

Article

The Politics of Agricultural Development in Iraq and the Kurdistan Region in Iraq (KRI)

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Abstract: From being a smallholder-based, food-producing country covering its basic needs, Iraq and the Kurdistan Region in Iraq (KRI) have become major importers of food. The sustainability of the agricultural sector has been systematically undermined by conflict, neglect, and mismanagement, as a result of which the capacity of its farmers to feed the population declined. Even though local policymakers, the international community, and the international organisations emphasise the potential of agriculture for food production, job creation, and income generation, they also tend to consider the current food system problematic because of an alleged low productivity that they relate to the existing smallholder system. For them, such system poses a lack of competences and skills of farmers, and a subsistence production orientation. This approach culminated in a policy-making process that offered land and water for capital investments, and thus neglecting the potentials and competencies of (small-scale) farmers. The concomitant neglect of the human dimension of agriculture, namely the family farm, is essentially the continuation of an economically and ecologically high-risk approach that may lead to a further decline of the sector's ability to produce food for the local market.

Keywords: agriculture; Iraq; Kurdistan; productivity; market

1. Introduction

Iraq has been a smallholder, food-producing country covering the needs of its population. Wheat and barley production mostly took place in the northern part of the country, which includes the Kurdistan region, while much of the vegetable production took place along rivers and areas where irrigation has been available. Fruit and dates orchards were well suited to Iraq's temperate hillsides and to more arid regions where irrigation water is available. However, Iraq and the Kurdistan Region in Iraq (KRI) have become major importers of food over the last decades. Agriculture's capacity to feed the population and its role in the economy has been heavily affected by the poorly conceived "modernist" policies, violent conflict and war, and cheap imports of foodstuffs [1–6]. International organisations, such as the World Bank Group (or World Bank, WB), the United Nations Development Programme (UNDP), and the Food and Agricultural Organization (FAO), emphasise that the agriculture and food sector in Iraq and the Kurdistan region can play an important role in rural job creation and income generation, meaning that it can contribute to political and economic stability more generally [7–9].

Policymakers and international organizations identify agriculture as a potentially vibrant sector in Iraq and the KRI; however, they conceive the current structure of food production as problematic.

The main issue they identify is low productivity, which, in turn, they relate to the situation in which primary production is dominated by small-scale farmers with, allegedly, poor skills and competences, and not willing to invest. Many policymakers and international organisations conceive the way forward in terms of a modernisation of agriculture implying scale-enlargement and capital intensification. In this article, we critique that orientation and argue that the main problems faced by the Iraqi and KRI agricultural sector today are market, labour, and lack of adequate government support. We furthermore contend that these problems are part of a political economy of elite capture and clientelism that has developed in the region.

2. Methods

Though formally part of Iraq, in practice, the Kurdistan region has been a *de facto* independent entity making its own rules and policies since 1991, and, according to Iraq's 2005 post-Saddam constitution, Iraq is a federation, with the Kurdistan Region in Iraq (KRI) as the only federal state within its borders. The federal status allows the Kurdistan region to develop its own agricultural policies, with the exception of such areas as tariffs and customs, for which the region is bound to decisions taken by the central government in Baghdad, so Deputy Prime Minister (DPM) of the Kurdistan region Qubad Talabani explained to us (see Appendix A for the list of interviews, meetings and field visits).

The main institutions in the region are the Kurdistan Regional Government, the Kurdistan Region Presidency, the Kurdistan Parliament, and the Judicial Council. According to Iraq's constitution, the federal state can exercise legislative and executive authority in several areas, including, but not limited to, the allocation of budget, policing and security, education and health policies, natural resources management, and infrastructure development [10]. Over the years, the central government has tried to force the Kurdish region to behave as part of a bigger federal state, while the Kurdish Regional Government and the Presidency have pushed for (greater) independence [11,12]. In this study, we have collected data on agriculture in Iraq, yet with a focus on the Kurdistan region.

Data has been collected in two separate visits to Iraq and the Kurdistan Region in Iraq. The first three authors undertook visits to the KRI, in June 2018 and February 2019, and to Iraq, in August 2018. In the KRI, field visits were made in the three governorates Dohuk, Erbil, and Sulaymaniyah. The KRI visits to particular sites, such as farms, a wholesale market, and a silo, were pre-planned, although decisions about the routes to travel and where to stop on the road were made on the spot. We made several stops on the route where we saw people working on the land or sitting on the side of the road, and conducted short interviews about the crops produced, yields and prices, labour and inputs, support received, and challenges ahead. We also had interviews with the Deputy Prime Minister (DPM) of the Kurdistan Regional Government (KRG) and policymakers at the KRG Ministries of Agriculture and Water Resources, Planning, and Statistics. We also had a round table meeting with 15 ministry representatives in Baghdad, including The Deputy Minister of Agriculture in Iraq, the advisor to the Prime Minister on agriculture, the Director General of the agriculture research office of the Ministry of Science and Technology, and the Director General of the Ministry of Environment (see also Appendix A for the full list of interviews).

