are hyper arid to very arid. The Mediterranean coast line, Yemen and Iran are an exception and are classified as semi-arid. A small part of north-eastern Iraq (exactly the part that will suffer most from a decrease in rainfall) is classified as semi-arid, the remaining parts of Iraq range from 'arid' to 'hyper-arid'.

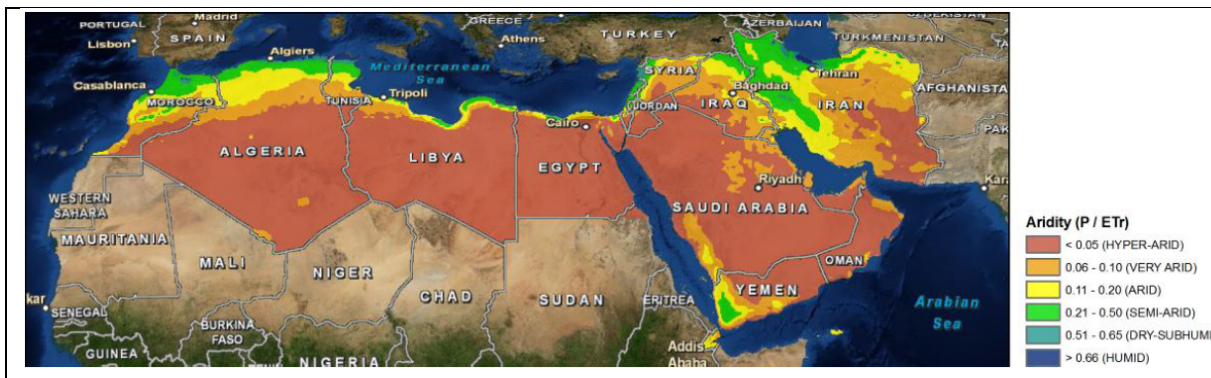


Figure: MENA Aridity Index based on 2000–2009 climatology (Immerzeel et al., 2011)

There is overwhelming evidence that Iraq is currently already facing a water shortage problem and that the problem will increase considerably in future.

Some main features of the Iraqi and the Kurdistan Region water crises include (IRIS, 2017; Perababi, S.O., 2010; Nadhir A. Al-Ansari, 2013) the following issues:

The main rivers of Iraq are arising from the north, north west and east of the surrounding countries. These countries are also affected by rapid increase of water demand. Construction of dams in the neighbouring countries severely affects water supply to Iraq.

The water shortage is expected to become more severe in the future, when water supply will be less (due to e.g. climate change and developments upstream) and demand will be higher (due to e.g. population growth and economic development). One prediction is that water



supplies will fall from 43 billion cubic meters (BCM) in 2015 to an alarming 17.6 BCM in 2025, while the water demand is estimated to increase from 66.8 and 77 BCM in the same years.

Political instability and long periods of war damaged the irrigation, drainage and water recycling systems. The instability and war also prevented new investments in water infrastructure as well as introduction of new technology. Moreover, it prevented development of strategic plans in general and of investment in particular to ensure the best use and development of water resources and its optimal use for household and production requirement.

It would be good to develop a strategic water management vision, including regional cooperation and coordination, research and development, improving agriculture and sanitation sector, accompanied by a public awareness programme.

The Kurdistan Region has often been mentioned to be rich in water resources having five large rivers running through it. These include the Khapoor, Great Zab, Little Zab, Awaspee, and Serwan, with a total annual water flow capacity at 30 BCM, billion cubic meters (Baban, 2006). About 60% of the water sources of the rivers mentioned is from Kurdistan, and 40% is sourced outside of Kurdistan. The total arable land in Kurdistan is just over 1.5 Mha. It is mentioned that if the water is used properly, it could irrigate the entire land instead of the 11% it currently irrigates. In addition to the five rivers mentioned above, Kurdistan has springs, groundwater, and rain water from the annual rainfall of 8 billion cubic meters (Baban, 2006; 2012b; 2013b; 2014).

Kurdistan's varied topography and associated rainfall regimes have created three basic micro-climatic zones; high rainfall (700-1100 mm), medium rainfall (400-700 mm), and low rainfall (under 400 mm). In terms of produce; the high-rainfall zone contains mainly fruit orchards, wheat occupies most of the medium-rainfall zone, and barley is the main crop in the low-rainfall zone. Winter wheat and barley are planted in the autumn (October-November) and harvested in the late spring (April-June) in accordance with the rainfall pattern (Mahdi, 2000; Baban, 2006).

