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World Food
Programme

National Strategic Review of Food Security and Nutrition in Iraq



OCTOBER 2018

 **ICARDA**
Science for resilient livelihoods in dry areas

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FOREWORD BY Dr MEHDI AL-ALAK
SECRETARY GENERAL COUNCIL OF MINISTERS
GOVERNMENT OF IRAQ

The Government of Iraq has committed to the 17 agreed Sustainable Development Goals (SDGs). These SDGs will provide the foundation of the Government's development efforts up to the year 2030.

One of the key SDGs is SDG 2 which aims to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture". This National Strategic Review of Food Security and Nutrition in Iraq, was undertaken under the overall guidance of an Inter-ministerial Advisory Committee comprising relevant Government institutions, with the strong help and support of our key development partners led by the World Food Programme. I would like to place on record the appreciation of the Government of Iraq for their efforts.

The five action pillars proposed by the Review have been endorsed by the Government at a meeting held at the Office of the Council of Ministers on 10 May 2018. These pillars are:

- ⇒ Improving safety net instruments
- ⇒ Enhancing sustainable agricultural production
- ⇒ Addressing the double burden of poor nutrition
- ⇒ Increasing employment especially among youth and women
- ⇒ Reforming marketing, trade and pricing policies

The implementation of the recommendations of the Review will be overseen by specific Ministries in line with their mandates. The overall coordination, as well as budgetary and financial aspects, will be the responsibility of the Council of Ministers. The Advisory Committee, set up to guide the preparation on of this Strategic Review, will continue to meet to assess progress and address issues.

The Government of Iraq looks forward to strong support from its development partners. In particular, we look forward to assistance in ensuring that the design of various interventions draws on international best practices and uses the latest technologies and management methods. The Government would also request that institutions and agencies preparing their strategies, programmes and projects give due attention to the findings and recommended actions set out in this Review.



**FOREWORD BY Ms SALLY HAYDOCK
REPRESENTATIVE AND COUNTRY DIRECTOR
WORLD FOOD PROGRAMME - IRAQ**

As part of its corporate efforts to help countries achieve the SDGs, the World Food Programme, along with other development partners, is supporting the preparation of Strategic Reviews of Food Security and Nutrition around the world.

Iraq has been a major country of operation for WFP and much of this past assistance has been directed to meeting the emergency food needs of those affected by conflict and economic crises. However, conditions are rapidly returning to normal, and the Government of Iraq is taking the lead in setting medium to long term development policies, programmes and projects. Given this situation, discussions were initiated with the Government about a strategic review to assess issues related to food security and nutrition in the context of the Sustainable Development Goals. Accordingly, an Advisory Committee comprising key ministries and institutions was set up with Dr. Mehdi al-Alak, Secretary General of the Council of Ministers as the Chair to guide and oversee the preparation of the review. The International Center for Agricultural Research in the Dry Areas (ICARDA) provided technical support to the preparation of the Review.

During the preparation of the Review, various consultative workshops and meetings were undertaken with stakeholders as well as development partners, including FAO, UNDP and the World Bank. These consultations were critical in formulating the Review and in building consensus regarding the proposed actions.

It is expected that the findings and recommendations of the Review will guide government policies and actions, as well as the programmes and projects of development partners. In particular, the Review would provide a sound basis for the preparation of the Agriculture and Food Security Policy by the National Food Security Committee, which was set up in February 2017 under the guidance of the Minister of Agriculture.

The WFP stands ready to continue its close collaboration with the Government of Iraq to address food security and nutrition in order to end hunger in the country by 2030.



July 2018, Amman, Jordan
An independent review commissioned by the
United Nations World Food Programme (WFP) .The authors gratefully
acknowledge the kindness with which many agencies and individuals shared their knowledge and wisdom
through discussions and comments in
meetings. The authors are solely responsible for the contents of
the review, and the views expressed in it; no part of it can be attributed
to either WFP or the institutions with which the authors are affiliated.

Acronyms

AOAD	Arab Organization for Agricultural Development	NPRS	National Poverty Reduction Strategy
BC	Before Christ	PDS	Public distribution system
BMI	Body mass index	PRS	Poverty Reduction Strategy
CFSVA	Comprehensive Food Security and Vulnerability Analysis	RCP	Representative Concentration Pathway
Eta	Evapotranspiration	SCAR	State Company for Animal Resources
FAO	Food and Agriculture Organization of the United Nations	SDG	Sustainable Development Goal
FGD	Focus Groups Discussion	SSN	Social safety net
FNS	Food and nutrition security	MT	Metric Tonne
FSC	National Food Security Committee	TVET	Technical and Vocational Education and Training
G	Gram	UN	United Nations
GDP	Gross domestic product	UNAMI	United Nations Assistance Mission for Iraq
GDVE	General Directorate of Vocational Education	UNDAF	UN Development Assistance Framework
GOAM	General Organization for Agricultural Marketing	UNDP	United Nations Development Programme
GOI	Government of Iraq	UNICEF	United Nations Children's Fund
Ha	Hectare	USD	United States dollar
GEM	Global Environmental Multiscale Model	USDA	United States Department of Agriculture
ICARDA	International Center for Agricultural Research in the Dry Areas	VAM	Vulnerability Analysis and Mapping
IDP	Internally displaced persons	WASH	Water, sanitation and hygiene
IKN	Iraq Knowledge Network	WB	World Bank
ILO	International Labour Organization	WFP	World Food Programme
IMPACT	International Model for Policy Analysis of Agricultural Commodities and Trade	WHO	World Health Organization
IQD	Iraqi dinar	ZHSR	Zero Hunger Strategic Review
ISIS	Islamic State of Iraq and Syria		
Kg	Kilogram		
MEC	Middle East Center		
MENA	Middle East and North Africa region		
MFI	Microfinance institution		
MNAR	Micronutrient Assessment and Response		
MOA	Ministry of Agriculture		
MOH	Ministry of Health		
MOLSA	Ministry of Labour and Social Affairs		
MOP	Ministry of Planning		
MOT	Ministry of Trade		
MOWR	Ministry of Water Resources		
NDP	National Development Plan		
NFSC	National Food Security Committee		
NGO	Non-governmental organization		
NHDR	National Human Development Report		
NPRS	National Poverty Reduction Strategy		
PDS	Public distribution system		

Definition of terms

Food security. This situation exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

Child stunting. This indicates low height for age, reflecting a past episode or episodes of sustained undernutrition. It is analysed as the proportion of children under age 5 years who are stunted (that is, have low height for their age, reflecting chronic undernutrition).

Child wasting. This is low weight for height in children, which is generally the result of weight loss associated with a recent period of starvation or disease. In this report, child wasting refers to the proportion of children under age 5 years who have low weight for their height, reflecting acute undernutrition.

Undernourishment. This state, lasting for at least one year, is typified by the inability to acquire sufficient food and is defined as a level of food intake that is insufficient for meeting dietary energy requirements. For the purposes of this report, hunger is defined as being synonymous with chronic undernourishment. The report presents the proportion of undernourished people as a percentage of the population (reflecting the share of the population with insufficient caloric intake).

Undernutrition. This is the outcome of undernourishment and/or poor absorption and/or poor biological use of nutrients consumed, as a result of repeated infectious disease. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted), and deficient in vitamins and minerals (micronutrient malnutrition).

Underweight. This is represented by low weight for age in children and a BMI of less than 18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions.

Public distribution system. Government- sponsored programme used to make transfers of basic food and non-food (fuel) commodities to the entire Iraq population.

Social safety nets. These are essentially projects or programmes that transfer support to vulnerable groups facing exceptional circumstances and dangers such as economic crises, natural disasters and wars.

Triple burden of poor nutrition. The triple burden of malnutrition is characterized by the coexistence of undernutrition, micronutrient deficiencies, and overweight and obesity, or diet-related noncommunicable diseases, within individuals, households and populations, and across the life course.

The Government of Iraq has committed to the internationally agreed Sustainable Development Goals (SDGs), including SDG 2 which aims to “end hunger, achieve food security and improved nutrition and promote sustainable agriculture.” The National Strategic Review of Food Security and Nutrition was undertaken under the leadership of Dr. Mehdi Al-Alak, Secretary General of the Iraq Council of Ministers, to formulate a set of policies, institutional changes and investments to achieve SDG 2. An Advisory Committee comprising relevant government institutions helped guide the process and review the various proposed actions. Work was coordinated with the efforts of the National Food Security Committee, which was set up in February 2017, under the guidance of the Iraq Minister of Agriculture. The World Food Programme (WFP) provided help and support throughout the strategy formulation process.

The current situation: food and nutritional security in Iraq

Iraq has made significant progress on several human development and health indicators. Its per capita GDP has also been growing at a modest but steady rate of around 4 percent per year in constant prices. Overall food supplies are adequate – both in terms of calories and protein – with average dietary energy supply standing at 110 percent of adequacy level for the period 2016–2014, and an average protein supply of around 65 g per capita/day.

However, there continue to be challenges with respect to food security and nutrition. The number of undernourished people increased from 6.5 million in 2002 to 10.1 million in 2016. There was a high child wasting rate, with poor nutrition status among children aged 59–6 months and among women, particularly, those of reproductive age (CFSVA, 2016). Nutrition-related illnesses were also high, particularly among women and children. In 2012, the prevalence of anemia, iron deficiency and iron deficiency anemia in children aged 59–12 months was 21.6 percent, 14.4 percent and 6.8 percent, respectively. Younger children were more likely to be anemic, have iron deficiency, and iron deficiency anemia than older children. Obesity prevalence, an emerging issue affecting mainly adult groups in Iraq, poses major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. In 2008, the obesity prevalence in Iraq reached an alarming 22 percent for men and 36 percent for women.

The value of imports of the main food groups in Iraq declined from USD 2.985 billion in 2009 to USD 1.187 billion in 2015. However, the demand for imported food continues to grow, as local agricultural production fails to keep pace with population growth, which is 2.5 percent annually. Import dependency remains high for most of the country’s strategic agricultural commodities. For example, in 2015, import dependency reached 99.8 percent for sugar, 82.9 percent for oils, 15.6 percent for rice and 50.3 percent for dairy products, indicating that agricultural investments are needed in order to enhance domestic production and reduce import dependency.

Factors driving food and nutrition insecurity

Poverty, which is one of the main drivers of food insecurity and malnutrition, remains high. About 22.5 percent of Iraqis live below the national poverty line – estimated at Iraqi dinars (IQDs) 105,000 (USD 84) per month – with the proportion reaching 40 percent in some areas. In addition, another 30 percent of the population is extremely vulnerable with a high risk of falling into poverty and food insecurity.

Widespread government intervention in food systems also discourages the development of a competitive private agricultural sector, transparent markets and diversified smallholder farming systems. The

government pays high prices for some domestic crops, which distorts farmer incentives. Large feed subsidies are provided in the livestock sector, but imports remain high for livestock-based commodities, such as milk and poultry. Gender inequality and gender inequity remain critical issues due to the female role in nutrition and food security. The denial of equal learning opportunities impacts the ability of young girls and women to maintain independent and sustainable livelihoods. Low literacy and a lack of empowerment opportunities are driving high population growth, which is reflected in large family sizes, high economic dependency and a high proportion of children born to adolescent girls. High unemployment – 13 percent at national level, but 23 percent among youth in both rural and urban areas – also drives food and nutrition insecurity in Iraq. Other drivers include inefficient cash transfer programmes for the poor (43 percent of beneficiaries are not poor), lack of livelihoods and chronic poverty among internally displaced persons (IDPs) and disparities in income distribution.

Pillars for achieving SDG 2

In order to achieve SDG 2, the Government of Iraq intends to initiate actions under five pillars.

Pillar 1: Improving safety net instruments. The two major existing safety net programmes – the Public Distribution System (PDS) and Social Safety Net (SSN) – will be reviewed and merged. Key changes will include: better targeting with a strong focus on the poor; a move from physical supply to cash transfers or vouchers, where appropriate; and better monitoring and evaluation. The change will be phased in over a three-year period.

Pillar 2: Enhancing sustainable agricultural production. This pillar would include a medium-term (three-year) programme to revive agriculture in conflict-affected areas. There will also be a major five-year investment programme to address structural problems such as: poor and damaged infrastructure; limited agriculture and livestock support services; and the low technical and training levels of farmers. Improvements will also be made along the value chain, with the promotion of climate-smart agriculture; protection of natural resources, including land and water; and the reclamation of degraded land. Enhanced credit will be provided to farmers for diversifying to high value crop and livestock products.

Pillar 3: Addressing the triple burden of poor nutrition. This will be addressed through a nutrition-sensitive, integrated approach, including building awareness, especially among youth and women, of the importance of having: diversified and nutritious diets; seasonal and locally produced products to eat; access to clean drinking water and hygiene; and adequate food preparation and storage. Mother and child nutrition activities should be implemented at school level to: i) enhance health and nutrition education and community involvement; and ii) facilitate a number of basic services for children. A well-designed school feeding programme should be put in place with effective oversight and coordination. A special programme should address nutritional related issues in conflict-affected areas.