In Iraq, we were embedded in the Embassy and followed a strict security protocol, which only allowed for a limited number of pre-arranged field visits, *i.e.*, without deviations from the programme such as unplanned stops while travelling. At the Embassy, we had roundtable discussions with policymakers from the Ministries of Agriculture, Environment, Science and Technology, and Water Resources, with actors from the private sector, including those active in consultancy, poultry, dairy, beekeeping, and seeds, and with international donors, among them the Australian Agency for International Development (AUSAID), United States Agency for International Development (USAID) and the World Food Programme (WFP), followed by a separate meeting with the FAO representative in Iraq and a Skype interview with a representative of the WB working on Iraq. A visit was made to Baghdad University (faculty of Agriculture) and field visits to Karbala, Najaf, and Basra.

Further to this, we also engaged in interviews with several stakeholders in the Netherlands, including a staff member of the team of the Deputy PM of the KRG, a scientist from the KRI, and people from the private sector in the Netherlands working both themselves and with partners in the KRI. For the desk study, we reviewed reports by international organisations, including the FAO, WB, WFP and UNDP, and consulted the databanks of the WB [13], FAO [14], International Labour Organization (ILOSTAT) [15], and the Kurdistan Regional Statistics Office (KRSO) [16] to retrieve figures on, among others, the rural population, employment and agriculture in Iraq and Kurdistan, while data on trade between Turkey and Iraq and the KRI have been retrieved from the Turkish Statistical Institute (TurkStat) [17] and the Turkish Exporter Assembly (TIM) [18]. When we use the term policymakers, this refers to those working at the ministries and other government institutions, including ministers themselves, as well as those working at international organizations, such as the FAO and the World Bank, unless indicated otherwise.

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3. The Making of a Problem: Productivity

The area suitable for agriculture in Iraq is about 9.3 million hectares, which is approximately 25% of Iraq's surface, while the total area of agriculture land in Iran is 45.9 million hectares, in Syria 13.9 million hectares, and in Turkey 38.3 million hectares. Yet, harvested land areas in Iraq form about 4 million hectares, in Iran this is 12.3 million hectares, in Syria 4.1 million hectares, and in Turkey 17.8 million hectares [19,20]. In Iraq, part of the land has become marginal due to soil salinization and desertification, related to unsustainable production practices, as a result of which the total area under cultivation is much smaller, estimated in between 2 and 4 million hectares, of which 1.2 million hectares are cultivated in the Kurdistan Region. The diverse geography of the region includes various microclimatic zones, but basically the region can be divided into three rainfall regimes: high (700–1100 mm), medium (400–700 mm), and low (under 400 mm). Both water quality and quantity are a problem [21–25]. 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, and 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 [26].

The agricultural sector makes a significant contribution to total employment in general, and rural employment in particular. Small-scale farmers are the backbone of the agricultural sector in the entire region [27]. They are the second most important employer in the country and the most important provider of employment in the rural areas [28]. Thus, international organizations emphasize that the agricultural sector can make considerable contributions to employment and poverty reduction. The agriculture and food sector in Iraq is labour-intensive, and thus 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 a 1% increase in the agriculture gross domestic product (GDP) results in an increase in the total employment of 1.2%, compared to only 0.35% for the industrial sector [9]. Moreover, 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 [29], (p59). Because of its contribution to (rural) job creation and income generation, the agricultural sector is thought to be vital for political and economic stability.

International organisations and policymakers of the central government in Baghdad and the decentral government in Arbil consider productivity to be one of the main problems in agriculture

in Iraq and the Kurdistan Region in Iraq (KRI). Statements of objectives range from “improving efficiency in agricultural production” [30] to “increasing support for the restoration of agricultural productivity through the introduction of improved technologies and modern extension methods” [28] (p. 9). This low productivity is attributed to the lack of skills of farmers and alleged outdated practices. In documents produced by the KRG, farmers’ long history of agricultural experience is contrasted to the present need to train them in modern practices and the use of modern technologies to equip a future generation of farmers with the necessary skills to compete in global agricultural markets [31] (pp. 29–30).

When policymakers discuss the potentials of agriculture, they hardly reflect on the failures of past policies. They often mention the availability of fertile land and water, in spite of the declining quality and quantity of both over the last decades, but never a resilience class of small producers who survived decades of disruptive policies and violence. This neglect has a striking resemblance to the past and failed policies of the Baath regime in Iraq, whose agricultural policy was characterised by a lack of interest in the human dimension of agricultural production, and adhered to an ideology of scientific engineering. This expressed itself in an emphasis on large-scale water control projects, reclamation of vast tracts of often marginal and infertile land, and capital intensive turnkey projects, qualified as a high cost, but also a high-risk strategy for agricultural development [32]. However, this was a policy which also opened the way for new actors in the agricultural sector, namely private investors, who, through their connections with the political elite, gained access to land and resources, and reaped the gains of public expenditure [2].

Today, local policymakers and international experts ascribe the agri-food sector’s low productivity to outdated farming practices, a lack of farmers’ skills and competences, the small size of the farms, and the reluctance of farmers to invest. Furthermore, in the discourse of policymakers’ discourse, farmers lack entrepreneurial skills and are said to be motivated instead by a strong subsistence orientation, while the small scale of the farms is thought to hamper the introduction of modern technology. Policymakers are inclined to think that a restoration and revitalisation of agriculture is only possible through the creation of what is referred to as ‘economies of scale.’ For this, an opening up of the sector to investors and entrepreneurs was deemed desirable. Thus, in 2013, the Ministry of Agriculture attempted to tie the agricultural sector to global capital through investment law, by making provision for the subsidised lease of plots of land to international agro-industrial corporations [33] (p. 262). In Iraq, the provisional authority and subsequent governments embarked on a neoliberal trajectory, which eventually not only included the elimination or radical reduction of subsidies and knowledge infrastructures, but also the support of open markets and corporate farming [6] (p. 599). As a result, the agricultural sector was left without adequate government support or market rewards. Processing capacity collapsed, as did the infrastructure for the provision of extension (facilities and functioning), food and product safety, and applied research [34] (p. 295) [35].