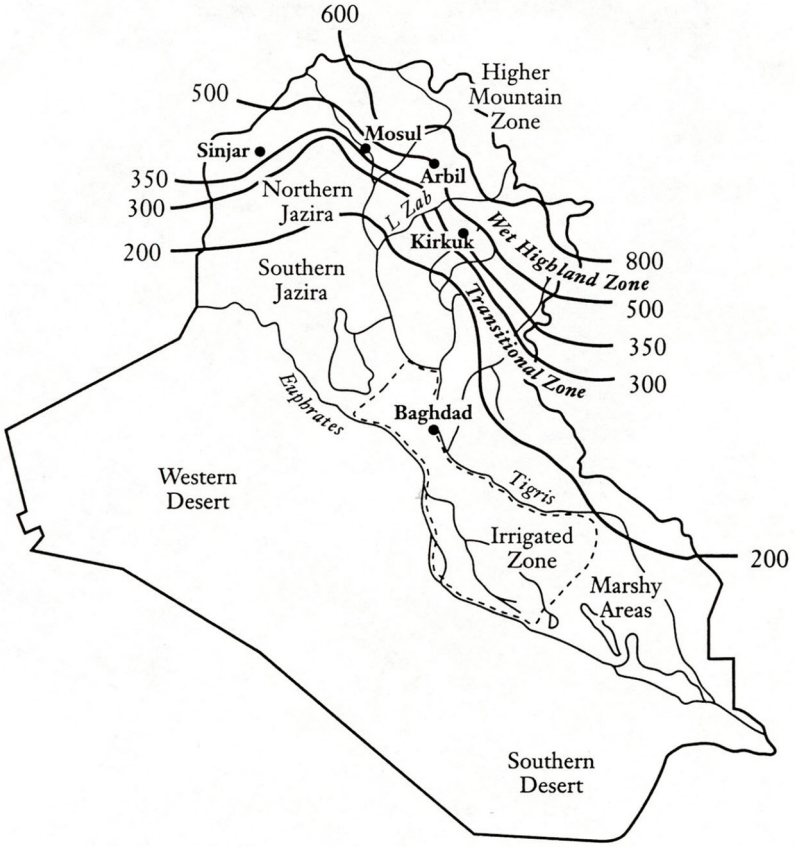
#### Trade

In 2016 Iraq had a positive trade balance of USD 11.5bn. In 2016 Iraq exported USD 44.6bn, making it the 47th largest exporter in the world. During the last five years the exports of Iraq have decreased at an annualised rate of -8%, from USD 66.9bn in 2011 to USD 44.6bn in 2016. The most recent exports are led by Crude Petroleum which represent 93.2% of the total exports of Iraq, followed by Gold, which account for 5.4%. As of 2016 Iraq has a positive trade balance. In 2016 Iraq imported USD 33bn, making it the 58th largest importer in the world. During the last five years the imports of Iraq have increased at an annualised rate of 0.6%, from USD 31.2bn in 2011 to USD 33bn in 2016. From being a small farmer food

producing country, Iraq has become a major importer of food, representing about 8.2 of the total import in 2016, equal to USD 2.7bn. The key products are presented in Appendix x:

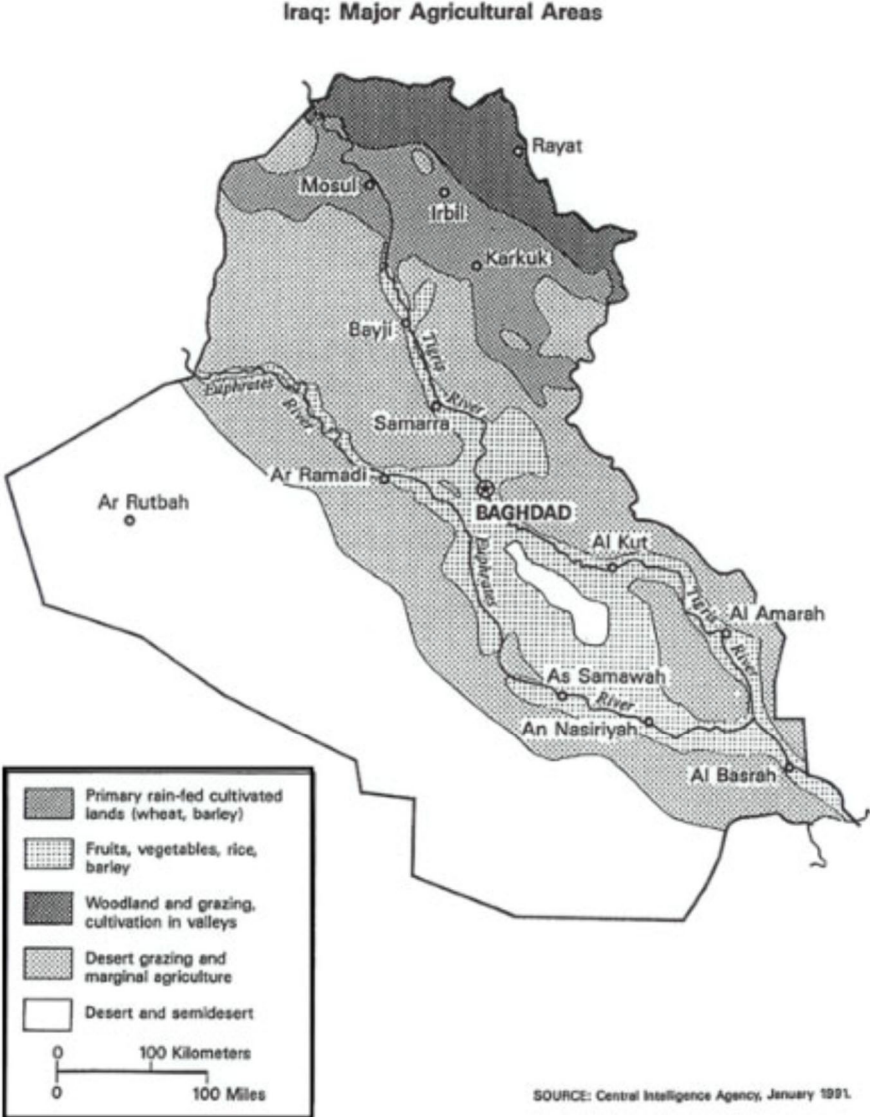
**Appendix 2: Agro-Climatic Zones in Iraq**

Source: Schnepf (2004: 5).