Pillar 4: Increasing employment, especially among youth and women. Actions will be launched to strengthen skills of youth and women through vocational training as well as more formal one- or two-year diploma programmes. An agriculture and rural investment fund will be established to help set up small and medium-sized businesses.

Pillar 5: Reforming marketing, trade and pricing policies. A review of the current trade and pricing policies will be conducted in order to identify potential gaps and reforms that, in turn, will allow the private sector to play a greater role in agricultural investment and production, trade, storage and marketing. In addition, the opportunities for benefits from coordinated trade policies with other national food security and investments programmes will be explored.

Costs

The implementation of the five action areas is expected to require an average annual investment of IQD 1,588 billion (USD 1.3 billion). The bulk of the costs would be for high priority repair and upgrading infrastructure for the agriculture sector. Other investment costs relate to: creating an efficient system for the monitoring and evaluation of the social safety net; creating awareness and addressing the burden of food insecurity; generating employment for youth and women; and reviewing trade and pricing policy review. In addition to investment costs, there also will be an annual recurrent cost of IQD 2767.0 billion (USD 2.3 billion) of which IQD 2386.2 billion (USD 2.0 billion) would be required to cover the operation costs of the Social Safety Net. In comparison, the present system costs USD 1.6 billion for the PDS and USD 1.2 billion for the SSN. It is anticipated that the government will cover a significant proportion of the investment costs, particularly for the repair and rehabilitation of agriculture and rural infrastructure. However, strong efforts will be made to involve the private sector – both domestic and international – through various public-private partnership programmes or joint ventures. In the case of recurrent costs, the USD 2 billion for the operation of the Social Safety Net would be borne by government – with funds mainly from the savings that will result from the reform and streamlining of the current system.

Oversight arrangements

Implementation of the Zero Hunger programme will be overseen by the committee formed and headed by the Secretary General of Council of Ministers.



Current situation of food and nutritional security in Iraq

1

**6.5 million to 10.1
million**

The number of undernourished people increased from 2002 to 2016.

2

**6–59 months
children & women**

High wasting rate, with poor nutrition status.

3

**21.6 percent, 14.4
percent & 6.8 percent,
respectively**

The prevalence of anemia, iron deficiency and iron deficiency anemia in children aged 12–59 months.

4

**22 percent for men &
36 percent for
women**

Major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer.

5

**USD 2.985 billion to
USD 1.187 billion**

Decline in the value of imports of the main food groups in Iraq from 2009 to 2015.

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Introduction

Background to SDG 2 Review in Iraq

1.1 Background to SDG 2 Review in Iraq

The Sustainable Development Goals (SDGs) are a set of 17 internationally agreed objectives that all countries, including Iraq, have committed to meet. Among the SDGs, SDG 2 envisages a world without hunger and food insecurity. Specifically, SDG 2 calls on UN Member States to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.”

With support from WFP, the Government of Iraq initiated preparation of this Zero Hunger Strategic Review (ZHSR), under the lead of Dr. Mehdi al-Alak, Secretary General of the Iraq Council of Ministers. The process was a consultative and country-led exercise that: provided a comprehensive analysis of the challenges Iraq faces in achieving SDG 2; identified gaps in policies and in-country institutional capacities needed to achieve the SDG 2 targets; and examined the adequacy of national and international resources for addressing food and nutrition security. The review identifies critical constraints, and presents relevant recommendations and cost estimates for achieving food and security nutrition by 2030. This, in turn, will inform the WFP Country Strategy and the UN Development Assistance Framework (UNDAF) 2020-2024.

The resulting ZHSR is coordinated with the current work of the National Food Security Committee. This Committee, set up by the Prime Minister in February 2017, operates under the guidance of the Minister of Agriculture. Its 11 members from both ministries and civil society are tasked with preparing a Strategy and Road Map for Food Security for Iraq that will inform the National Food Security Committee’s work on the national food security strategy.

The committee’s current work programme includes: strengthening the capacity of participating institutions; formulating a national food security policy or strategy; improving national food security information and early warning systems; and improving information for an evidence-based reconstruction of the agricultural sector.

While the government has a commitment to ensure that Iraq successfully achieves the SDGs by 2030, it cannot achieve this without the cooperation of other stakeholders, including community members. Thus, it has taken a multisectoral approach to achieving the SDG 2 targets on food security, nutrition and sustainable agriculture. The ZHSR provides proposals for eliminating food insecurity and malnutrition in Iraq, and suggests enabling conditions, policies, institutional changes, costs and other capacities, which support SDG 2 and its six underlying targets.

The overall objective of the ZHSR is to prioritize actions that will accelerate progress toward ensuring food security and enhanced nutrition, in line with SDG 2. It identifies the specific actions required to achieve this as:

- undertaking a comprehensive analysis of current food security trends, the nutrition situation and agricultural sustainability against SDG 2 targets.
- reviewing current food security, nutrition and agricultural sustainability policies being considered and undertaken in Iraq for eradicating hunger.
- determining the progress and achievements of current food security policies and programmes, and the adequacy of institutional setups and allocated resources.
- identifying the required policy and institutional gaps, as well as resources needed, to achieve SDG 2 objectives, and the goals or targets that are implied or established both at national and regional levels in Iraq.

The findings and recommendations of the ZHSR are intended to inform Iraq’s decision-makers and contribute to updating food and nutrition security policy so it will provide the framework for implementation of the ZHSR recommendations. The ZHSR will also contribute to National Development Plan, especially towards informing and involving development partners in the formulation and implementation of strategic plans.

1.2 Strategic review process, methodology and structure

In addition to providing financial assistance, the World Food Programme (WFP) in Iraq coordinated the ZHSR process in collaboration with the Office of the Secretary General of the Council of Ministers. The review was conducted by the International Center for Agricultural Research in the Dry Areas (ICARDA), which carried out a detailed situational analysis, analysed responses to this underlying situation, identified gaps and made recommendations.

The work on the ZHSR was initiated in January 2018 with a literature review by ICARDA. Subsequently, a team comprising experts from ICARDA and WFP worked in Iraq in February 2018.

The five-day mission was dedicated to: presenting and receiving endorsement of the literature review conducted by the ICARDA project team; defining a plan with the national team and preparing all the required documentation; interviewing key informants; and conducting an appraisal of the main issues and challenges, including taking actions and planning with WFP team in Iraq.

The outcome of this mission – an initial round of discussions among various technical experts from WFP, ICARDA, UN agencies, the World Bank and concerned ministries, combined with the findings of the literature review – suggested that action to achieve SDG 2 be taken under five pillars: Pillar 1: improve safety net instruments; Pillar 2: enhance sustainable agriculture production; Pillar 3: address the double burden of poor nutrition; Pillar 4: increasing employment, especially among youth and women; and Pillar 5: reform marketing, trade and pricing policies.

An initial meeting with the committee, headed by the Secretary-General of the Council of Ministers was followed by technical discussions of the five outlined pillars with several concerned ministries, the World Bank, United Nations Development Programme (UNDP) and the Food and Agriculture Organization of the United Nations (FAO), as well as the National Food Security Committee.

The February 2018 mission found a strong appetite for change and reform in government ministries related to hunger and food security. Senior staff members were keen to engage, and proactive in

making suggestions for reform. In part, this was driven by budget restrictions that are forcing changes in safety net programmes such as the Public Distribution System (PDS). It was also driven by a realization that moving to the next stage of recovery, particularly involving the private sector and attracting foreign investment, will require legal measures, institutions and policy changes. The change process was driven by a limited number of “champions for change”, and it was critical that key strategy documents and road maps could be prepared and adopted before the upcoming elections when the political and institutional setup could change. Given this background, it was proposed to complete the ZHSR prior to the elections in May 2018.

Accordingly, the next step was a second mission in March 2018, during which the preliminary results were shared with the concerned ministries, seeking their feedback and moving toward a tentative agreement on the broad recommendations. The ICARDA team presented a deeper level of details – including specific actions and their respective estimated implementation costs – under the five pillars. During this mission, a workshop was conducted with key stakeholders to validate the findings, with a particular emphasis on the recommendations and the identification of key strategic options. Based on the past status and trends, the presentation detailed the priority action areas and suggested costs.

The Advisory Board members provided several useful and constructive suggestions. Key members, such as the Chair of the National Food Security Committee, Assistant Representative to FAO in Iraq, the Ministry of Labour and Social Affairs (MOLSA) and the Ministry of Health (MOH), offered their help for the preparation of the final draft and suggested a review of all cited data, calling for it to be based, whenever possible, on national sources. These various components were drawn together into a synthesis document, which was distilled through various editions into this ZHSR.

A mixed methods approach was adopted to ensure that consultations with the concerned stakeholders were well grounded on a comprehensive literature review. Civil society representatives and representatives of the World Bank and United Nations agencies, including FAO, and a wide range of supporting documentation was collected.

The ZHSR consists of the following chapters.

Chapter 1 introduces the Zero Hunger Challenge and provides a background to the review, states the objectives, and outlines the review process and methodology.

Chapter 2 presents the country context and situational analysis of food security and nutrition situation, relating it to the factors driving food insecurity in Iraq, and the emerging concerns on progressing towards SDG 2. This section provides a baseline for Iraq's uptake of the Zero Hunger Challenge.

Chapter 3 provides an analysis of the policy and

response to food security and nutrition, with a particular emphasis on specific policies and programmes linked to the five pillars.

Chapter 4 provides an analysis of national responses to food security and nutrition, with a particular emphasis on identifying gaps, opportunities, financial needs and specific action recommendations for each one of the five pillars.

Chapter 5 builds on the strategic gaps in national responses, addressing key challenges, suggesting recommendations and indicating necessary institutional arrangements and coordination mechanisms to codesign a road map for the way forward.

THE ZHSR

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CHAPTERS

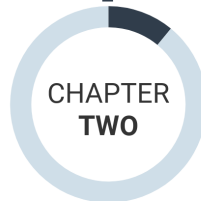


INTRODUCES

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CHAPTER
ONE



CHAPTER
TWO



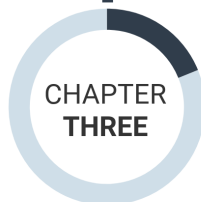
PRESENTS

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PROVIDES

an analysis of national responses to food security and nutrition, with a particular emphasis on identifying gaps, opportunities, financial needs and specific action recommendations for each one of the five pillars.



CHAPTER
THREE



CHAPTER
FOUR



PROVIDES

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BUILDS

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CHAPTER
FIVE



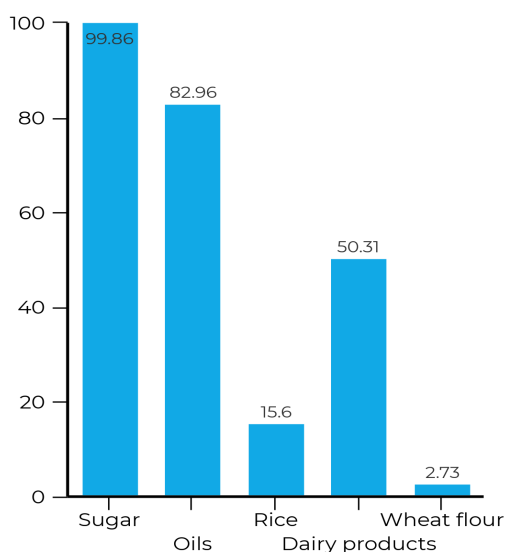
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**Analysis of the Food and
Nutritional Security**

2.1. Country context: Recent progress on food security and nutrition in Iraq

2.1.1. Agriculture, food and nutritional security

The assessment of total food supplies in Iraq in 2015, including both domestic production and imported commodities, found low yield and production rates, despite the size of the area planted with crops, vegetables and fruits. Consequently, the 2015 food balance for Iraq revealed high rates of import dependency for a number of food commodities (AOAD, 2016). For example, import dependency reached 99.86 percent for sugar, 82.96 percent for oils, 15.60 percent for rice, 50.31 percent for dairy products, and 2.73 percent for wheat flour. This clearly indicated that, after accounting for domestic food production, the availability of sufficient aggregate food supply in Iraq depended substantially on its ability to finance food imports to cover the gap, which in 2015 saw a 2.1 percent ratio of food exports to imports. The demand for imported food has continued to grow, with local agricultural production failing to keep pace with population growth, which is approximately 2.5 percent annually. This situation could be further aggravated in the future, due to factors such as continued drought and the noticeable impact of climate change (Annex II: Table 2).



Import Dependency for a Number of Food Commodities in Percentage

Impact of climate change on agroecosystems.

Climate change is expected to increase Iraq's mean annual temperature by 2°C and decrease its mean annual average rainfall by 9 percent by 2050, leading to frequent heat waves and droughts. Long-term climate change analysis with respect to growing season precipitation found a shift in the onset of the growing season and a 17 percent reduction in precipitation that has resulted in less overall vegetation cover and lower productivity. The spatial pattern of the long-term linear regression trend over a 35-year period (1980–2015) indicates an average delay of 1-2 days per year to receive 20 percent of growing season rainfall to start sowing on time for the period 2000–2015. The anomalies of the vegetation cover and decadal dynamics of the evapotranspiration show the decline of the agricultural productivity, with a continued loss of active agricultural area and reduction in productivity. Prolonged droughts have taken a toll on rain fed crops, while decreased flow of the Euphrates and Tigris Rivers in Iraq has deteriorated water quality and further increased salinity in irrigated area, leading to substantial decline in crop productivity as well as the net growing area (illustrated in Annex II: Map 1).