4. The Hidden Problem: The Market

Contrary to policymakers, many farmers in the Iraqi and KRI agri-food sector dispute that productivity in itself is the main problem. Most of the farmers we met were willing to invest in agriculture, buying hybrid seeds, invest in tunnels for vegetable production, which cost about 5,000 USD each, and invest in irrigation, mostly through the construction of wells and pumps. Moreover, our research showed that many farmers could increase production, but will not attempt to because there is no market for local products as a result of the cheap imports from Turkey and Iran. This is also evident in our interviews with the farmers: “The market destroys us and the government does not care” (anonymous farmer in the Doski region in Dohuk, personal communication, 29 June 2018).

Productivity in itself is not an issue, as can be seen from the FAO statistics. Table 1 shows that the productivity of wheat in Iraq is actually higher than in Iran and Jordan, and equal to Turkey. For potatoes, also, Iraqi yields surpass those of Jordan and are quite close to Iran and Turkey. The productivity of vegetables, according to these figures, are low.

Table 1. Comparison of produce yields in four countries, 2017 (tons per ha) [14].

Crop	Iran	Iraq	Jordan	Turkey
Wheat	2.0	2.9	1.0	2.9
Potatoes	32.1	26.6	26.0	30.9
Cucumber/gherkins	23.7	7.6	96.2	47.2
Eggplants	30.5	16.5	33.1	34.4
Tomatoes	39.6	16.9	67.5	65.4

The high production per hectare in the potato and wheat sector, and the low production per hectare in cucumber, eggplants, and tomato, can be explained by looking at the market. In the relatively small potato sector in the north of Iraq, the market is protected by the company investing in potato production. The company guarantees farmers a minimum price. When market prices fall, farmers can sell their potatoes for this fixed price to the trader, for which purpose the company has expanded its cold storage facility. The production is released again at the market, when imports dry up and prices rise again. So, its market regulation results in price security, organized by the trader, which stimulates farmers to produce, and results in high productivity.

The high production per hectare in wheat is the result of central regulation, which stimulates farmers to increase production. The central government buys wheat at silos throughout the country for a pre-declared price above the market price. It determines criteria for the three quality classes it distinguishes and their prices. In 2018, A class grain was purchased at 500,000 Iraqi dinar per ton, the B class at 480,000, and C class at 420,000. According to information obtained from farmers, the market price was between 350,000 and 380,000 Iraqi dinar per ton wheat, so there was a premium in selling to the silo. Production in the Kurdistan region spiked from 517,000 tons to 1,006,000 tons in the period 2012–2016.

In the province (Governorate) of Dohuk, production increased from 101,000 tons to 329,000 tons during the period 2012–2016, and in Erbil from 102,000 to 601,000 tons. In Suleymania, having increased from 163,000 tons in 2012 to 314,000 in 2015, produce fell sharply to 76,000 tons in 2016 [36], while the total wheat storage capacity in the Kurdistan region is 225,000 tons only. In Dohuk, in the northwest of the region, where we investigated this, there are three silos. Located in Faida, Sheikhan, and Zakho, these have a total capacity of 107,000 tons (30,000, 60,000, and 17,000 tons, respectively). The intake of wheat is organized by district, and only registered farmers can deliver to a silo (farmers in the Summel district deliver to the Faida silo, Akra and Sheikhan farmers deliver to Sheikhan, and those in the Amedi and Zakho region to Zakho).

It is important to stress that high production level and productivity have become a contentious issue in the relation between farmers in the Kurdistan region and Baghdad. When farmers deliver to the silo of the central government, they receive a small payment in cash and a voucher for future payment. Though the Iraqi government has paid the farmers in full for 2017, they did not for 2015 and 2016, the director of the silo in Fayda, Dohuk told us. The KRG Ministry of Agriculture claims that farmers in the region as a whole are entitled to payments totalling 902 billion dinars (c. 765 million USD). Several farmers we spoke to in June 2018 confirmed that they had not received any money for the years 2015–2016. The delay in payment is related to a dispute between the KRG and the central government. For one thing, the central government claims that the silos had a higher intake than agreed (the Faida silo, for example, had an intake in 2016 three times its capacity, storing 60,000 tons outside the building). Also, the central government claims that part of the wheat sold was not local production, but had been imported from Syria and sold with profit to the silo, which, as explained, pays the farmers above market price. However, when doing our research in the Dohuk governorate in the Kurdistan region, we spoke with farmers who preferred to sell their wheat not to the silo in their region, but to farmers in Mosul, who allegedly would sell this wheat as their local product to the government silo in that region, a region not under control of the Kurdistan Regional Government but Baghdad.