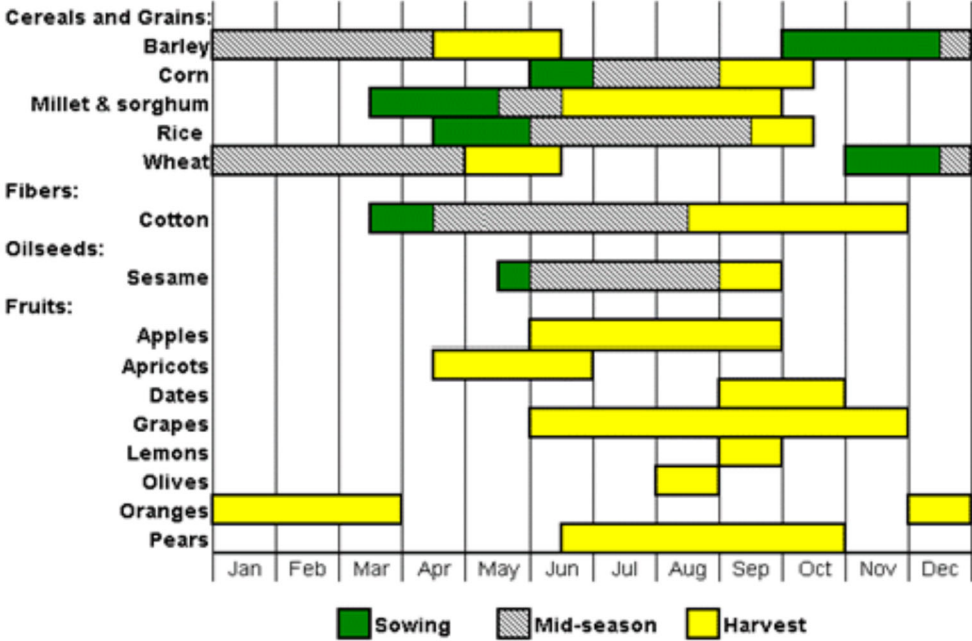
**Appendix 3: Iraq's main agricultural areas**

Source: Schnepf (2004: 7).



**Appendix 4: Iraq's crop calendar**

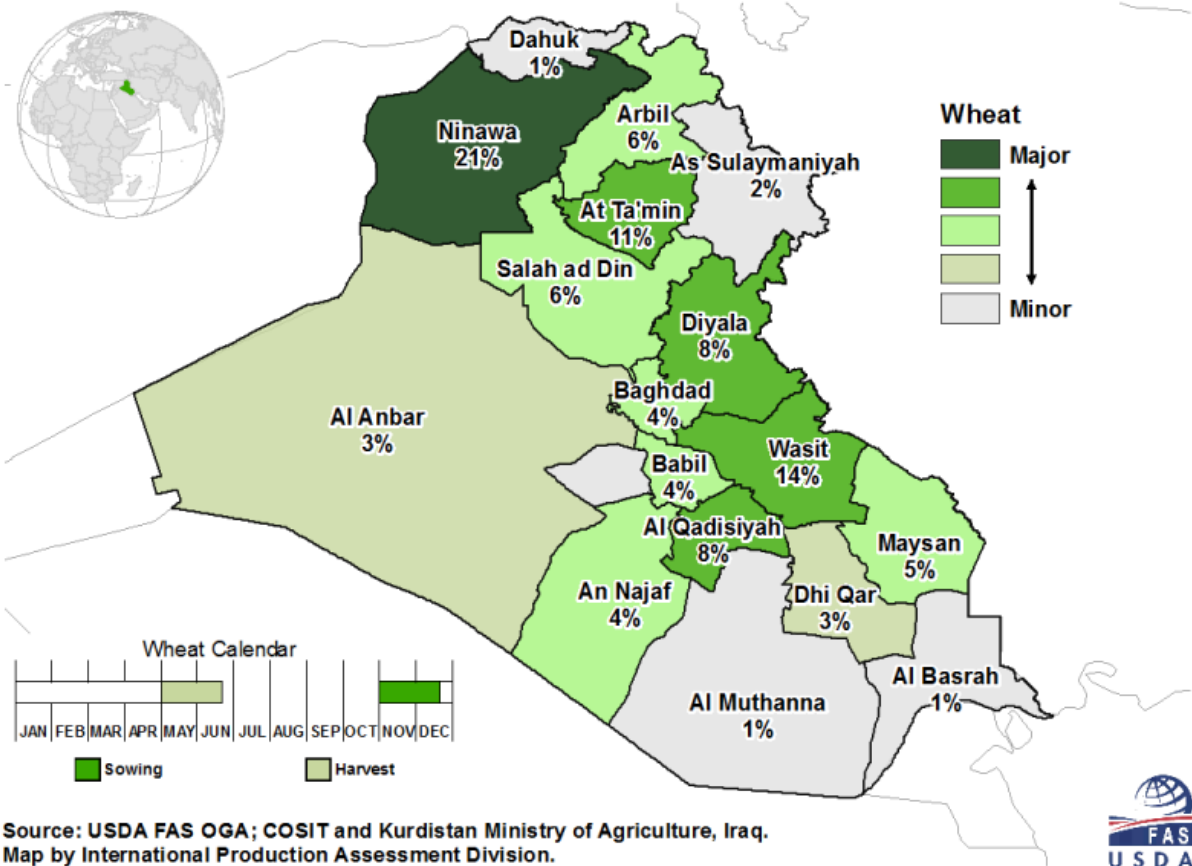
Source: Schnepf (2004: 10).