Land degradation and salinity. Losses in agricultural livelihoods caused by land degradation and salinity have been substantial in the last two decades and are expected to continue increasing as a result of climate change and increasing aridity in Iraq. With current salinity levels, it is estimated that about USD 300 million per year is lost due to salinity effects. Such losses are enormous, particularly in dry areas affected by irrigation-induced salinization. The decrease in yields resulting from salinity of the Tigris and Euphrates has dropped production from 40 to 65 percent below levels attainable under improved management practices. Reducing soil salinity could double the area cropped in the irrigation project areas from the current 30 percent, which could increase agricultural production by approximately USD 3.2 billion annually (ICARDA, 2012). As an example, in Dujaila, a remote-sensing-based analysis showed that a salinity-induced degraded landscape had been restored to a highly productive system by using the right technology

and investment (ICARDA, 2012; 2014) (illustrated in Annex II: Map 2). Economic impact of climate change. According to results obtained from the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT), by 2025, average wheat productivity is expected to increase under the current level of salinity, especially in irrigated areas, but not to significantly higher levels – 2.6 percent in rain fed areas and 12 percent in irrigated areas. This suggests that current wheat yields will certainly help to overcome the negative effects of climate change, but will not significantly enhance domestic wheat production in Iraq. Furthermore, aside from its impact on food supply and import dependency, such a slow increase will not have an effect on incomes in rural areas.

2.1.2. Factors driving food and nutritional insecurity

Poverty is one of the main drivers of food and nutritional security, and remains high. About 22.5 percent of Iraqis live below the national poverty line of IQD 105,000 (USD 84) per month. Poverty is much higher in certain parts of the country, mainly rural areas. Results from the Poverty Reduction Strategy (2018–2022) suggest that poverty in some rural areas can exceed 60 percent, reaching, for example, 73 percent in Misan, 64 percent in Al Mouthanna, 61 percent in Thi-Qar and 60 percent in Al Qadisia. Moreover, in the ISIS-affected governorates, the economic, social and security disruptions are estimated to have contributed to increasing poverty rates to above 40 percent. According to the latest Comprehensive Food Security and Vulnerability Analysis (CFSVA, 2016), 53 percent of the population is vulnerable to food insecurity.

Rural areas are home to 30 percent of Iraq's population of which 50 percent are poor (CFSVA, 2016). In 2016, agriculture accounted for only 5.1 percent of GDP (WB, 2018). Low rural productivity and incomes reflect poor agriculture yields which dropped from 2 t/ha for cereals in 2013 and 2014, to 1.56 t/ha in 2016, with an overall average of 1.38 t/ha from 2008 to 2012 (AOAD, 2016). This is due to poor infrastructure, decreasing water supplies, increasing land degradation and fragmentation, poor marketing channels, loss of land to urbanization and climate change. There are also only limited opportunities for off-farm employment due to a lack of processing, transport and storage facilities.

Widespread government intervention in food systems also discourages the development of competitive private sector agriculture, transparent markets and diversified smallholder farming systems. The government pays high prices for domestic wheat. The current purchasing price of IQD 560,000 per tonne (USD 487) is below the 2016 procurement price of IQD 700,000 but still well above international prices. In contrast, prices for other crops, such as fruits, vegetables, dates and rice, remain market driven and are not competitive with wheat. In the livestock sector, large subsidies are provided through the State Company for Animal Resources (SCAR) for imported hatching eggs, chicks, maize, feed, medicine and equipment. Despite these subsidies, livestock products, particularly dairy products and poultry meat, are the highest in terms of import value.

Gender inequality and gender inequity remain critical issues due to their roles in nutrition and food security. The Gender Inequality Index (based on reproductive health, empowerment and labour market participation) is 0.56 in Iraq overall, but lower in the Kurdistan region, where it is 0.48 (MEC, 2018). Women are disadvantaged by low literacy rates, especially in rural areas. Less than 50 percent of rural women aged 15–24 are literate, compared with 72–80 percent of women in urban areas. Other factors driving food and nutritional insecurity in Iraq include: unemployment, which averaged 12.7 percent in 2017, but reached 22.8 percent among youth in both rural and urban areas (Statistica, 2018); inefficient cash transfer programmes for the poor in which 43 percent of beneficiaries were not poor; a lack of livelihoods and chronic poverty among IDPs; and disparities in income distribution, with the poorest quintile receiving just 7 percent of income and the richest quintile receiving 39 percent (WB, 2014).

2.2. Current status of food security and nutrition in Iraq

Despite having made significant progress on several human development and health indicators, Iraq continues to struggle with respect to food and nutritional security. The Human Development Index rose from 0.57 in 1996 to 0.65 in 2015. This put the country in the medium human development category – 121 out of 188 countries. Per capita GDP in Iraq has been growing at a modest but steady rate, increasing around 4 percent per year

in constant prices during the last decade – from USD 4,980 in 2007 to USD 5,695 in 2016 (constant 2010 USD). The number of undernourished people increased from 6.5 million in 2002 to 10.1 million in 2016 (CFSVA, 2016). The assessment of the progress of food and nutritional security in Iraq suggests the following.

- **Food availability.** Domestic food availability in Iraq is dependent on local production and the import of crops, livestock and fish products. National-level food availability has been on the rise due to increased domestic food production and importation. The dietary energy supply adequacy reached 110 percent for 2014–2016. The average protein supply reached 65 g/capita/day for the period 2011–2013, during which the share of dietary energy supply derived from cereals, roots and tubers was 63 percent, and the average supply of animal protein was about 12 g/capita/year.
- **Domestic food production.** With agriculture's relatively small – 5.1 percent – contribution to GDP in 2016, Iraq's agricultural production is almost solely for the domestic market, and imports far exceed exports. Wheat and barley account for almost half the cultivated land, with 31.4 percent and 15.7 percent, respectively. In 2015, an estimated 3.2 million tonnes of wheat were harvested, which was down from 2014 but 8.4 percent higher than the five-year average, largely due to favourable weather conditions. With respect to cereals, in 2018, the National Food Security Committee (NFSC) estimated cereal consumption at 46.8 g/capita/day.
- **Food imports.** The staple food (wheat) and other supplementary foods are normally imported when they are in short domestic supply due to crises, such as droughts. In the year 2015, the main food commodities imported included wheat and flour (USD 128.1 million), chicken (USD 110.1 million), sugar (USD 306.5 million) and eggs (USD 53.4 million). It is projected that by 2024, Iraq will require 4.9 million tonnes of wheat imports annually (RFSAN, 2016).
- **Access to food.** The availability of adequate food at the national level does not necessarily ensure economic and physical access to food at the household level. Per capita income has registered substantial increases over the last

14 years or so, increasing from 1391609 USD in 2004 to USD 5,165 in 2017, growing at an average annual rate of 10.62 percent at current prices.

- **Nutrition.** The prevalence of undernourishment was about 27.8 percent during the period 2014–2016. The depth of the food deficit per capita per day during the same period was around 235 kilocalories (kcal), up from 224 kcal per person per day in 2015, a change of 4.91 percent. Finally, Iraq's dietary energy supply adequacy increased from 101 percent in 2002 to 110 percent in 2016, growing at an average annual rate of 0.62 percent.

2.3. Emerging concerns on progressing towards SDG 2

Despite recent progress, food and nutrition insecurity outcomes are reflected in major immediate concerns, high levels and disparity of malnutrition, and micronutrient deficiencies. The causes for these current and emerging concerns are multiple.

2.3.1. Current challenges

- **Undernutrition.** Iraq had a 22.8 percent prevalence of undernourishment in 2015, down from 23.2 percent in 2014. Its food deficit level was 235 kcals per person per day in 2016. Between 2006 and 2011 stunting increased from 21 to 25%, underweight from 7.6 to 8.5% and wasting from 5 to 7% in children under 5 years of age. In all cases the rates are slightly lower in the Kurdistan region.
- **Micronutrient deficiency.** Recent statistics indicate that the prevalence of anemia for women between ages 15 and 49 is 35.5 percent among childbearing women, 37.9 percent for pregnant women and 25.8 percent for nursing women. Vitamin D deficiency rates for women aged 15–49 years are high at 74.5%, along with folate deficiency at 19%. The latter in pregnant women leads to neural tube defects in babies. Among young children vitamin A deficiency is 15% and anemia at 21.6%.
- **Obesity and non-communicable diseases.** In Iraq, nearly 19 percent of children age 5 and older are overweight, with 6% obese. Among

adults 37% of men and 31% of women are overweight, and of these more than 26 percent of men and 38% of women are obese. These are significant risk factors for non-communicable diseases including cardiovascular, cancer and diabetes. In 2016, for the population between ages 25 and 65, high cholesterol affected 37.5 percent and high blood pressure affected 40.4 percent. The probability of dying of cardiovascular disease, cancer and/or diabetes between the ages of 30 and 70 in 2016 was 21.3%.

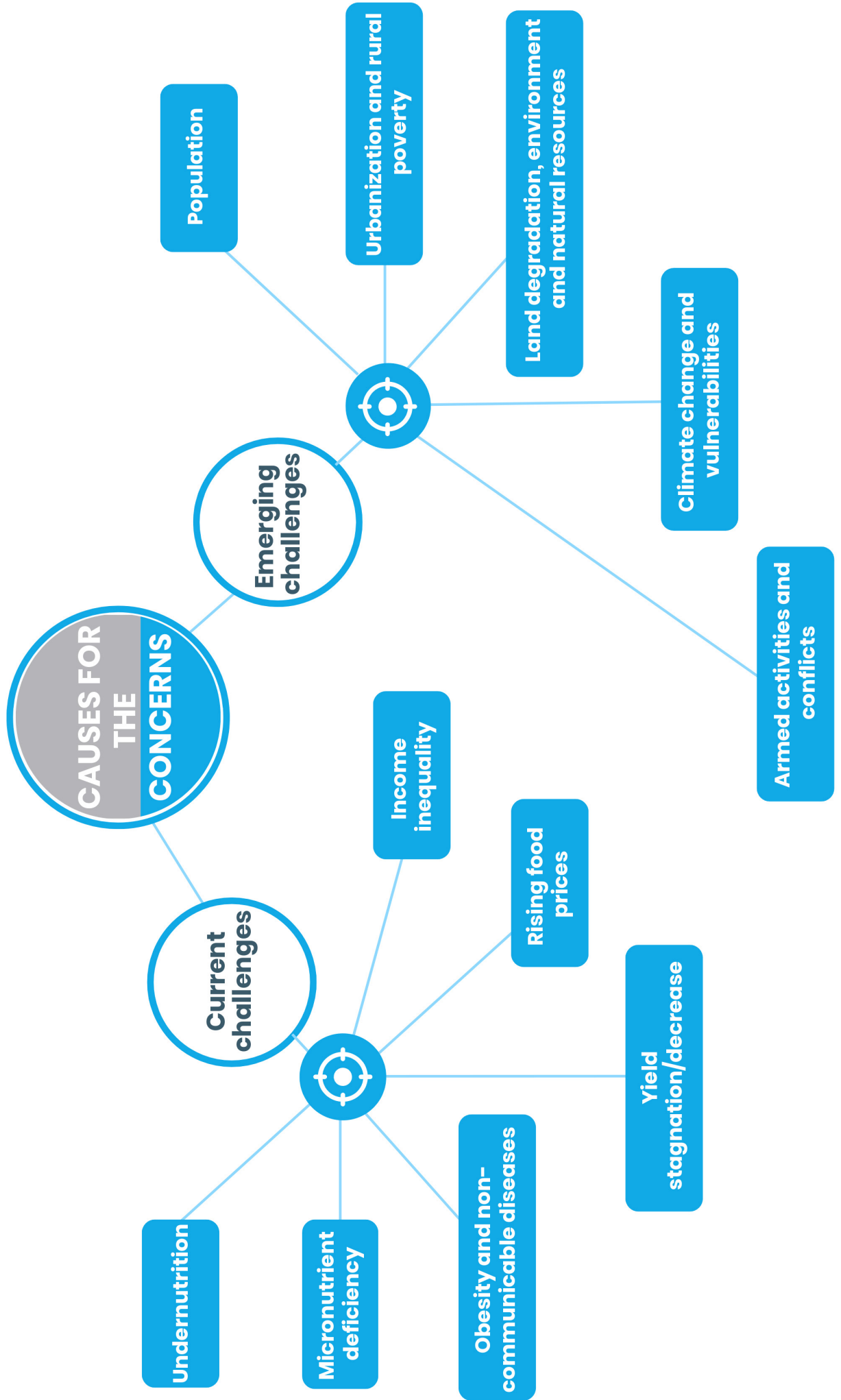
- **Yield stagnation/decrease.** In 2014, the cereal yield for Iraq was 2 t per hectare. Although yields have fluctuated substantially in recent years, they tended to increase through the 1965–2014 period. However, they are still below their potential.
- **Rising food prices.** The nominal prices of all food commodities show an increasing trend. On the demand side, this is due to increasing food demand related to the growing population and rising incomes. On the supply side, fluctuations in domestic production as a result of drought have been sources of short-term price variations.
- **Income inequality.** For the period 2010–2014, Iraq experienced economic growth, reflected in its high GDP. In 2017, economic growth exceeded 5 percent. However, despite growing household incomes, income distribution has not been equitable (CFSVA, 2016).