Though statistics produced by the Ministry of Agriculture suggest that imports from neighbouring countries do not impede local production, since they decline to zero in the summer when local products become available on the market, as the Director General at the Ministry of Agriculture and Water Resources told us, in reality, borders are open and products enter the market the year round. The wholesale market in Dohuk at the end of June was full of products from Turkey; among them are tomatoes, cucumbers, and watermelons. Farmers not only have to compete with subsidised imports from Turkey and Iran, but also face high production and transaction costs of their own products because of malfunctioning public service provisioning and disrupted value chains. These include connecting the farm to the electricity grid, road construction, and transportation of products to the market done by farmers themselves.

The problem of the market is not only mentioned by local stakeholders but also confirmed by experts. A World Bank expert we interviewed stated that both Turkey and Iran strategically support the export of their products to the Iraqi market as a way of gaining foreign currency. The same expert put question marks behind the strategy to support livelihood reconstruction by distributing starter kits containing seeds and other inputs, since it would only contribute to a further oversupply of the market and drop in prices (anonymous WB expert, personal communication, 30 August 2018). For the same reason, several farmers we met did not cultivate part of their land solely because they did not expect to be able to sell the harvest due to oversupply, while others did not even cultivate their land at all. As indicated, the oversupply of products is largely a result of imports. Large shares of vegetables consumed in the KRI are imported, a considerable proportion from Turkey. The available data indicate that only a fraction of, for example, KRI tomato consumption, is sourced from local production [1] (p. 5). Turkey, with the strongest agricultural capacity in the MENA region (Middle East and North Africa), is the number one food and agricultural product exporter to the region, with Iraq and the KRI being major recipients, especially since 2004 (Figure 1). Although the European Union (EU) remains the largest export market for Turkey, growth in trade over recent years has been to the Middle East and Africa, with a quarter of all Turkey's exports now going to Iraq [37].

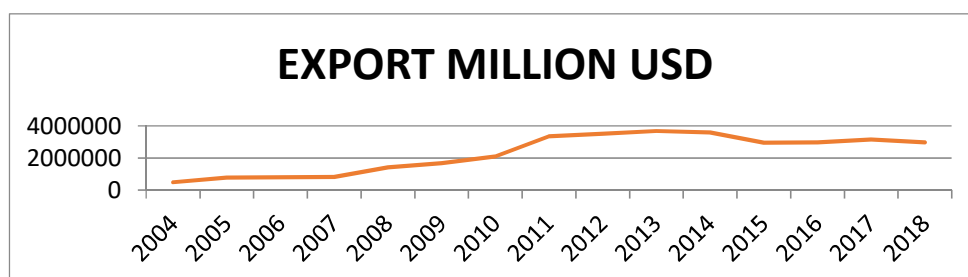


Figure 1. Agri-food imports into Iraq from Turkey, 2004–18 (1000 USD). (Turkish Statistical Institute & Turkish Exporters Assembly export statistics).

Agriculture is an important sector in Turkey's economy. However, its share in the national GDP has been steadily declining, as its agricultural productivity is relatively increasing. Significantly, the 20 million hectares cultivated are owned by some three million farmers, making the average farm just six to seven hectares. The number of farms cultivating up to 10 ha of land, and which can therefore be counted as smallholdings, constituted around 80%–90% of all farms in Turkey [38]. Clearly, overall size is no barrier to development there. Turkey considers agriculture a strategic sector and, already in the top 10, aspires to become among the top five agricultural producers in the world [39]. Although the Justice and Development Party (Adalet ve Kalkınma Partisi, AKP) government has restructured agricultural policies, mainly by applying a neoliberal approach of privatisation and market competition to stimulate production and especially exports, the country has also maintained and developed a wide range of instruments to support agricultural production, ranging from subsidies on inputs and energy, cold storage facilities, and direct income support to the financing of research and extension services [38].

Since 2002, Turkey's AKP government has been actively supporting agricultural sales to Iraq and the KRI. For this, the AKP government supports not only farmers, but also export companies. Over the last 15 years, strong relationships have developed between Turkish export companies and businesses in Iraq, establishing dealerships, franchises, and joint ventures through mediators and/or direct sales to Iraqi business people in Turkey. In provinces and cities relatively close to Iraq, such as Gaziantep, Mardin, and Diyarbakır, we see many medium-sized export companies taking advantage of their proximity to the region. Among these are many companies engaged in the crossborder trade, involving, but not limited to, agricultural products.

5. Labour Shortage

The market and import being one, another main problem is labour and employment in agriculture in Iraq and the Kurdistan region in Iraq. General data for Iraq—including the KRI—suggest that almost 50% of rural households have an agricultural plot, along with 7% in urban areas [34] (p. 301). A survey conducted in the KRI indicates that as much as 74% of the households in rural areas are engaged in agriculture [1] (p. 9). While 16% of men were employed in agriculture in Iraq in 2017, compared to 13% in 2000, the same figures for women were 44% in 2017, compared to 26% in 2000 [13]. These figures indicate a feminisation of agriculture. What these statistics do not show is that agriculture in the Iraq and the Kurdistan region seems to be highly dependent on migrant labour. In the Kurdistan region, much of the manual farming labour in the KRI is provided by internal displaced Yezidi, though we also met migrant workers from Egypt and Bangladesh. When we visited the area, it was harvest time, and internally displaced Yezidi agricultural workers were mainly young men and women working in the fields for seven US dollars a day, harvesting chickpeas and potatoes. Labour provisioning took place through a nearby camp for Yezidi IDPs who had been displaced by the Islamic State from Sengal in 2014. Another labour provisioning arrangement we encountered was not based on daily labour, but based on sharecropping. In one case, for example, a local farmer provided the land, while two Yezidi families living on his land provided the labour. Farmers and families shared investments and the returns.