Source: USDA, Foreign Agricultural Service, Production Estimates and Crop Assessment Division; <http://fas.usda.gov/pecad/pecad.html>

Appendix 5: Wheat production per province<sup>13</sup>

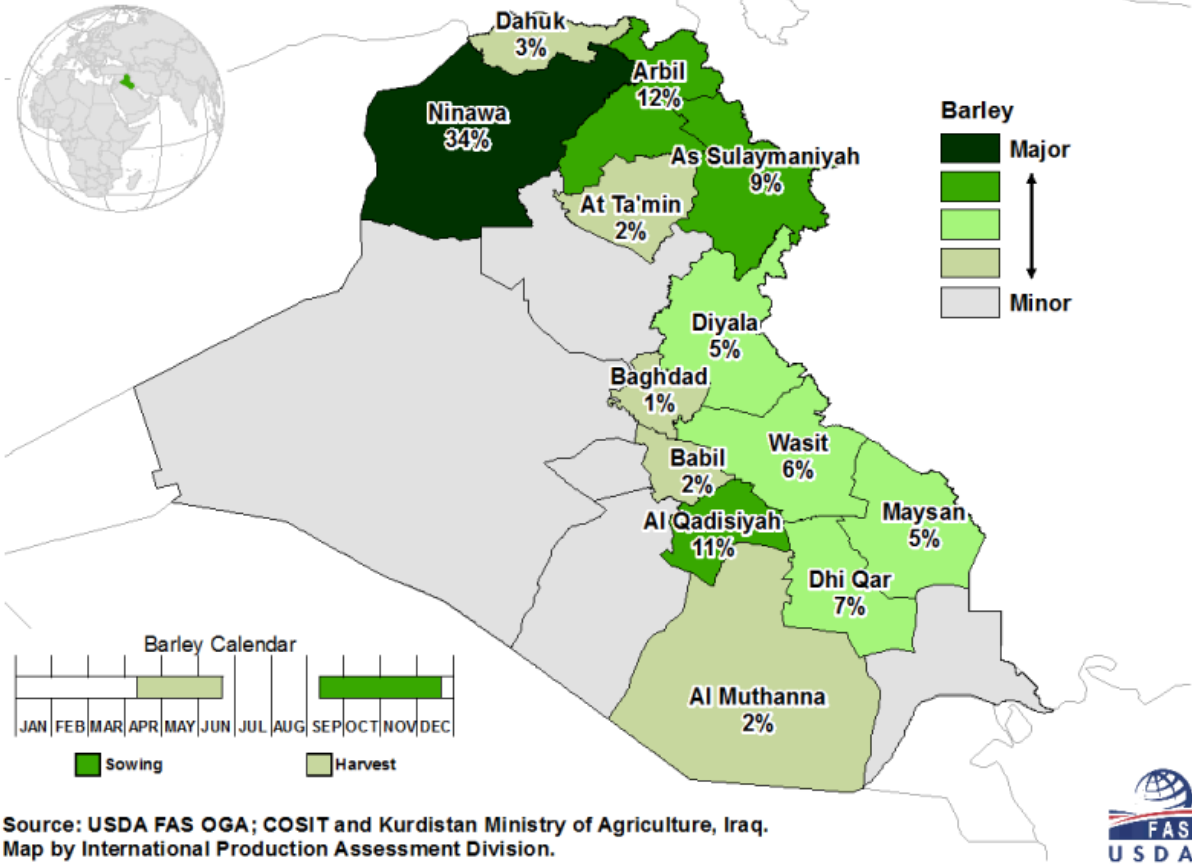
IRAQ: Wheat Production by Province



<sup>13</sup> Retrieved at 28-5-2018 from [https://ipad.fas.usda.gov/rssiws/al/metu\\_cropprod.aspx](https://ipad.fas.usda.gov/rssiws/al/metu_cropprod.aspx)