2.3.2. Emerging challenges

- **Urbanization and rural poverty.** Urbanization can affect all of the four dimensions of food security: availability, accessibility, utilization and stability. Poor land use planning, increased population, and expansion of and overcrowding population in urban areas (in 2017, 69.72 percent of Iraq's total population lived in urban areas and cities) suggest a weak relationship between growth and well-being. In addition, 8 percent of housing is considered precarious, and 10 percent of the population lives in precarious housing. Urbanization also affects the composition of food demand. Since eating habits in cities are different from those in rural areas, outmigration from rural areas is expected

to bring reduced demand for staple foods such as wheat, rice and oil.

- **Population.** Population trends affect the four dimensions of food security. Rural people make up 30 percent of the total population, and 50 percent are considered poor (MoP, 2018). In addition, the average family size is estimated at 6.4 and the population continues to grow by approximately 2.7 percent each year, leading to increased demand for food.
- **Land degradation.** environment and natural resources. The Government of Iraq reports that 28 percent of the country's land is arable, but 39 percent of the country's surface has been affected by desertification, an additional 54 percent is under threat, and there is a 5 percent annual loss of cultivated lands due to salinization and water logging. Of the 3.5 million hectares equipped for irrigation (Lucani and Sade, 2012), approximately 1.5 million hectares have been moderately salinized, while 0.5 million hectares have levels of salinity severe enough to prevent farming.
- **Climate change and vulnerabilities.** About 31 percent of Iraq's surface is desert. In addition, inappropriate farming practices and mismanagement of water resources have exacerbated the effects of an already dry climate and contributed to increasing rates of desertification. Declining fertility, productivity, high soil salinity, erosion and the extension of sand dunes are pervasive problems.
- **Armed activities and conflicts.** According to a 2016 survey, Iraq lost 40 percent of agricultural production and several types of damage have taken place as a result of the conflict with ISIS (FAO, 2018). Accounts from IDPs and damage assessments of areas liberated from ISIS control suggest large-scale destruction associated with the group. At the same time, there is a combination of short-term and long-term consequences associated with the conflict that affect food and nutrition security – short-term consequences include interruption of cropping cycle productions, shortages of irrigation water and agricultural inputs, and long-term consequences include shortage of food availability and disturbance of income-generating activities.





3

**Policy and Programmatic
Response to Food Security
and Nutrition in Iraq**

3.1. Background

Policies and strategies focused on promoting food security and addressing malnutrition in Iraq have consisted of poverty reduction programmes, direct food assistance programmes, vocational training programmes, and integrated maternal and child health and nutrition programmes. These programmes are mandated under specific line ministries including the Ministry of Planning, Ministry of Labour and Social Affairs, Ministry of Trade, Ministry of Health, Ministry of Agriculture and others. This chapter reviews major gaps of current programmes compared with SDG 2 targets.

3.2. Institutional framework

Three national strategies have significant schemes and programmes related to food and nutritional security: the National Nutritional Strategy, National Food Security Strategy and the National Poverty Reduction Strategy.

National Nutritional Strategy 2012–2021. This strategy was developed in collaboration with the Ministry of Health, the Nutritional Research Center and several concerned ministries with the support of World Health Organization and UNICEF. The objective of the strategy is to improve the population's nutritional status throughout the life cycles. It focuses on five priority areas: i) malnutrition; ii) micronutrients; iii) obesity and non-traditional diseases; iv) food security; and v) food safety. The main recommendations from this strategy are to enhance the allocation of financial and human resources to address the double burden of nutrition; strengthen monitoring and surveillance systems to monitor progress in achieving the Sustainable Development Goals; and enhance public hygiene practices.

National Food Security Strategy. The National Food Security Committee (FSC) was established in 2017. Under the auspices of the Ministry of Agriculture, the involvement of 18 organizations and ministries, including the Ministry of Trade, Ministry of Water Resources, Ministry of Health

and Ministry of Planning, in addition to FAO, the aim of this Committee is to update and further develop the Iraq Food Security Strategy. This strategy, considered a high priority for the government, has a roadmap articulated around four points: i) enhance the FSC; ii) draft the National Food Security Strategy; iii) develop a national strategy early warning system; and iv) enhance agricultural security for self-sufficiency.

National Poverty Reduction Strategy 2018–2022. Launched in January 2018 under the auspices of the Ministry of Planning and with the support of the High Committee for Poverty Reduction Strategy and the World Bank, this strategy builds on its predecessor (2012–2015) and provides a road map for specific interventions at different levels, including recommendations for financial commitments. The total budget estimated to implement the planned actions is USD 3.3 billion, with USD 2.0 billion expected to come from international grants.

3.3. Policy and programmatic responses to food security and nutrition

3.3.1. Policy and programmatic responses to Pillar 1: Improving safety net instruments

Varieties of specific proposals have been suggested and implemented since the end of the 2003 war, with the objectives of revising and reforming the safety net instruments, including the PDS system. The first attempt, which called for reforming or terminating the PDS system after 2003, failed to sway public opinion against the system.

At that time, other proposals were made to replace the PDS ration with a cash alternative to be provided to households benefiting from the system. In 2005, the government established a ministerial committee to consider replacing the PDS ration with a cash transfer, reducing the number of items but keeping those that had the highest value both in monetary and dietary terms. Another alternative, initiated by the Ministry of Trade (MoT), called for removing public sector employees whose monthly salaries

were above IQD 1.5 million (USD 1,262) from the list of beneficiaries. However, this was insignificant, as it impacted fewer than 1 percent of beneficiaries. In 2009, another committee, headed by the Secretary-General of the Council of Ministers, developed recommendations for: i) targeting the poor; ii) amending the food basket to only basic five items; and iii) maintaining a centralized administration for the PDS system but subsequently increasing the role of the local administration in all processes. In 2017, MoT initiated a new experimental initiative focused mainly on improving the efficiency of the PDS system and reducing costs involving some 34,000 households in Al Najaf by introducing electronic cards. The experiment is managed by the private sector but under the control of the MoT and, according to MoT staff, the initiative seems promising.

In Iraq, the SSN programmes and interventions have targeted improvement of income-earning capacities and the accumulation of human capital. In 2005, the Ministry of Labour and Social Affairs established the social protection network to serve as a mechanism for the redistribution of income to the poor. However, the network quickly became vulnerable to the unjust or careless application of the beneficiary selection criteria, which has led to the exclusion of many poor people.

In 2014, Iraq suspended its Social Welfare Act No. 126, which had been in effect since 1980, and enacted the more comprehensive Social Protection Law No. 11, which offers greater scope and more stable institutions, and has proven to be a gateway to revolutionizing the social protection system in Iraq. The scope of the new law was influenced by successful social protection systems in developed countries and avoids the errors of previous social protection experiences in Iraq. It targets Iraqi families and individuals as well as foreign nationals residing in Iraq who live below the poverty line and, if needed, allows for the redefinition of its target groups without having to go through a legislative authority.

3.3.2. Policy and programmatic responses to pillar 2 : Enhancing sustainable agricultural production

The enhancement of agricultural production through sustainable yield increases is a highly

complex issue and depends on many factors, including technical, policy, institutional and other structural attributes of the national agricultural production systems. Comprehensive national programmes embedding coherent and well-coordinated suites of different investments will be needed to further improve productivity and boost domestic production. These investments should include consideration of: i) input and output market effectiveness; ii) investments in public goods provision which are directly and indirectly linked to improving market access and sustaining value chains; iii) institutional capacities (including administration) for programme development, implementation, monitoring and impact assessment; and iv) natural resource protection, especially water and soil, through better investments in land development, rehabilitation, reclamation, irrigation and drainage.

The Iraqi government is doing well in terms of the development of agricultural national development plans (NDPs). The vision projected by the NDP (2018– 2022) considered, for example, the different attributes of productivity enhancement through a variety of investments. The NDP actually proposes:

- establishing an investment policy to focus on social and economic infrastructure, land reclamation, research and genetic improvements of plants and livestock, agricultural and veterinary services, and on maintaining biological diversity by establishing protected areas with concomitant integrated rural development.
- supporting private sector investments by developing adequate financial markets and credit policies, the creation of joint public/private sector enterprises, infrastructural facilities and technical assistance.
- bringing attention to the problems of international water rights and internal water allocation, introducing modern irrigation methods, and rehabilitating and maintaining the irrigation and drainage infrastructure.
- encouraging graduates of agricultural colleges and institutes, colleges of veterinary medicine, and vocational agricultural schools to establish businesses and agricultural enterprises for job creation in rural areas, taking advantage of Law No. 24/2013.

- establishing local associations of small farmers or agricultural cooperative societies for the provision of agricultural extension services, such as marketing, finance, uses of water, maintenance and agricultural mechanization, warehouses, cold storage and transportation in rural communities.
- establishing training programs for poor farmers on climate-change-responsive agricultural and irrigation techniques.
- over nutrition mentioned in national development plans and economic growth (2018–2022).

3.3.4. Policy and programmatic responses to Pillar 4: Increasing employment, especially among youth and women

For all Iraqi boys and girls, the right to work, equal opportunity, and engagement in social and political activities are essential components of the development process. This right is emphasized in Article 22 of the 2005 Iraqi Constitution. Iraq national efforts to tackle youth unemployment have focused on enhancing opportunities and responding to challenges related to youth development through:

- National Employment Policy 2010–2014.
- National Development Plan 2018–2022.
- National Youth Strategy 2013–2020.
- National Human Development Report (NHDR) 2014.

These policies have provided a promising foundation for strengthening Iraq's youth capacity, especially marginalized youth, in an attempt to transform the government's role into a constructive one that realizes the potential of youth empowerment. However, persisting high unemployment rates and low prospects for decent jobs still put many young people at risk of falling into a spiral of violence (Cramer, 2011). In addition, the high unemployment rate of educated youth highlights the need to rethink the way education is delivered, so that it also provides entrepreneurship skills.

The main providers of the Technical and Vocational Education and Training (TVET) sector in Iraq are the General Directorate of Vocational Education (GDVE) in the Ministry of Education, the Foundation of Technical Education, and the Ministry of Labour and Social Affairs (MOLSA). GDVE is responsible for vocational schools, offering training and equipment to secondary schools, through grade 12, while the Foundation of Technical Education of the Ministry of Higher Education and Scientific Research is in charge of technical education at higher levels. The Directorate of Employment and Training of MOLSA has the mandate to carry out

3.3.3. Policy and programmatic responses to Pillar 3: Addressing the triple burden of poor nutrition

In an effort to improve the nutrition and health of Iraq's 39.7 million people, the Ministry of Health Nutrition Strategy 2012–2021 sets a ten-year vision and plan to improve the nutritional status of all Iraqis, especially children. It aims to define a framework through which existing technical, human and financial resources can be mobilized to ensure that the health and nutrition status of all Iraqis is considerably improved. Its main objectives include: i) reviewing and updating of national policies, strategies and legislation; ii) establishing professional nutrition education in schools and universities; iii) reducing prevalence of wasting and stunting among children under 5; iv) reducing the prevalence of obesity among all age groups; v) promoting nutritional health and providing counseling to people at the community level; vi) reducing the prevalence of micronutrient deficiencies; vii) enhancing availability of safe food for all age groups; and viii) developing and adopting monitoring, evaluation and surveillance plans.

Additional Iraq nutrition policy and legislative provisions in place include:

- national implementation of the International Code of Marketing of Breastmilk Substitutes (2014).
- maternity protection, Convention 183 (2011).
- wheat fortification legislation (2015).
- undernutrition mentioned in national development plans and economic growth strategies (2018–2022).

the training and further education of unemployed youth and adults. It has access to Skill Centres that offer nonformal training in secondary schools through grade 12, beyond the formal educational system under the Ministry of Education. Additional measures adopted by the government include the adoption of temporary contracts, which are aimed at reducing unemployment rates. In addition, Iraq has employment policy and provisions in place:

- Iraqi Labour Code (draft), which was adopted at the national level in 2015, following the 2011 National Employment Policy.
- Technical Assistance Framework agreed between the ILO and the MOLSA of Iraq, which focuses on job creation through private sector development, broadening social security coverage, freedom of association, social dialogue, the implementation of the National Employment Policy, actuarial studies and applying international labour standards.

3.3.5. Policy and programmatic responses to Pillar 5: Reforming marketing, trade and pricing policies

Trade policies of agricultural commodities relate to market and non-market instruments, which are being used to regulate food markets. Food markets need to be highly efficient and transparent, with effective control of food price inflation.