Several farmers we met indicated that their children were not interested in farming and have a desire for urban life. Their children prefer a job in the public sector, which comes with social security. For some, the farm is also a fall-back option in times of crisis, when people are not able to maintain their livelihood in the city, for example in the post-2014 crisis, when the poverty rate jumped from 3% in 2013 to 12% in 2015 [40]. Yet, a main obstacle to people staying in the countryside is the lack of facilities there, in particular, basic healthcare and educational services [1] (p. 11). This indicates a structural problem not only in labor supply but also in succession. That is to say, it complicates the reproduction of family farming in terms of both inheritance and maintenance, which eventually atrophies rural invigoration.

Figures over the last 5–6 decades indicate a sharp decline in the rural population, however stable since 1990. Of a total population of about some 37 million, 11 million, or roughly 30% of the people of Iraq, live in rural areas, while in the KRI, from a total population of about 5 million, approaching one million people—so 20%, a considerably smaller proportion—reside in the countryside). Historically, the rural population proportion in Iraq has declined, indicating urban-to-rural migration. However, the number has remained relatively stable over the last three decades (Table 2). In absolute numbers, the population in rural areas has continued to grow (by 2.6% yearly), but at a slower pace than in urban areas (3.1%).

Table 2. Rural population in Iraq (absolute and relative, 1960–2015) [13,41].

Rural Pop. in Iraq	1960	1970	1980	1990	2000	2005	2010	2015
Millions	4.2	4.3	4.7	5.3	7.4	8.4	9.5	11.0
Percentage of total	57.1	42.8	34.5	30.3	31.5	31.2	31	30.5

The urban-to-rural migration was not simply a result of economic and social factors, but also prompted by political circumstances. A dramatic example of this was the Ba'ath regime's systematic destruction of 4500 farming villages and relocation of their residents near urban centres in 1987–88, a denuding of the rurality that turned the Kurdistan region from an area of production into an area of consumption [1]. When the main Kurdish political parties seized the opportunity after the Gulf War in 1991 to carve out an autonomous zone under international protection [42], this dependency was not broken. Revenues from oil were not used to reconstruct the countryside and revitalise agriculture, but to build patron–client relations through a growing public sector [43]. The revitalisation of agriculture promised by subsequent governments over the last decades has remained an empty promise, according to the Deputy Prime-Minister Qubad Talabani.

In recent years, since the crisis in 2014—resulting from the Iraqi response to the KRG independence referendum (slashing central supports, worth some 17% of the regional income) and compounded by other factors, such as the war with the Islamic State (IS), influx of IDPs and KRG focus on political at the expense of economic issues together with lower oil prices [44]—urban unemployment has induced people to move back into agriculture [30] (p. 19). Counter-urbanisation, or urban flight, is not new in the region and Iraq as a whole. It had happened before, in the context of the Iraq–Iran War [45] (p. 931), and subsequent wars and rounds of violence, violent as a result of the security situation in cities [46] (p. 131). However, it appears from the information available on the Kurdistan region that a lack of basic services, particularly healthcare and education, is pushing people back to the towns and cities [1] (p. 11).

6. Discussion and Conclusions

Employment in the public sector in Iraq and the KRI has been one of the levers employed by political parties and individual politicians to create clientelistic relations, and thereby gain power. As a result, even though so much of its provisioning has been dismantled, the state remains the main employer, currently providing about 42% of all jobs nationwide [29] (p. 65). This figure is even higher (47%) in the KRI [47] (p. 44), where, if we also take into account direct payments, 65% of households are on the public payroll [47] (p. 44). Thus, the bulk of the very considerable oil revenues in both the country as a whole and the federated region are used to pay the government wage bill.

The entanglement of economy and politics has made these a tool of one another [43] (p. 104). The new political elite was more motivated by the division of spoils than an interest in long-term development [34] (p. 306). However, free-market policies let a few families control key positions, and thus, the economy has taken on more of a limited-access character [43]. As in the rest of Iraq, the main source of income in the KRI is oil. Oil revenues in the region are distributed by a few families that have control over both the economy and the political institutions, giving rise to clientelistic relations in which political loyalty is bought through the redistribution of resources. The main instrument for the distribution of these is the public sector, which has become the preferred sector of employment. In the KRI, nearly two-thirds of the households are on the public payroll [43] (p. 45). In this political economy, the elites and those depending on them ask for more resources, the former to maintain and expand their sphere of influence, and the latter to maintain and increase consumption [43] (p. 114).

In spite of the expansion of the public sector as a means to build clientelistic relations, employment in agriculture still makes up about 20% of total employment in Iraq (Figure 2). In the KRI region, however, this figure is startlingly low, with agriculture providing only 6% of employment [28]. Given the much higher rural population rates, this appears to be an effect of the overly high level of state patronage and centralised dependence, coupled with a lack of employment in farming that should be remedied by promoting the sector. This would be a simplistic reading, though, since so much of the rural population works on family smallholdings, which is not recorded as (paid) employment.