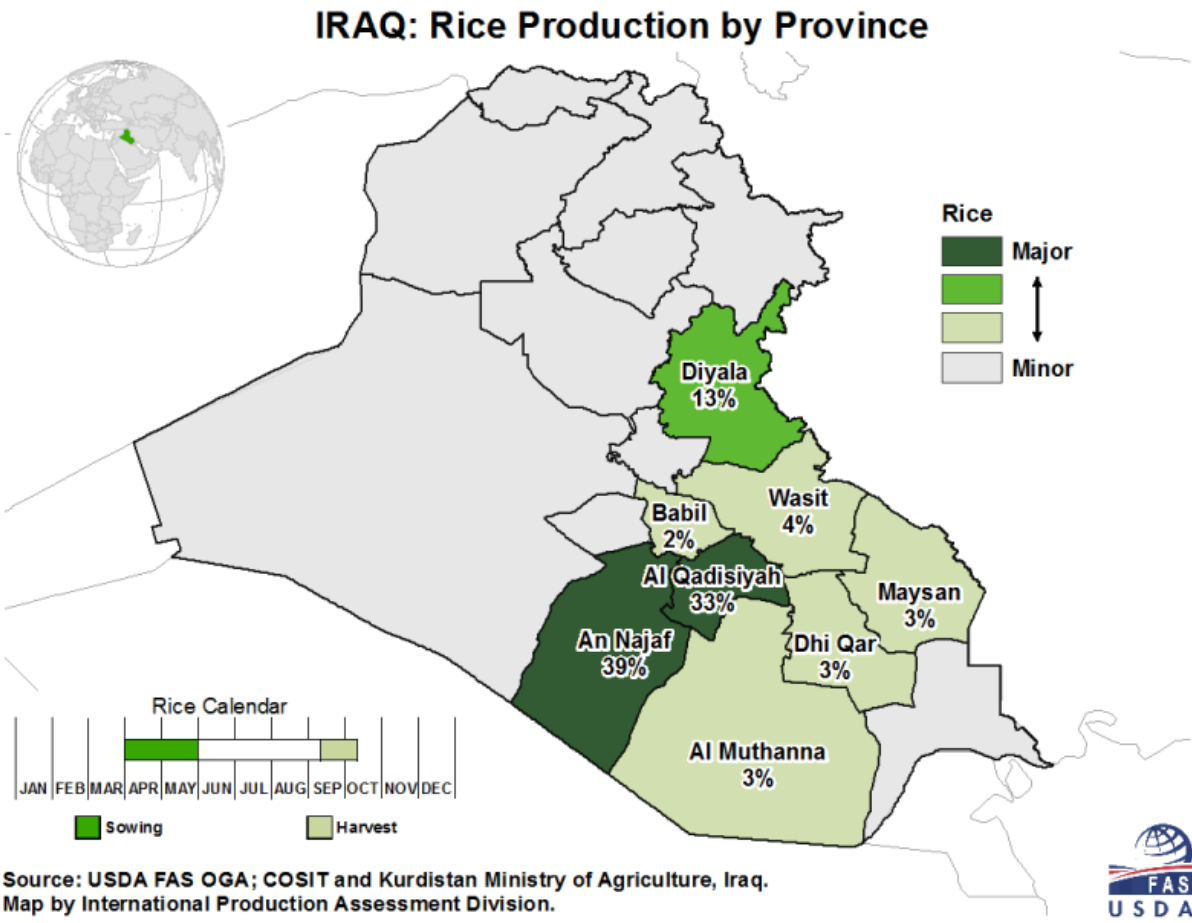
Appendix 6: Barley production per province<sup>14</sup>

IRAQ: Barley Production by Province



<sup>14</sup> Retrieved at 28-5-2018 from [https://ipad.fas.usda.gov/rssiw/als/metu\\_cropprod.aspx](https://ipad.fas.usda.gov/rssiw/als/metu_cropprod.aspx)