A very small increase in imports or exports, or extraordinarily good or bad weather can cause dramatic changes in prices (Dawkins, 1999). Governments have attempted to insure against extreme price fluctuations related to unpredictable environmental factors, technological and policy innovations, and other causes of uneven supply. Land set-asides, import and export controls, supply management and price floors are typical of the kinds of measures that governments take to keep prices within acceptable ranges. The storage of reserves is another effective means of smoothing supply, demand and price variations.

The Ministry of Trade (MoT) remains the main player in Iraq's agricultural commodities markets. It is the main importer of major strategic commodities, such as wheat, rice, vegetable oil and pulses, which continue to be the country's major imports.

MoT monopolizes the import of some these products despite the fact that the import market is open to private sector involvement. This can cause local distortions when MoT gives subsidies for local storage and distribution, through PDS, which, in turn, pulls prices down on local markets, and demotivates their importation by the private sector.

Although the government is well aware of this problem, its markets have not fully opened up to the benefit of free trade, which has direct and indirect impacts on both producers and consumers. The vast support that the government gives to consumer markets has created a bias at the production level.

3.4. Gaps in policy and programmatic responses

Despite the multitude of different policies and programmes being implemented, the food security and nutrition objectives of the country are yet to be achieved due to the fragmented nature of the approach, insufficient coordination among the institutions, and the absence of a central theme.

SDG 2 has a series of interrelated components, which include improving safety net instruments (PDS and SSN), enhancing sustainable agricultural production, addressing the triple burden of poor nutrition, increasing employment, especially among youth and women, and reforming marketing, trade and pricing policies.

3.4.1. Common gaps in policy and programmatic responses

Inadequate resources support food and nutrition security. Although the outlined programmes attract the required attention from decision-makers and concerned stakeholders, the resources (including finance and human resources) intended to support the effective implementation of the food and nutrition security programmes remain inadequate. Funding is thinly spread in terms of programmes and across geography. Even within programmes, funding seems to be skewed towards security issues, with limited funds earmarked for development expenditure programmes, such as health and education.

Ineffective institutions to deliver food and nutrition

security. The ZHSR found that existing policies supporting food and nutrition security in Iraq are sufficient to enable Iraq to achieve SDG 2. However, implementation remains weak, and when implementation is taking place, the practice is actually different from what is articulated in the policies. This is due to the reduction of funding during the last decade and the lack of an effective M&E system set up with clear indicators to monitor and assess the progress of these programmes.

3.4.2. Specific gaps in policy and programmatic responses

3.4.2.1. Gaps in improving safety net instruments

A large gap exists between social protection requirements and the state's ability to satisfy them. As Iraq's vulnerable population expands across demographic, economic and political lines, social protection institutions remain limited in their ability to respond to such increases.

- Iraq's social protection system is challenged with regards to its ability to expand vertically, by increasing the target population, as well as horizontally, by increasing the risks covered by social protection programmes.
- Iraq is limited by its lack of clear-cut policies and mechanisms that ensure the inclusion of workers in the private sector. The private sector is not regulated by current social protection laws and continues to evade its financial obligations as part of the system.
- Iraq's lack of a national strategy for social protection has led to a gap in the realization of the needs of its population in rural areas, where poverty and malnutrition abound.
- Iraq's social protection institutions currently use traditional storage systems, storing data manually and using the individuals' names as the primary identifier. This low level of computerization only increases the possibility of human error.

3.4.2.2. Gaps in enhancing sustainable agricultural production

In terms of enhancing sustainable agricultural production, it is necessary to recognize the gaps between required policies and programmatic responses.

- Agricultural commodities have large yields gaps in relation to yield potential.
- The agricultural sector has suffered significant damage and loss, with damaged tools, machinery, greenhouses and storage facilities.
- The seed sector generally performs poorly, due to poor seed varieties, poor seed distribution system, and dominant informal seed system.
- Weak and ineffective institutions are tasked with introducing or overseeing better coordinated policies among the involved agricultural and even nonagricultural administrations, and supporting development of appropriate farmers' organizations and other actions for market integration.
- Extension and service delivery systems are ineffective.
- Low investment is found in rain fed areas, where the majority of crops are produced.
- High levels of post-harvest losses are found throughout the value chains of major commodities.
- Fertile arable land areas are decreasing – dropping from 12 percent arable in 2005 to 7 percent in 2012.
- Fruit and vegetable sectors have a great potential for further development. The country can rely on the fruit and vegetable markets, and on local production to further position these sectors to contribute to in-country food security, while also taking advantage of them as high value added and commercially oriented sectors.
- A comprehensive water management system and water master plan is absent.
- Livestock production for both meat and milk is not provided enough support, given its potential to increase farmers' income and ultimately improve their food security and nutrition.

3.4.2.3. Gaps in addressing the double burden of poor nutrition

- Nutrition-sensitive agricultural interventions address the food security and adequate resources issues, which are underlying determinants of malnutrition and development at the household and community levels, especially impacting women and caregivers. There is significant scope for enhancing these interventions. Their positive impact on women's social status and empowerment may, in turn, have a positive impact on family and community nutrition.
- Schools should give more attention to the importance of diet and nutrition. In particular, significant investments are needed to promote schools as a point of entry to provide basic needs to all Iraqi children, including their access to proper nutrition, sanitation and health care.
- Nutrition-awareness programmes and national policy that promotes social advertising of the importance of healthy nutrition habits can increase understanding of the benefit of eating seasonal and locally produced products, and undertaking physical activity.
- A monitoring and evaluation system (M&E) would be extremely helpful in measuring the impact of school meal plans and ensuring that progress is being made toward improved nutrition.

3.4.2.4. Gaps in increasing employment, especially among youth and women

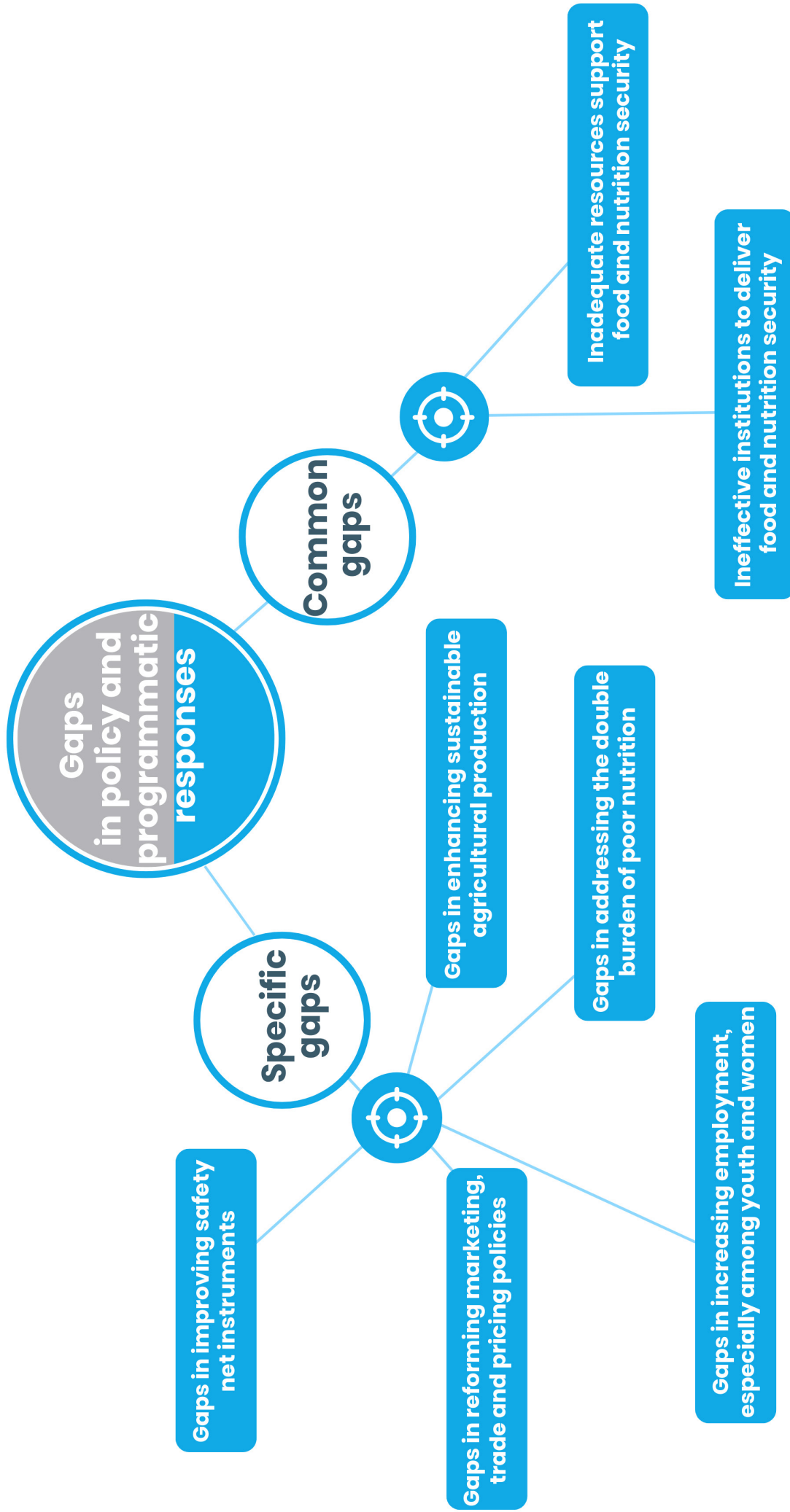
- The adoption of short-term policies to alleviate income poverty by absorbing some of the openly unemployed into part-time marginal jobs has

resulted in underemployed persons. Part-time and temporary work is also usually associated with lower wages and limited training opportunities or career prospects.

- Unemployment is primarily observed within undereducated groups. The higher the educational attainment, the greater the likelihood of having access to a secure, full-time job.
- There is a lack of an institutional framework to organize, regulate and ensure the quality and the coordination of training interventions and programmes.
- There is a significant gap between the needs of the labour market and how well the TVET institutions are addressing those demands in the way they train new workers.
- The gender pay gap and the absence of protection and security for women's labour in agriculture are hugely exclusionary.

3.4.2.5. Gaps in reforming marketing, trade and pricing policies

- Despite relatively high potential, Iraq's agricultural production is limited by the inefficiency of internal market mechanisms impacted by market failures, such as the price volatility of agricultural commodities, import inflation, faulty value chains and lack of employment opportunities.
- Gaps remain between good practices of trade policies and programmatic responses.
- Markets lack transparency and the implementation of equitable value distribution.





4

**Gaps in the food security
and nutrition response**

Despite its achievements, as presented in Section 2.2, a number of major concerns remain in terms of food security and nutrition.

Therefore, in order to achieve SDG 2, the Government of Iraq intends to initiate actions in five areas: i) improving safety net instruments, ii) enhancing sustainable agricultural production, iii) addressing the triple burden of poor nutrition, iv) increasing employment, especially among youth and women, and v) reforming marketing, trade and pricing policies.

Within this context, this chapter presents a comprehensive analysis that looks at past trends, current status and issues, priorities, and financial needs for each one of these actions for the coming period, and also makes specific action recommendations for each of them.

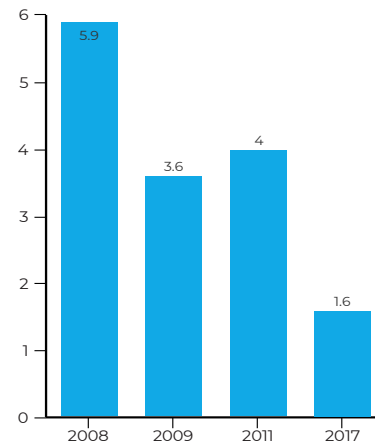
4.1. Pillar 1: Improving safety net instruments

4.1.1. Background

According to the literature review and consultations with key ministries, it is clear that the social transfer system in Iraq does not address food insecurity.

The PDS aims to cover almost the entire population but faces challenges, such as the high costs of logistics and the operating costs of making delivery for food basket items. It also faces the challenge of large variations and decreases in funding.

Its budget was reduced from USD 5.9 billion in 2008 to USD 3.6 billion in 2009, increased to USD 4 billion in 2011 and was at USD 1.6 billion in 2017, which represented less than 4 percent of the annual operating expenditures of the federal budget. Although the budget restriction for the PDS has led to an inability to meet commitments, it has also created a strong willingness to make the system more effective and efficient through improved targeting.



PDS Budget From 2008 to 2017 (USD Billion)

In addition to the PDS system, the national Social Safety Net (SSN) programme – managed by the Ministry of Labour and Social Affairs – provides income support to approximately 1.1 million families.

These are mainly poor families and those who meet certain criteria, such as having a disability. Despite the significant role assigned to the SSN in the National Poverty Reduction Strategy (NPRS), much improvement is still required in terms of monitoring, leadership, accountability and setting priorities.

The PDS has played a crucial role for the last three decades, by making food and fuel transfers to households and by injecting food into local markets. Since 2012, the PDS has helped Iraq avoid a humanitarian crisis, such as in 2007, when 1 million internally displaced people in Iraq had no source of livelihood and depended on the PDS for food and fuel.

Today, the situation in Iraq is changing, and the government is developing a new vision for the management of the PDS, meant to make it more effective and efficient. In this context, it is necessary to reassess its current function and make choices about its future.