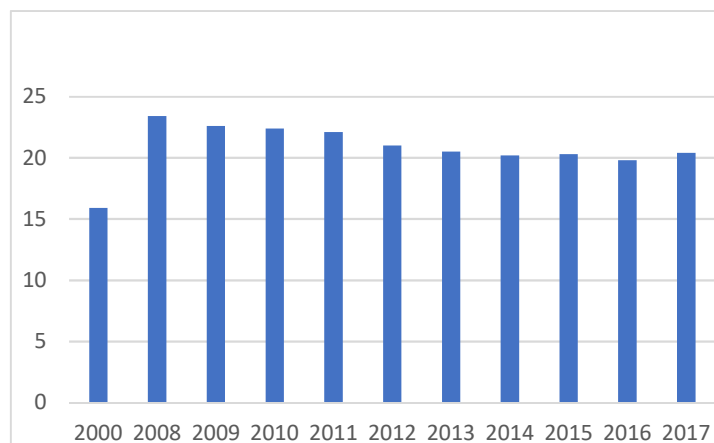


Figure 2. Employment in agriculture in Iraq, including KRI, 2000–2017 (% of total employment) [13] (p. 42).

Having survived through the decades of turmoil, small-scale farmers continue to be the backbone of the agricultural sector in Iraq and the Kurdistan region. After 40 years of sanctions and the oil-for-food programme, on top of the armed conflicts, mismanagement and corruption and failed modernisation policies, the very fact that so many farmers are still producing is a sign of their resilience. Alongside the oft-mentioned public goods of water and land, the local farmers should be considered an important resource for redevelopment of agriculture in the region. Productivity, related to the smallholder structure, and a lack of competences and skills of farmers and/or their alleged subsistence production orientation, are not the problem. The main problem is the disadvantaged position of farmers in the region in the market. They are unable to compete with cheap and subsidized food imports from Turkey and Iran, while the development of clientelism through massive employment in the public sector drains the countryside.

The focus of policymakers on making land and water available for capital investments and the concomitant neglect in this of the human dimension of agriculture, the family farm, is essentially the continuation of an economically and ecologically high-risk approach that characterized Ba'ath policies in the past and undermines rural livelihoods and the potential of farmers to produce for local markets. It is insufficiently recognized that food provisioning worldwide remains critically dependent on small-scale family farmers, who still provide over 70% of global food production [48,49]. The situation is similar in Iraq, where the bulk of the local produce is provided by small-scale farmers. In rural areas there, the small-scale family farm continues to be the dominant unit of production and farming families make up the main part of the rural population. Thus, it is thought that strengthening the small-scale family farm appears to be the best possible option for a way forward, since there is no other industry or service sector, except for militias, which is able to absorb labour surplus [1] (p. 11).

It is clear that it is not the farmers' willingness, competences, and/or skills, but the policies and the regional wars, which have affected the agricultural production and capacity in Iraq and the Kurdistan region in Iraq. These legacies from the past, along with the present and future insecurities, including political instability, volatile markets, and climate change, make it obvious that the farming population faces many challenges. Considering the market invasion of the cheap and subsidized imports, the key challenge for the local small-scale family farmers is to have the ability and the chance to produce for the local market, which any development approach or project needs to address to be successful.

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Appendix A Interviews, Meetings and Field Visits

Visits to Erbil, 27 June 2018

Kurdistan Region Statistics Office (KRSO)
 Kurdistan Regional Government
 Ministry of Agriculture and Water Resources
 Ministry of Planning (MoP)
 Department of Foreign Relations
 Nahar El Awrad Company and Green Agriculture, Potato Project

Visits to Suleymania, 27 June 2018

Interview with gardener
 Interview with olive farmer
 Interview with vegetable farmer

Visits to Duhok and surroundings, 28, 29 & 30 June 2018

Interview with two Yezidi wheat producers
 Interview with director of the wheat silo in Fayda
 Interview at the directory of producing certified seed in Dohuk, Ministry of Agriculture
 Visit to mills and wholesale Dohuk
 Interview with villager and small shop owner (Doski area in Dohuk)
 Interview with Yezidi IDP and farmer (Doski area in Dohuk)
 Chickpea farmer (Doski area in Dohuk)
 Visit to poultry farm

Visits to Arbil, 30 June 2018

Interview with owner of a potato company

Visits to Baghdad 27 & 28 August

Roundtable discussion with donors
 Roundtable discussion with Ministry officials

Visits to Najaf and Kerbala 29 August

Feddak Project for Animal and Agricultural Production
 Al Kafeel

Meetings Baghdad 30 & 31 August

Visit to Baghdad University College of Agriculture
 Roundtable discussions with private-sector representatives
 Interview with World Bank expert (via Skype)
 Interview with FAO representative in Baghdad

Meetings in Basra and surroundings, 1 and 2 September

Visit to Alfares Group in Basra
 Meeting with the Basra fish farm management
 Miscellaneous
 Interview with business people active in Suleymania, 29 March 2018 (Wageningen)
 Interview with agricultural expert in Kurdistan, 1 April 2018 (Skype)
 Interview with potato trading house HZPC from the Netherlands, 22 June 2018 (Joure)

References

1. Eklund, L.; Abdi, A.; Islar, M. From Producers to Consumers: The Challenges and Opportunities of Agricultural Development in Iraqi Kurdistan. *Land* **2017**, *6*, 44. [[CrossRef](#)]
2. Springborg, R. Infitah, Agrarian Transformation, and Elite Consolidation in Contemporary Iraq. *Middle East J.* **1986**, *40*, 33–52.
3. Glen, R.G.; Campbell, J.B.; Wynne, R.H. Three Decades of War and Food Insecurity in Iraq. *Photogramm. Eng. Remote Sens.* **2012**, *78*, 885–895.