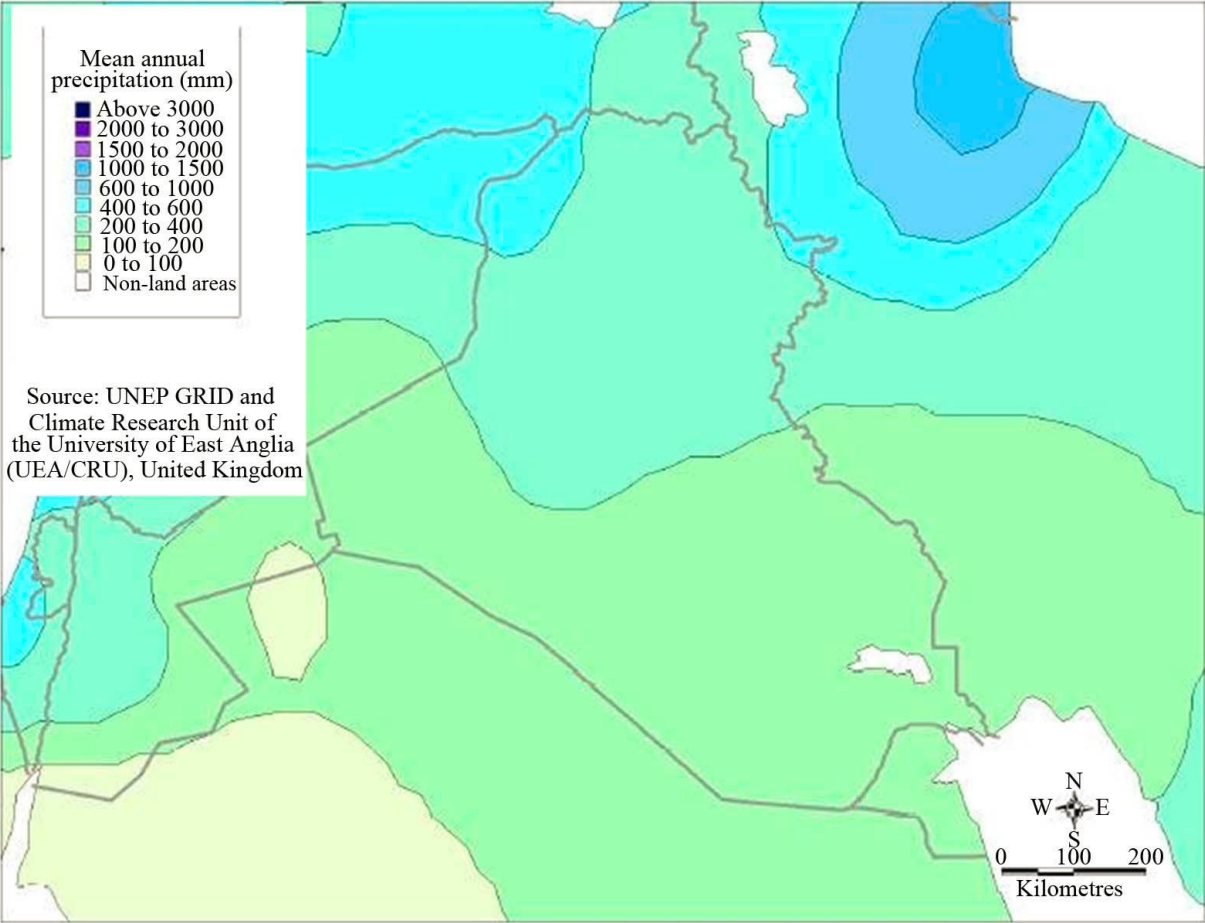
Appendix 7: Rice production per province<sup>15</sup>



<sup>15</sup> Retrieved at 28-5-2018 from [https://ipad.fas.usda.gov/rssiw/Al/metu\\_cropprod.aspx](https://ipad.fas.usda.gov/rssiw/Al/metu_cropprod.aspx)