4.1.2. Past trends

While the PDS undoubtedly serves an important function, it consumes a very large share of government resources.

A public expenditure review conducted by the World Bank in 2014 found that the PDS accounted for 11.2 percent of total government spending and 6.1 percent of GDP, which was very high.

It also found that the PDS system continued to face challenges, including the high costs of logistics and large variations and decreases in funding. The budget restriction for the PDS has led to an inability to meet commitments – availability of food ration to all Iraqis during the whole year. This was clearly noted during 2017 when many items, such as rice, oil and sugar, were not distributed for the full year (Annex II: Figure 1).

4.1.3. Current status and issues

At present, the PDS system is facing several challenges regarding the quality and quantity of items, system inefficiencies and its sometimes limited access to the population due to the lack of security. While the PDS undoubtedly serves an important function, it consumes a very large share of government resources at an unsustainable cost. Currently, the annual PDS allocation is 1.7 percent of government revenue. However, if oil prices fall to 2015–2016 levels, maintaining the PDS would require over 30 percent of government revenue.

Since its establishment in 1988, the PDS has reached the poor as well as the non-poor. For the average Iraqi, the PDS increases purchasing power by about a third. For those groups commonly considered poor, such as agricultural labourers, the increase in purchasing power is as high as 50 percent.

Given its elevated status and popularity among Iraqis, all governments since PDS was established have chosen not to tamper with the system and maintained their commitments to ration cards despite the system's inconsistency and inefficiency throughout the years.

One estimate (World Bank, 2007) found that it costs USD 6.30 to transfer USD 1.00 worth of food through the PDS, although several national and international studies argue that PDS had become less consistent and efficient due mainly to the 70 percent decrease in the allocated budget in the decade between 2008 and 2017. Further, weak management has accompanied the budget reduction and contributed to preventing the programme from realizing its

potential. There is a real need for serious actions to revise how the PDS functions and which people it targets.

The Iraq Social Safety Net (SSN), under the control of the Ministry of Labour and Social Affairs (MOLSA), provides cash transfers – based on a proxy means test targeting system – to close to 1.1 million households (6 million people), with another 700,000 on the waiting list. The 2017 budget – USD 1.2 billion – had been constant for 5 years.

In April 2014, when social protection Law No. 11 came into effect, it established the Social Protection Commission to manage social assistance in Iraq. At its core, the new law replaced ineffective categorical targeting and established poverty as the main eligibility criteria for cash transfer and overall social assistance.

More efficient, it adopted proxy means testing and geographical targeting, and placed emphasis on social workers as the engine behind verifying the poor. Indeed, the only criterion is that people live under the poverty line – defined as USD 5 a day or USD 150 a month. Therefore, since the minimum wage in Iraq is IQD 350,000 per month (USD 280), each year, MOLSA is reviewing and updating beneficiary lists. This is done in response to the law that passed in 2014.

4.1.4. Needs and priorities

The assessment of the PDS suggests that, despite its benefits, it plays a limited role in the lives of the nonpoor, and the number of people dependent on its services continues to fall.

However, the Iraqi leadership recognizes the political importance of the PDS, and it is difficult to foresee any dramatic changes occurring in the system given its effectiveness in reaching the poorest and increasing their purchasing power parity by almost 50 percent.

WFP estimates that about 25 percent of the population is highly dependent on the PDS, and another 35 to 40 percent are partially dependent on it (CFSVA, 2016). Iraq's commercial markets are playing a progressively larger role in supplying food, thus diminishing the role played by the PDS in suppressing market prices.

The assessment also determined that PDS is problematic as it distorts domestic food markets, affects national resource allocation and is highly regressive due to a lack of targeting mechanisms. The result is that the PDS system burdens the government budget without contributing to food security. So, what, then, should policymakers do about the PDS?

The assessment of the different options suggested or implemented during the last two decades reinforced the validity of the recommendations by the High Committee for the Reform of the PDS – to gradually limit the system’s coverage to the poorest segments of Iraqi society.

However, the question remains: how to ensure the food security and well-being of the poorest among the Iraqi population in the PDS reform era.

Although all poor households benefit greatly from the PDS, its universal nature renders it too costly and inefficient, and the sheer size of the programme adds new obstacles to the agricultural and trading sectors.

Outcomes from the Iraq Knowledge Network (IKN) database (2011) suggest that the previous categorically targeted SSN was inefficient in targeting the poorest members of Iraqi society.

As a result, government has recognized the critical need to reform its social safety net to become more effective in targeting the poor and mitigating future risks associated with price increases. A revision of the beneficiary selection criteria and the mechanisms employed to reach and include the targeted groups has been accomplished through the implementation of social protection Law No 11.

In 2009, a high-level committee was established to consider reforming the PDS. Headed by the Secretary General of the Council of Ministers, the committee developed a number of recommendations: i) target the PDS to the poor; ii) amend the food basket to only basic five items; and iii) maintain a centralized administration for the PDS system while increasing the role of local administrations in all the processes. Hence, although the High Committee for the Reform of the PDS recommended merging PDS beneficiaries within the Social Safety Net (SSN) as a step toward achieving improved targeting, doing so necessitates

that the PDS reform process be accompanied by the reformed SSN.

4.1.5. Financial needs for the period 2019–2022

Transitioning the PDS from a non-targeted system to a targeted one, coupled with its inherent social and political sensitivities, will present real challenges. A highly effective public information campaign will be needed to stimulate an active public dialogue on the future of safety net systems in Iraq, with due emphasis on the notion that these transfers are meant primarily to address the needs of the poor and/or food insecure. External technical expertise and support may well be needed to enable and equip communities with participatory approaches, methodologies and tools to facilitate the targeting process.

It is clear from the pro forma budget’s options for reforming the PDS system (presented in Annex II) that the total of the financial resources needed by the country for food support is based upon the continuation of the current PDS operation throughout 2018, then eliminating the food subsidy for 30 percent of the population in 2019 and for another 30 percent of the population in 2020 – by which time the target population will be reduced to vulnerable groups only. The alternative models (also in Annex II) indicates that the implementation of the suggested options will not be efficient since the PDS programme is not targeting the poorest groups.

That said, these circumstances would call for building an efficient transfer programme that targets only the poor – estimated at 22.5 percent of the entire Iraqi population – and implementing it from 2019. Three likely actions or scenarios are envisioned with this 2019 implementation: i) maintaining the same level of the budget allocated to the PDS system in 2017; ii) providing food rations with more nutritive items such as the ones suggested by WFP which are valued at USD 17; and iii) creating better efficiency in the delivery system through institutional changes which anticipate increased private sector participation. With a reasonable assumption that the level of poverty will be reduced progressively in the coming five years – from 22.5 percent in 2018 to 12.5 percent in 2022 – and with a survival food ration valued at USD 17, the current PDS budget

could cover 78.9 percent of all poor people in 2018, 86.5 percent in 2019 and 96.5 percent in 2020 and, starting in 2021, all poor people would be covered by the same allocated PDS budget. Therefore, a small budget could be provided during the first three years of the implementation of the programme to fully cover all poor people (Annex II: The PDS only targeting the poor).

While the first scenario is based on gradual reduction of the poverty rate, the second one suggests a constant level of this rate at 22.5 percent from the entire population for the coming five years. Under this scenario, the coverage of poor people will range between 78.9 percent in 2018 and 71.3 percent in 2022. This suggests an additional budget to cover all the targeted poor, which could range between USD 0.38 billion in 2018 and USD 0.57 billion in 2022. Therefore, under the second scenario, based on a constant level of PDS budget and a constant level of the share of poor people (22.5 percent) during the period 2018–2022, the analysis suggests that the optimal value of the food basket should not be less than USD 12. This is more acceptable in comparison with the current one, estimated at USD 7, and also would cover all the targeted poor with a constant budget. To conclude, it can be argued that perfect PDS targeting of the poor seems worth exploring in the Iraqi case, given the encouraging results obtained through an assessment of the targeting system’s potential, which is considered comparatively good for the share of benefits expected to go to the poorest people.

Finally, the third scenario calls for establishing an efficient and effective food safety net for the poor. This would merge the PDS and SSN programmes into a mainly voucher-based system, targeting the poor. The action matrix on implementing the outcomes of this scenario is presented in Annex II: Improving safety net instruments.

4.1.6. Specific action recommendations

Target cash transfer to the poor and the most vulnerable households.

Consider alternative food baskets for the PDS that are more effective in addressing food and nutritional security, take into consideration consumption habits and local products, and combine commodities with cash transfer for nonbasic items such as vegetable oil.

- Enhance the information system required to rationalize social transfers and support to poor needy and vulnerable people.
- Distinguish between permanent social welfare beneficiaries registered in the SSN and temporary beneficiaries suffering from acute poverty due to unemployment or other temporary conditions.
- Merge the PDS and SSN programmes into a mainly voucher-based system, targeting the poor by taking specific actions, including:
 - redefining the food support package to make it nutritionally suitable.
 - preparing or updating the MOLSA registered lists of target households with systems for periodic review and revisions.
 - preparing a detailed design and implementation plan of the cash or voucher scheme.
 - establishing an M&E unit with clear targets and quantifiable performance indicators.

4.2. Pillar 2: Enhancing sustainable agricultural production

4.2.1. Background

The agricultural sector in Iraq is relatively small compared with other economic sectors, but it remains highly important from a social and employment perspective. Population growth, combined with the need to produce more food from a limited and shrinking resource base of land and water, has resulted in more pressure and challenges for increasing yields and sustaining food production systems in Iraq.

Highly productive and sustainable agricultural systems would have positive implications in terms of food and nutrition security over time, but would also require strategic public investments in enhancing input and output market effectiveness, public goods provision and the protection of natural resources.

4.2.2. Past trends

Production. Yields and productivity levels of agricultural commodities produced in Iraq have been very low compared with world averages. As an example, aggregated cereal yields in Iraq are the lowest across the Middle East and North Africa (MENA) countries (Annex II: Figure 2), and are far below the cereal yields in India and Ethiopia. At the same time, the increased rate of the Food Production Index in Iraq between 2004 and 2014 was among the lowest in the MENA region (Annex II: Figure 2), while the country's cereal yields increased quite consistently through the decade, although they fluctuated year to year (Annex II: Figure 3). The same trend and fluctuation can be observed for other major commodities, including potato and tomato crops. However, yields of rice and maize, which are mostly irrigated, showed a downward trend between 2013 and 2016.

Land use. Land use in Iraq remained almost unchanged between 2004 and 2016 (Annex II: Figure 4). The annually irrigated areas of wheat ranged between 0.7 and 1 million hectares, while irrigated areas of barley, which requires less water and is more tolerant to soil salinity, ranged between 0.4 and 0.8 million hectares. According to Iraqi statistics, irrigated acreage has been increasing over the past decade, providing a buffer against periodic drought but, at the same time, increasing irrigation has more pressure on limited water resources. Low yields combined with low product prices (mainly due to low and highly subsidized consumer prices) resulted in small profit margins and marginal incomes for farmers, which can also be translated into lower productivity of agricultural labour. Farmers use minimum inputs, such as fertilizers and pesticides, and tend to minimize operation costs related to land preparation, planting, weeding and harvesting (Lucani and Saade, 2012). In a business-as-usual situation, when no significant investments in productivity enhancement will be made, future projections of productivity levels based on historical trends show that yields of major agricultural commodities in Iraq are expected to decrease according to land use by 2025 (Annex II: Figure 5).

4.2.3. Current status and issues

Yields. National agricultural strategies and programmes in Iraq have been developed to help

close the yield gaps of strategic crops and ensure that resources (human and financial) are available for agricultural programmes. Under the National Development Plan (NDP) 2018–2022, one significant policy relevant to yield enhancement is related to the improvement of water use efficiency and management, and subsidizing production inputs to foster the increase of agricultural production. At the same time, the vision projected by the NDP for the rural sector aims to: achieve food security; improve management of land and water resources through the adoption of modern technologies; stimulate foreign and private investments in agriculture; diversify the Iraqi economy; diversify farmer's income; diversify economic activity in rural areas into activities supplementary to agriculture, generating new added value; create agricultural insurance companies; develop the agricultural infrastructure; promote the export of dates and fruits; and address the issue of rural poverty. To achieve these objectives, the NDP proposed a set of investments devoted to land reclamation, development of economic infrastructure, improvement of genetic performances, development of financial markets, and establishment of temporary protection for input and output markets, and of modern extension methods, among others. The proposed allocations for the agriculture sector under the NDP amount to USD 5.9 billion over five years, equivalent to 3.4 percent of NDP's total allocations to all sectors.

Value chains. Many important food commodities are imported and domestically marketed in Iraq through the Ministry of Trade (MoT), with high levels of consumer price subsidies through logistical storage and transportation. This results in low market prices for many of these commodities which, in turn, creates a disincentive for farmers. Lucani and Saade (2012) found that there were no incentives to invest in agricultural processing industries or value chains because of the complicated and outdated administrative and regulatory system, the considerable shortcomings of the public agencies in charge of the advisory and technical services, erratic price policies, inefficient marketing networks, very little market information, and complicated and time consuming export/import procedures.