4. Eklund, L.; Persson, A.; Pilesjo, P. Cropland changes in times of conflict, reconstruction, and economic development in Iraqi Kurdistan. *Ambio* **2016**, *45*, 78–88. [[CrossRef](#)] [[PubMed](#)]
5. Ghareeb, E.A. *Historical Dictionary of Iraq*; The Scarecrow Press: Lanham, MD, USA, 2004.
6. Grasten, M.; Tzouvala, N. The political economy of international transitional administration: Regulating food and farming in Kosovo and Iraq. *Contemp. Politics* **2018**, *24*, 588–606. [[CrossRef](#)]
7. FAO. *Country Programming Framework for Iraq 2018–2022*; FAO & Ministry for Agriculture: Baghdad, Iraq, 2018.
8. FAO; KRG; UNDP. Concept note on an In-depth Study on the Agricultural Sector of KRI. Unpublished. 2011.
9. WorldBank. *Iraq Agriculture Transformation Program*; World Bank Group PowerPoint: Washington, DC, USA, 2018.
10. Kurdistan Regional Government Fact Sheet: About the Kurdistan Regional Government. Available online: <http://previous.cabinet.gov.krd/p/page.aspx?l=12&p=180> (accessed on 29 March 2019).
11. Jawad, S. *The Iraqi Constitution: Structural Flaws and Political Implications*; LSE Middle East Centre Paper Series; LSE Middle East Centre: London, UK, 2013.
12. Park, B.; Jongerden, J.; Owtram, F.; Yoshioka, A. On the Independence Referendum in the Kurdistan Region of Iraq and Disputed Territories in 2017. *Kurd. Stud.* **2017**, *5*, 199–214. Available online: <https://journal.tplondon.com/index.php/ks/article/view/1031> (accessed on 1 October 2019). [[CrossRef](#)]
13. DataBank. The World Bank. Available online: <https://databank.worldbank.org/home.aspx> (accessed on 29 March 2019).
14. FAOSTAT. Available online: <http://www.fao.org/faostat/en/#home> (accessed on 29 March 2019).
15. ILOSTAT. Available online: <https://www.ilo.org/global/statistics-and-databases/lang--en/index.htm> (accessed on 29 March 2019).
16. Kurdistan Region Statistics Office. Available online: <http://krso.net/Default.aspx> (accessed on 29 March 2019).
17. Turkish Statistical Institute. Available online: <http://www.tuik.gov.tr/Start.do> (accessed on 29 March 2019).
18. Turkish Exporters' Assembly. Available online: <http://tim.org.tr/en/default.html> (accessed on 29 March 2019).
19. FAO Country Profiles. Available online: <http://www.fao.org/countryprofiles/index/en/?iso3=> (accessed on 29 March 2019).
20. FAO. *World Food and Agriculture: Statistical Pocketbook 2018*; FAO Statistics; FAO: Rome, Italy, 2018.
21. Immerzeel, W.; Droogers, P.; Terink, W.; Hoogeveen, J.; Hellegers, P.; Bierkens, M.; Van Beek, R. Middle-East and Northern Africa Water Outlook, Future Water, Wageningen The Netherlands [World Bank Contract Number 7156425: Middle East and North Africa (MENA) Regional Water Outlook—With Special Focus on Water Resources Availability and Water Demand Analysis]. 2011. Available online: https://siteresources.worldbank.org/INTMNAREGTOPWATRES/Resources/MNAWaterOutlook_to_2050.pdf (accessed on 29 March 2019).
22. ICARDA. *Managing Salinity in Iraq's Agriculture: Current State, Causes, and Impacts*; Evan, W., Christen, E.W., Kasim, A.S., Eds.; An Overview of the Scope and Scale of Soil and Water Salinity in Central and Southern, Iraq; Report 1. Situation Analysis, Iraq Salinity Assessment; ICARDA: Beirut, Lebanon, 2012.
23. ICARDA. *Managing Salinity in Iraq's Agriculture: Potential Solutions & Interventions: Approaches at Farm, Irrigation System and Regional Level*; Evans, R., Soppe, R., Barrett-Lennard, E., Saliem, K.A., Eds.; Potential Solutions & Interventions; Iraq Salinity Assessment Report 2; ICARDA: Beirut, Lebanon, 2013.
24. Al-Ansari, N.A. Management of Water Resources in Iraq: Perspectives and Prognoses. *Engineering* **2013**, *5*, 667–684. [[CrossRef](#)]
25. IRIS. *Water Resources Management in the Kurdistan Region of Iraq; A POLICY REPORT*. Institute of Regional and International Studies (IRIS), American University of Iraq: Sulaimani, Iraq, 2017. Available online: https://auis.edu.krd/iris/sites/default/files/Water%20Policy%20Report%20IRIS_FINAL%20ES.pdf (accessed on 29 March 2019).
26. FAO. *Iraq, Agriculture Damage and Loss, Needs Assessment*; FAO: Rome, Italy, 2017.
27. Ozturk, M.; Gur, F.; Jongerden, J. Food Insecurity in the Age of Neoliberalism: Turkey, Syria, and Iraq. In *Food Insecurity: A Matter of Justice, Sovereignty and Survival*; Anderson, M., Schwartz, P., Mayer, T., Eds.; Routledge: London, UK, forthcoming.
28. FAO. *Iraq: Agriculture Sector Note*; FAO: Rome, Italy, 2012.
29. WorldBank. *Iraq, Systematic Country Diagnostic, Report No. 112333-IQ*; World Bank Group: Washington DC, WA, USA, 2017.