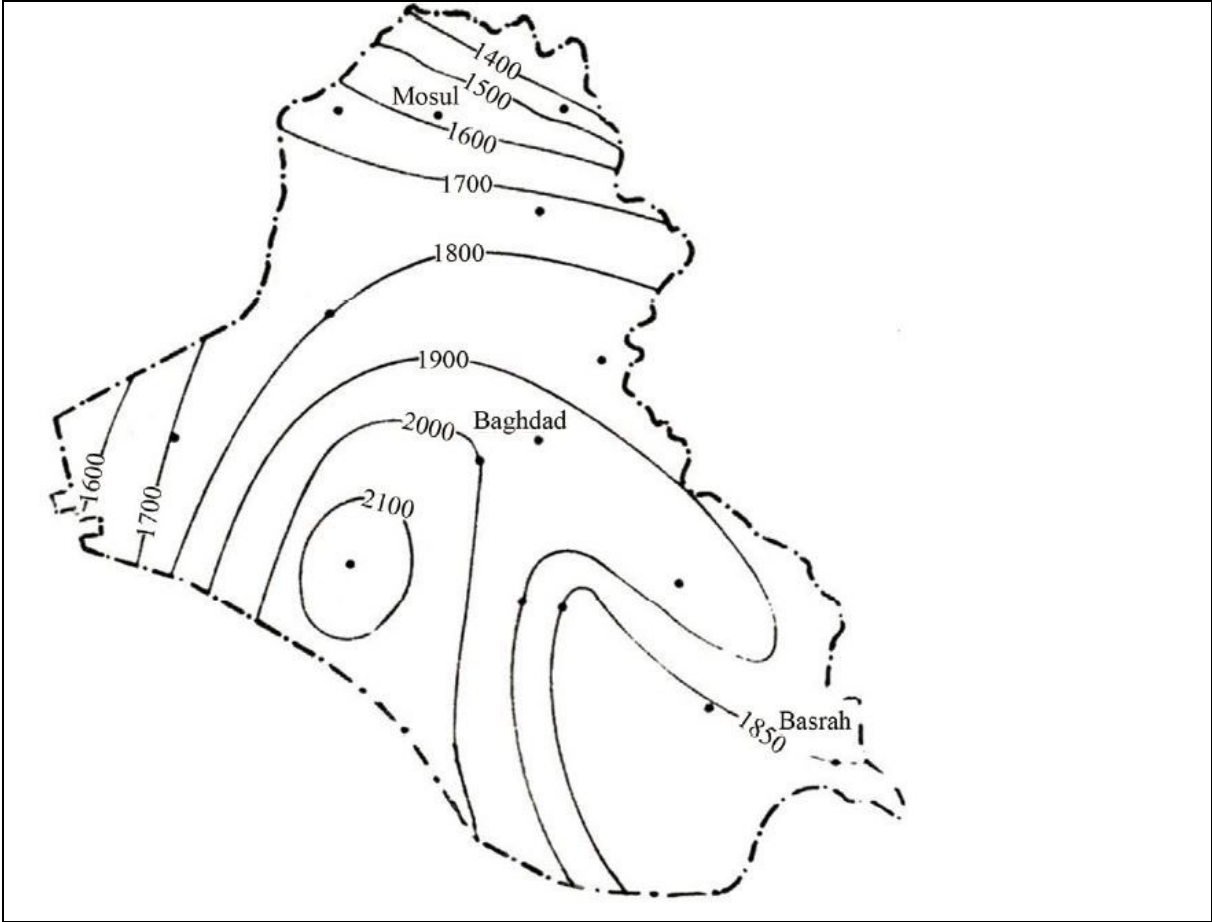


**Appendix 8: Mean Annual Rainfall in mm for Iraq (Nadhir A. Al-Ansari, 2013)**



**Appendix 9: Average annual evapotranspiration in mm for Iraq**

(Source: Nadhir A. Al-Ansari, 2013)



## Appendix 10: Overview of Government of the Netherlands 'tools' for Iraq

### Netherlands Enterprise Agency/ RVO

- Support (Dutch) entrepreneurs in sustainable, agrarian, innovative and international business
- Executing programmes for the Ministry of Economic Affairs and Climate, Ministry of Foreign Affairs, Ministry of Agriculture, Nature and Food Quality and Ministry of Infrastructure and Water Management

### RVO funds:

- Support for public-private partnerships
- Investments with a positive impact on private sector development
- Capacity building of local institutions & actors \*

### \* RVO can finance interventions that:

- contribute to a favourable business-enabling environment by reducing economic obstacles to trade and investment;
- enhance trade and investment opportunities both for the local and Dutch private sector;
- promote entrepreneurship & (youth & women) employment
- Budgets vary between +/- 10,000 and 900,000 euros per project

### Types of Private Sector Development interventions

- Government to Government (G2G)
- Knowledge to Knowledge (K2K)
- Training of foreign managers (NMTP)
- Incoming and outgoing trade missions and study visits
- Matchmaking, seminars, trade fairs, studies, training

Programme (* = RVO)	Description	Applicant
<b>SDGP*</b>	Promotion of public-private partnerships with the aim of strengthening the private sector and improving food security in upcoming markets	Consortium Dutch & Iraqi companies
<b>DGGF *</b>	The DGGF is revolving fund intended for financing high risk investments in one of low- and middle-income countries. DGGF aims to enable development-relevant trade and investments in developing markets by granting financing and insurance. The fund consists of three tracks: 1. Financing Netherlands SME (by RVO); 2. Financing SMEs developing countries (by PwC); 3. Export guarantees (by Atradius).	Dutch or Iraqi company
<b>DHI*</b>	The subsidy scheme for demonstration projects, feasibility studies and pre-Investment studies aims at supporting businesses that seize opportunities in emerging countries. DHI (Demonstration Projects, Feasibility studies and pre-Investment studies) 2nd tender will open summer 2016.	Dutch company
<b>PSD APPS *</b>	PSD-apps are tools which add to local capacity building and simultaneously support Dutch companies in doing business in the country. Dutch	Embassy

Programme (* = RVO)	Description	Applicant
	Representations may use these interventions as means to contribute to local development, to support investments of Dutch companies and to broaden their own local network at the same time. E.g. training, seminar, coaching etc.	
<b>MASSIF</b>	MASSIF provides access to financial services such as bank accounts, savings products and loan products for micro-, small- and medium-sized entrepreneurs. (LoI has been signed with Vitas Group)	Company/FMO?
<b>D2B*</b>	Through Develop2Build, The Ministry of Foreign Affairs provides support to governments in developing relevant infrastructure with positive effects on people, the environment and society.	RVO/Embassy
<b>Agriterra</b>	The Farmers Fighting Poverty programme strengthens farmer ownership by strengthening cooperatives while stimulating economic growth in developing countries.	NGO's and farmers union?
<b>G4AW *</b>	The G4AW Facility improves the agricultural sector and fishing industry output by providing food producers with relevant information, advice or (financial) products through operational information chains using satellite data. The Netherlands Space Office (NSO) is executing this programme.	Closed
<b>PVW *</b>	Subsidy for NL companies, knowledge institutions, NGOs that want to test, demonstrate or conduct feasibility studies for an innovative method, technology or prototype for water safety and water security in urban deltas	Company (PvW is temporarily closed)
<b>FDW *</b>	Promotion of public-private partnerships in the water sector, with the aim of improving water safety and water security in developing countries. (currently not open)	Company (FDW is currently not open)

## **Appendix 11: Terms of Reference developed by the Ministry of Foreign Affairs of the Netherlands**

### ***Explorative Study Agricultural Development in Iraq and the federal Kurdistan Autonomous Region***

#### **Background**

From being a small farmer food producing country covering its needs, Iraq has become a major importer of food. Agriculture's capacity to feed the population and its role in the economy has been heavily affected by poorly thought 'modernist' policies of the Baath regime, violent conflict and war, and cheap imports of foodstuffs. Most recently, the ISIS insurgency has heavily affected agriculture in Iraq, in particular the Sunni regions. In parallel, the share of agriculture in the GDP dropped considerable over the last decades. Today, less than 5% of the labour force is working in agriculture, half of them women. While the area suitable for agriculture in Iraq is about 9.3m hectares, the total area under cultivation is in between 2-4m hectares. A stabilisation and revitalisation of agriculture and employment opportunities through productive investments is considered of high importance.