The community action programmes in Iraq have helped communities identify and prioritize local needs, and "provincial reconstruction teams" have been set up to provide technical assistance to support microfinance institutions, agribusiness

programmes, value chains and markets, and the marketing of agricultural products. These teams operate in 8 of the 18 provinces (Lucani and Saade, 2012) and need to be extended to the other provinces of the country.

Sustainability of agricultural production systems. Another important determinant of agricultural production systems' productivity in Iraq is related to the availability and quality of natural resources (especially water and land), as well as to the management of these resources. As shown in Annex II: Figure 4 and introduced in Section 3.4.2.2, agricultural land is becoming scarcer in Iraq, with only 7 percent of total land considered arable area in 2012, compared with 12 percent in 2005. Agricultural land also decreased from 21 percent of the total area of Iraq in 2005 to only 17.6 percent in 2012. In parallel to cereal's slow yield improvement, land under cereal area also decreased – from 3.9 million in 2005 to 2.0 million in 2012. In addition, permanent cropland is slightly decreasing in the country.

Soil salinity in Iraq is also more widespread and possibly more severe than any previous assessments indicated, with virtually all areas affected by soil salinity (Evans et al., 2013). A large area of arable agricultural land is lost annually due to salinity. Salinity also impacts water productivity levels which remain very low due to degradation of irrigation and drainage infrastructure. In addition, low water use efficiency is also leading to soil salinization, with farmers in salt-affected areas cropping only about 30 percent of their land and achieving only about 50 percent of expected yields (Evans et al., 2013). According to the same source, current salinity levels are causing a loss of USD 300 million per year, showing enormous opportunities if appropriate management of this salinity problem can be engaged. In fact, since 2005, the Ministry of Water Resources has undertaken several revisions of past water policies, to analyse the changes needed to control salinity and to improve irrigation schemes throughout the country (Telleria et al., 2012).

Agriculture damage and loss. This is a specific dimension for Iraq and its agriculture sector. The Islamic State of Iraq and the Levant (ISIL) escalated armed activities in the summer of 2014 at a particularly crucial time in the agricultural calendar, leading to significant damage and loss to the agricultural sector. According to FAO (2018),

research conducted in March 2016 determined Iraq had lost 40 percent of agricultural production since ISIL began occupying some of the most important agricultural areas in 2014, with damages continuing from this armed conflict.

4.2.4. Needs and priorities

Given that the agriculture sector – which is vital to Iraq's economy and has been the second largest contributor to the country's gross domestic product (GDP) – has incurred damages due to conflict, three main objectives are to be focused under this pillar. Such objectives and their respective pillars are displayed below as follows.

Objective 1: Revitalize agriculture production systems in conflict-affected areas

Through a special three-year programme to revive agriculture in conflict-affected areas:

- Action 1: Repair major and minor irrigation systems in conflict affected areas
- Action 2: Repair and rehabilitate on-farm buildings and structures
- Action 3: Provide support for restarting production

Objective 2: Create more productive, climate-smart and resilient agricultural production systems

The main action focus under this objective is the implementation of an integrated set of programmes and actions aimed at increasing productivity, employment and incomes in agriculture and related activities over a five-year period:

- Action 1: Rehabilitate and upgrade public infrastructure
- Action 2: Strengthen research, extension and regulatory capacity of national and local institutions
- Action 3: Improve markets and value chains for better linking farmers to markets and encouraging production of high value crops

- Action 4: Protect environmental hotspots
- Action 5: Enhance supply of credit to farmers for inputs, machinery and equipment, and building

Objective 3: Establish a monitoring unit for tracking progress on SDG 2

- Action 1: Establish a monitoring unit in the MoA with the purpose of collecting and compiling data on progress toward SDG 2. This data and analysis will be shared with the MoP, which is in charge of overall progress on SDGs

4.2.5. Financial needs for the period 2019–2022

A preliminary assessment of finances required to implement the different priority actions to enhance food security in Iraq through more productive and sustainable agricultural production indicates the average annual investment cost will be about USD 1.2 billion (Annex II: Table 3). It also finds the average annual recurrent cost to implement these actions will be USD 72 million.

4.2.6. Specific action recommendations

Given the significant damage and loss to the sector caused by the ISIS armed conflicts, there is an urgent need to revitalize agricultural activities and livelihoods across Iraq as a whole but especially for the most affected areas, given the role that agriculture plays in the livelihoods of the rural population. This is could be done through (FAO, 2018):

- supporting cash-based interventions and improving farmers' access to credit and loans.
- distributing seeds, fertilizers and pesticides directly.
- repairing damaged irrigation systems, providing temporary watering systems in the form of new wells, and extending water transportation pipes.
- resuming emergency veterinary services and access to markets.
- rehabilitating and establishing livestock

water points, and improving pastures and crossbreeding.

- rebuilding physical structures such as markets, feeder roads and storage facilities (including cold storage) and ensuring functional transport services.
- supporting better quality control mechanisms of inputs and unlicensed input traders.
- improving food security through appropriate productivity investments to improve low productivity levels, while also modernizing agricultural technologies, transfer policies and institutions as part of food security investments in Iraq. Investments outlined in Section 4.2.5 should be implemented and monitored in order to get high returns in terms of agricultural GDP growth.

4.3. Pillar 3: Addressing the triple burden of poor nutrition

4.3.1. Background

Food insecure households face the negative effects of higher food prices on their real incomes. This can alter the quality of their diets and reduce the quantity of food consumed. In Iraq, 50 percent of the population is under age 21. The prevalence of anemia as well as prominent deficiencies in iron and vitamin A are noted in school-aged children (6–12 years) and non-pregnant women of childbearing age (15–49 years) (MNAR Survey Report, 2012). This is a critical barrier to children's learning because:

- nutrition deficiency reduces children's ability to focus and retain what they have learned at school.
- malnourished children are less likely to stay in school.
- nutrient needs are higher during childhood and adolescence than any other time in the life cycle.

Child nutrition, physical growth and well-being are integrally related. Bad nutrition during children's first 1,000 days – meaning from conception until age two – will seriously affect their physical and cognitive

development. Research shows that in children aged 0-60 months, one of the key consequences of nutritional deficiency is stunting, both mental and physical, while, in children older than 5 years, it may seriously affect their concentration span and learning capacity (WHO, 2015a).

4.3.2. Past trends

Overweight and obesity, issues that mainly affect adults in Iraq, pose major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer.

The review of the existing literature shows that the main causes may be associated with lifestyle factors, including poor dietary habits, inactivity and sedentary patterns among Iraqi adults.

In 2008, obesity prevalence in Iraq alarmingly reached 22 percent for men and 36.2 percent for women (WHO, 2015b). On the other hand, the poorest segments of society face a higher risk of micronutrient deficiencies, as they tend to consume low-priced food items.

Micronutrients, including vitamins and minerals, are critical for human growth and development, and play a major role in the prevention of diseases and disabilities. The lack of access to the right balance of nutrients could lead to deteriorating health and diminished work and mental capacity for the most vulnerable groups in Iraq. Low income and rural households tend to have lower dietary energy consumption, as well as lower dietary diversity. Consequently, they face higher risks related to micronutrient deficiencies. In particular, affected children may experience age-specific vulnerabilities, which affect their ability to achieve their full potential.

4.3.3. Current status and issues

School meals programmes in Iraq. School meals activities were implemented in Iraq in 2010 by the Ministry of Education (MOE) and WFP until their suspension in 2014 (Annex II: Figure 8).

The previous initiatives took place in different forms, including in-school meal provision as well as distribution of high-energy biscuits to students.

Despite some initial positive effects on school attendance, past efforts to provide Iraqi students with a healthy meal were hindered by a shortage of funding, and limited institutional capacity and ownership by the MOE, as well as the absence of an adequate hand-over strategy. The suspension of school meals activities had a negative impact on programme results and perceptions. The subsequent WFP shift in modality from in-kind support towards cash-based interventions contributed to consolidate WFP's strong position in the cash-based assistance sector in Iraq.

In this view, further discussions and stronger cooperation among relevant ministries, local communities and food producers will be required in order to properly design and launch ad hoc school meals initiatives in Iraq and overcome the constraints.

This will also involve effective coordination that supports cross-sectorial linkages, in order to position school meals in larger national strategies and policies. At present, WFP is partnering with the MOE to provide emergency school meals to primary school children returning to schools in West Mosul, Ninewa Governorate.

Nutrition-sensitive interventions address food security, adequate resources and access to health services, which are the underlying determinants of malnutrition and development at the household and community levels, especially impacting women and caregivers.

These interventions are known to incorporate specific nutrition goals and actions. Evidence shows that women's social status and empowerment through increased access to, and control over, resources may have a positive impact for their own nutrition and that of their children (Ruel, 2018).

Other studies show that women's income growth alone would only have modest impacts on child nutrition unless accompanied by improved education and access to health services. Overall, these types of integrated programmes were proven to be highly successful in promoting diversity of production, including micronutrient-rich or bio fortified crops, dairy and small animal rearing, all of which can improve the production and consumption of targeted commodities. There is also some evidence that such improvements may lead

to increases in dietary diversity at the household and sometimes the maternal and child levels (Ruel, 2018).

Within this framework, the proposed initiative will help to answer the following research questions:

- How can we fight child malnutrition and micronutrient deficiency?
- What broader role should nutrition and diet play in schools, in order to enrich lives of children and women and of the community in general, and leave a legacy for a future healthier life.

4.3.4. Needs and priorities

Providing children with nutritious, age-tailored meals contributes to the fulfillment of the promise, “Leave No One Behind”, in line with the 2030 Agenda for Sustainable Development (UN, 2016). Under Pillar 3: Addressing the triple burden of poor nutrition, two objectives are to be addressed.

Objective 1: Improve the nutritional status of vulnerable and at-risk groups. The key need regarding this objective is the implementation of a special three-year programme to ensure that conflict-affected vulnerable groups are provided good nutrition. This execution could be implemented through the following actions.

Action 1: Provide school meals in conflict-affected areas.

Action 2: Provide nutrition supplements to pregnant and lactating women, and infants.

Objective 2: Improve nutritional status of all Iraqis through promotion of healthy eating habits.

This goal calls for launching a nationwide school feeding programme and for building awareness of healthy lifestyles, through the following actions.

- Action 1: Establish school feeding programme including:
 - refurbishing dining facilities, access to potable water and adequate sanitation facilities.

- introducing nutrition and healthy lifestyle education into school curricula.
- introducing school gardens.
- establishing monitoring and inspection units.
- Action 2: Launch a country awareness campaign involving national media in sharing information on how good food improves health.

The adoption of adequate school meals programmes may help to improve children’s access to education as well as enhance their well-being and nutritional status. In order to be sustainable, these programmes should:

- be nationally established and maintained.
- make community participation meaningful.
- link to the local agricultural sector.
- target vulnerable people.
- target both rural and urban areas to fast track SDG 2 results.

This integrated approach would help build a more sustainable local market by educating communities on the nutritional importance of eating seasonal and locally produced products.

4.3.5. Financial needs for the period 2019–2022

The four actions suggested under Objectives 1 and 2 outlined in Section 4.3.4 would require an average annual investment of USD 14.1 million and an average annual recurrent budget of approximately USD 281 million (Annex II: Table 4). As displayed in Annex II: Table 4, some actions (1 and 2) linked to Objective 1: Improve the nutritional status of vulnerable and at-risk groups, require an initial three-year programme while actions on school feeding programmes require a five-year investment cycle. The cost structure used a known budget from an existing in-country or global project, and recommends an initial baseline estimate based on existing facilities and synergic actions from other actors. The suggested actions are intended to

serve as pilot initiatives to be scalable with proper context-specific considerations. However, it is also important to highlight that the focus on education systems will ensure less start-up costs and longer sustainability.

4.3.6. Specific action recommendations

The most sustainable and government-owned programmes appear to be those designed and implemented holistically by the education, health and agriculture sectors. In line with the paradigm shift towards local sourcing and production of food, and away from food aid except in humanitarian crises, countries all over the world are producing stronger regulatory frameworks as well as financial reporting mechanisms. Emerging trends include a stronger role for the community in national policy, and greater recognition of the role of smallholder farmers, including women, in food production and preparation. The proposed holistic, integrated intervention will focus on innovation and effective coordination among key stakeholders which, in turn, should contribute to making schools safer learning environments with better sanitation facilities and access to potable water.

It draws upon successful case studies in different geographical contexts, including Brazil, Kenya and South Africa (Drake et al., 2016). Other similar examples from the MENA region include the “Healthy Kitchen” programme in Jordan, where school meal programmes have expanded to provide income opportunities for women, and Tunisia, where school meal pilots are being implemented by encouraging links to local agricultural production and the use of local products in school menus (WFP, 2016b). This will encourage students’ enrolment and attendance, and contribute to increasing adolescent girls’ retention. In addition, the proposed initiative will promote nutrition education and better eating habits, and encourage the diversification of production with a special emphasis on local crops. Community involvement, in turn, will enhance the sustainability of this programme. This initiative will include the following actions.

Action 1: School level

- School meals programmes will start with a pilot phase that includes schools with the highest percentage of children eligible for free

school meals. Primary schools will be selected through the development of a process for vulnerability reduction programmes at both rural and urban levels.