30. WorldBank. *The Kurdistan Region of Iraq—Reforming the Economy for Shared Prosperity and Protecting the Vulnerable*; The World Bank Group: Washington DC, WA, USA, 2016.
31. Ali, O.S. *Kurdistan Region of Iraq 2020: A Vision for the Future*; Ministry of Planning: Erbil, Iraq, 2013.
32. Springborg, R. Baathism in practice: Agriculture, politics, and political culture in Syria and Iraq. *Middle East Stud.* **1981**, *17*, 191–209. [[CrossRef](#)]
33. Gürbey, G.; Hofmann, S.; Seyder, F.I. *Between State and Non-State: Politics and Society in Kurdistan-Iraq and Palestine*; Palgrave-McMillan: New York, NY, USA, 2017; pp. 1–22.
34. Beer, S. *The United States' Program for Agriculture in Post-Invasion Iraq*; Angelica: New York, NY, USA, 2016.
35. Gibson, G.R. *War and Agriculture: Three Decades of Agricultural Land Use and Land Cover Change in Iraq*, PhD dissertation in *Geospatial and Environmental Analysis*; Virginia Polytechnic Institute and State University: Blacksburg, VA, USA, 2012.
36. WFP. *Comprehensive Food Security and Vulnerability Analysis (CFSVA)*; World Food Program: Rome, Italy, 2016.
37. USDA Foreign Agricultural Service. Available online: <https://www.fas.usda.gov/> (accessed on 29 March 2019).
38. Öztürk, M. *Agriculture, Peasantry and Poverty in Turkey in the Neo-Liberal Age*; Wageningen Academic Publishers: Wageningen, The Netherlands, 2012.
39. Presidency of the Republic of Turkey Investment Office—Invest in Turkey. Available online: <http://www.invest.gov.tr/en-US/Pages/Home.aspx> (accessed on 29 March 2019).
40. Salih, C.; Fantappie, M. Kurdish Nationalism at an Impasse. The Century Foundation. Available online: <https://tcf.org/experts/cale-salih/?agreed=1> (accessed on 4 February 2019).
41. WDI. Available online: <http://datatopics.worldbank.org/world-development-indicators/> (accessed on 29 March 2019).
42. Jongerden, J. Governing Kurdistan: Self-Administration in the Kurdistan Regional Government in Iraq and the Democratic Federation of Northern Syria. *Ethnopolitics* **2019**, *18*, 61–75. [[CrossRef](#)]
43. Aziz, S. *The Economic System(s) of the Kurdistan Regional Government, Iraq*. In *Between State and Non-State: Politics and Society in Kurdistan-Iraq and Palestine*; Gürbey, G., Hofmann, S., Seyder, F.I., Eds.; Palgrave: New York, NY, USA, 2017; pp. 103–122.
44. Marmakani, E. Five Reasons for Kurdistan Region Financial Crisis. Kurdistan-24 News, 08-01-2016. At kurdistan24.net. 2016. Available online: <https://www.kurdistan24.net/en/news/0e44d797-1d90-4d2d-afec-2832a4a7785c/five-reasons-for-kurdistan-region-financial-crisis/> (accessed on 29 March 2019).
45. Samaraie, N.A.A. Humanitarian implications of the wars in Iraq. *Int. Rev. Red. Cross* **2007**, *89*, 929–942. [[CrossRef](#)]
46. Houry, D.R. *Iraq in Wartime: Soldiering, Martyrdom, and Remembrance*; Cambridge University Press: Cambridge, UK, 2013.
47. IOM; UNFPA; KRSO. *Demographic Survey: Kurdistan Region of Iraq*; International Organization for Migration: Geneva, Switzerland, 2018.
48. Van der Ploeg, J.D. The Importance of Peasant Agriculture: A neglected Truth. Farewell Address upon Retiring as Professor of Transition Processes in Europe at Wageningen University & Research, Wageningen, The Netherlands. 26 January 2017. Available online: <https://edepot.wur.nl/403213> (accessed on 29 March 2019).
49. Kees, D.R.; Paolo, F.; Karlheinz, K. Specialisation and economies of scale or diversification and economies of scope? Assessing different agricultural development pathway. *J. Rural Stud.* **2017**, *59*, 222–231.