The Embassy of the Kingdom of the Netherlands would like to explore the potentials for agricultural and rural development in Iraq, with a particular interest in sector- and value chain (VC) development. For this we will follow the approach described in the Guidelines for Aid & Trade Support in Dutch PSD-partner countries (2017). In the first phase of this guideline the most promising (sub)sector are selected.<sup>16</sup> Moreover, the research will explicitly include the possibility to contribute to job creation and the availability and use of food-water resources as an input in the value chain. The research also aims to identify niches in which actors from the Netherlands could make a meaningful contribution.

In this study a distinction is made between Iraq and the Kurdistan Autonomous Region. The 2005 constitution defines Iraq a federal parliamentary republic and the Kurdistan Autonomous Region as a federal entity of Iraq. The central government in Baghdad and the Kurdistan Regional Government (KRG) in Erbil define their own policies for their agricultural sectors.

#### **Objective**

The objective of this explorative study is threefold:

- 1.** To carry out the analysis of the existing farming systems, the enabling environment for sustainable, nutrition-sensitive and inclusive agricultural value chain development and possibilities for employment in rural areas.

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<sup>16</sup> Agricultural Sector Development. Guidelines for Aid & Trade Support in Dutch PSD-partner countries (2017) Ministries of Agriculture, Nature & Food Quality and Foreign Affairs in the Hague, the Netherlands.

2. To carry out the analysis of the strengths/weaknesses of the current public agricultural policy and identify opportunities and constraints for the inclusion of (VC) actors; in particular local (VC) actors and possible Dutch (VC) actors.
3. To assess the possible role of research institutes and the local and Dutch private sector in the revitalisation various agriculture sectors.

### **Activities**

1. Review of key literature, among which the most recent FAO and World Bank reports, policy documents and scientific literature.
2. Field visits to Iraq for meetings at ministries, interviews with policy makers; interviews with local stakeholders in order to be able to assess local production, processing, marketing and distribution strengths and weaknesses; assessment of farmers' and rural household production strategies; interviews with Iraqi institutions involved in land and water development. Local experts will be involved to provide data, among others on areas the Wageningen experts will not be able to visit.

The Dutch representation in Iraq is the owner of this study. This means that both the design and implementation must be coordinated with the owner, respectively the General Consulate in the Kurdistan Autonomous Region and the Embassy of the Netherlands in Baghdad for the rest of the country

### **Timeframe**

May 2018: Desk-study, logistical preparations

June 2018: Field visit

July 2018: Final Report and Presentation

### **Work plan**

#### Desk study

Experts will assume their work, starting with desk study reviewing following documents

- *FAO reports Iraq and Kurdistan Region of Iraq*
- *World Bank reports on Iraq and the Kurdistan Region of Iraq*
- *RFSAN Comprehensive Food Security and Vulnerability Assessment Iraq 2016/2017*
- *Iraq and KRG policy documents*
- *Most recent (local) scientific literature*

#### Field visits

Experts will conduct extensive field visits in:

- *Baghdad and surroundings (incl. Kerbala, Najaf and Abu Ghraib)*
- *Irbil and surroundings*
- *Basra and surroundings*

*Experts will meet with policy makers as well as farmers, distributors, processors and retail to discuss market situation, production trends, demand-supply gaps as well as opportunities and constraints.*

### **Deliverables**

- A report on **opportunities** for agricultural development, development of the agricultural value chain and employment in Iraq with special attention for the role of the knowledge and private sector from the Netherlands.
- The mission will identify the potential contribution of agriculture sector to **rural development and employment** in Iraq.
- The report will offer concrete suggestions to **link** the opportunities identified to Dutch **PSD instruments**
- The report will be **maximum 30 pages**, excluding Appendixes. The Appendixes should include interview summary reports.

### **Qualifications**

The mission requires a multi-disciplinary Dutch-Iraqi team, ideally consisting of:

- A experts from Wageningen University & Research (WUR) on **agricultural sector development** with at least 15 years of experience in countries affected by instability (preferably MENA region); able to work in an interdisciplinary manner to incorporate agronomic, economic, ecologic and job creation aspects of Iraq's food system. Alternatively, this Wageningen expert can obtain backstopping from other WUR experts in relevant areas.
- A Dutch agribusiness expert with at least 15 years of experience in countries affected by instability (preferably MENA region); familiar with **private sector development and risk assessment**
- One or more Local (Iraqi - Dutch) experts in agricultural development, familiar with the **specific conditions, challenges and opportunities** of the Northern (Kurdish region), Central (Baghdad area) and Southern (Basra area) regions and *have access to these areas*.