- Primary school buildings will be refurbished. Those targeted for the initiative will be equipped with dining halls, school gardens and gender-sensitive sanitation facilities with access to potable water.
- Nutrition education, the food pyramid guide¹ approach and school gardening topics will be introduced to the schools, adapted according to the age of the students.

Action 2: Ministry level – Ministries of Education and of Public Health

Country awareness campaign will be launched and will involve national media in sharing information on how good food improves health and student’s educational outcomes.

School meals will be monitored to determine if progress is being made. The government will take baseline measurements at the beginning of the programme, conduct regular inspections to ensure quality standards and collect data regularly on the nutritional quality of the food against children’s well-being and educational attainment.

Action 3: Policy level

Government will run a public consultation to make sure key stakeholders – including students – are given a chance to have their say about policy direction.

- Integration of the nutrition education component into the national curriculum will be proposed.
- School Canteen Guidelines will be launched that present requirements for a healthy school menu tailored to the ages of the students. This includes promoting the consumption of high-quality meat, poultry or oily fish, fruit and

¹ Food pyramid is the basic guide that helps to plan a healthy diet according to the body requirement. In 1992, food pyramid became the most useful and influential guide in history. It was considered a total dietary approach for nutrient adequacy and moderation in order to bring awareness to the new food patterns.

vegetables, bread, other cereals and potatoes, and excluding drinks with added sugar, crisps, chocolate or sweets in school meals. Quality standards concerning staff health and hygiene, cleanliness and food preservation, delivery, storage, display and packaging should be set and followed by food suppliers and local farmers.

As the prospect of salaried jobs, including those in construction and in the government, has become a more common option, the number of people involved in agricultural production has decreased (GOAL, 2016).

4.4. Pillar 4: Increasing employment, especially among youth and women

4.4.1. Background

Employment, as a key aspect of this review, relates to the trend of urbanization and rural poverty in Iraq. Today, 69.9 percent of Iraqis live in urban areas. The other 30 percent, based in rural areas, includes the most vulnerable groups. Iraq is one of the most youthful countries in the world, with nearly half of its population under age 21 years old. Iraq also has a national unemployment rate of 12.7 percent, with 7 percent of males and 13 percent of females of employable age unemployed. Of those employed, 40 percent work in government jobs while the remainder are in the private sector (UN, 2015).

4.4.3. Current status and issues

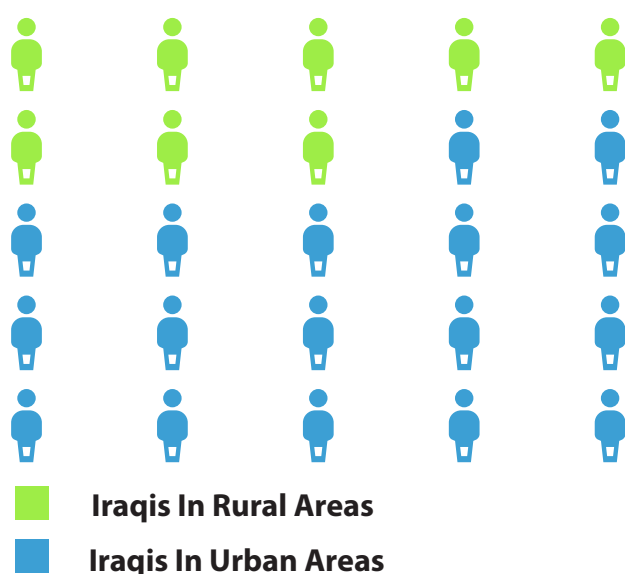
Employment issues, at the top of the Iraqi agenda, are presented with Outcome 1 of the Iraq Poverty Reduction Strategy in Iraq 2018–2022 (PRS, 2017). Within Outcome 1, the first area of work includes the need to develop agricultural projects and businesses in rural areas, starting with education of the young generation in schools. This is to ensure that Law No. 24/2013, organizing the lease of agricultural land and owning the right to dispose for agricultural graduates and veterinarians, can provide benefits. However, Iraqi education at all levels is hindered by outdated curricula, inadequate teaching methods and poor infrastructure. Besides limited state commitments in education, the literacy level is generally low, especially in rural areas where illiteracy affects 25 percent of the population compared with 14 percent illiteracy in urban areas (UN, 2015).

How can agriculture become an attractive entrepreneurial undertaking, reduce unemployment and provide people – women and youth in particular – with decent and fulfilling work?

4.4.4. Needs and priorities

The main goal of Pillar 4: Increasing employment, especially among youth and women, is to provide enhanced access to employment opportunities, both in rural and urban areas. To attain this objective, a targeted five-year programme is suggested that will aim to create greater employment for youth, women and smallholder farmers in both rural and urban areas. Two actions are suggested for implementing the programme.

- Action 1: Provide short-term vocational and technical training for youth, women and smallholder farmers in rural and urban areas through, inter alia, establishment of business incubators (organizations that provides a range of resources to startups



4.4.2. Past trends

Iraq's agricultural sector has been deeply affected by conflicts and resulting changes in leadership and land administration. Agricultural assets and commodities were lost when farmers were forced to migrate, leaving their agricultural livelihoods behind and changing their sector of employment.

and early-stage businesses in agri-business), including mobile units for rural areas.

- Action 2: Develop medium-term (1–2 year) courses in technical, financial and business management training in selected colleges for farm technicians and managers, and establish scholarships for 200 students a year.
- Action 3: Create an agriculture and rural investment fund. The fund would support establishment of small- and medium-scale enterprises related to on- and off-farm activities, including: production of high value commercial crops; equipment and machinery rental units; and processing, packing and transport activities, including in urban areas.

4.4.5. Financial needs for the period 2019–2022

The three actions introduced in Section 4.4.4 would require a five-year budget of USD 77 million. As detailed in Annex II: Table 5, 89.6 percent of the budget is allocated to investment, while the rest covers recurrent costs. Investment costs are mainly allocated through the five years. The cost structure is based on past initiatives targeting employment, mainly through vocational training led by the Ministry of Labour and Social Affairs (MOLSA). The suggested actions are intended as pilot initiatives within MOLSA's broader actions and budget in order to promote innovative approaches. The piloted actions should undergo full analysis of strengths and weaknesses, in order to provide feedback to national institutions, and be customized to local contexts.

4.4.6. Specific action recommendations

The primary focus of this recommendation is resilience building, strictly connected to the “Healthy Food in Healthy School” initiative, as explained in Pillar 3, which addresses the triple burden of poor nutrition in achieving SDG 2. A nutrition-sensitive agricultural approach will be utilized as delivery platforms for tailored interventions to address the needs of adolescent boys and girls. Indeed, this initiative will help increase small-scale food producer capacities and strengthen skills of youth and women

through vocational training activities. Different strategies will need to be identified and tailored for adoption at urban and rural levels, recognizing that employment, especially in urban areas, would require the involvement of non-agricultural sectors. In cooperation with MOLSA and MoE, mobile units will be developed to make vocational education and training more accessible to the rural populations of Iraq through the following actions.

Action 1: Community level

- Construct and set up equipped kitchen facilities managed by targeted women from both rural and urban settings, trained in schools for catering management.
- Strengthen health clinics and educate women in mother-child nutrition, particularly in the most affected areas.
- Strengthen local farmers' production and establish local supply chains for commodity procurement of school meal services.
- Create local cooperatives and farmers' organizations for small farmers with the goal of providing agricultural services such as marketing, financial funding, water use, mechanization and transportation.

Action 2: Ministry level

- Establish vocational training and technical support to targeted women, including those coming from disadvantaged groups and refugee women, on culinary basics, school catering and food business management.
- Target vocational training and technical support to poor smallholder farmers including female agricultural outreach workers, developing their capacity and skills on climate-smart technologies, farming systems, water use and increasing agricultural production and sales.

Action 3: Policy level

- Develop a qualification and vocational training programme on culinary basics, school catering and food business management with formal accreditation from an examining body.

- Encourage graduates of agricultural and veterinary institutes and colleges to establish agricultural projects and companies that provide employment opportunities and benefit from Law No. 24/2013, which calls for promoting youth entrepreneurship through business incubator initiatives.

4.5. Pillar 5: Reforming marketing, trade and pricing policies

4.4.1. Background

Trade policies and generated distortions have direct and indirect effects on food security and, thus, are important to assess. Trade distortions are measured through estimated rates of assistance based on comparisons of domestic commodity prices with undistorted world market prices (Nelson and ArgwingsKodhek, 2007). Although trade policies are implemented at the national level, they also affect individual food security. However, the impact of trade policies at the individual level will always be channelled through domestic social, economic and institutional structures that will produce different outcomes depending upon the individual status (Christopher, 2003). Consequently, there is a need to look at trade policies with a multisectorial lens, since changes in agricultural trade policies would impact sectors beyond agriculture and vice versa.

Shifts in trade policies will also produce indirect geographical and social changes (Stevens, 2002), which affect the existing social and economic population categories to different extents. For all these reasons, careful consideration of existing and shifting trade policies and their respective implications on food security will be the main component of any national food security analysis. The case of Iraq is highly expressive regarding the relationship between trade and food security. Iraq went quickly from an authoritative situation to an advanced form of liberalism, which, in addition to political instability and the threat of terrorism, had significant implications for domestic food supply patterns. Beyond the analysis of these implications, this review aims to depict the most significant trade policies affecting “food security” indicators, and identify the pathways through which these effects have been channelled.

4.5.2. Past trends

Iraq’s agricultural sector represents a small but vital component of Iraq’s economy. Over the past several decades, agriculture’s role in the economy has been heavily influenced by Iraq’s involvement in military conflicts and by varying degrees of government effort to promote and/or control agricultural production. Before the “oil era”, the agricultural sector in Iraq was the most significant contributor to the country’s economy. With the development of the oil sector in the 1930s (Schnepf, 2004), the oil revenues rose, Iraqis moved from their farms to the cities, and agricultural production diminished in parallel to rapid population growth. By 1960, food demand exceeded food supply, which increased the country’s reliance on food imports (Schnepf, 2004; Gibson et al., 2012) and, by 1980, Iraq was importing half of its food supply. By 2002, between 80 and 100 percent of many staples – wheat, rice, sugar, vegetable oil and protein meals – were imported (Schnepf, 2004). This led the government of Iraq to revise its wheat production policy and focus on higher income generating crops, such as dates and other fruits, and vegetables.

The dominant agricultural policy in Iraq has been characterized by the determination of the state to control and subsidize farm input prices and product distribution, as well as to subsidize output prices for strategic crops (Lucani and Saade, 2012). In 1979, the Government of Iraq, through the General Organization for Agricultural Marketing (GOAM), introduced marketing policies in the country in order to stabilize farm incomes, provide support to agricultural production, and protect consumers by stabilizing agricultural markets (Harbi, 2007). Guaranteed prices, public storage facilities of food commodities, and public wholesale markets, established in Iraq at that time, were introduced in parallel with other agricultural policies mostly related to subsidy programmes on agricultural and food prices, and inputs.

The declared objectives of these policies were to protect poor producers and consumers from monopoly and foreign competition. These marketing policies were supported by credit policies between 1973 and 1979, which mainly benefited vegetable producers (Telleria et al., 2012). Iraq’s involvement in armed conflicts, beginning with the 1980–1988 Iran-Iraq war, severely affected the country’s food security. During this period, Iraq’s harvested area

and production expanded for most crops, despite diversion of labour and resources toward the war effort (Schnepf, 2004). Until the 1990s, the self-sufficiency policies of Iraq did not meet their objectives, while rapid population growth coupled with limited arable land and generally stagnant agricultural productivity has steadily increased dependence on imports to meet domestic food needs.

From 1980–1989 (prior to the 1991 Gulf War), Iraq was a major destination of United States agricultural products and could purchase significant quantities of United States agricultural commodities through a USDA export credit. After the Gulf War, between 1990 and 2003, UN sanctions, implemented in August 1990, led to the establishment of a food-rationing programme under the PDS that is still being used. In the 1990s, USDA's export credit for Iraq was stopped and United States agricultural trade with Iraq was at its lowest levels. As a result, the central government took many steps to increase both production and control of domestic products, intervening by monopolizing the marketing of all the grains and oilseed crops, and by controlling the market prices of other agricultural commodities.

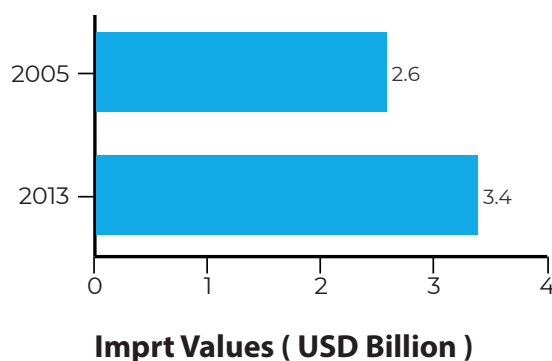
In 2007, Iraq started a ten-year agricultural initiative that targeted self-sufficiency in staple food (wheat) through cooperation between public and private sectors. The initiative encourages the private sector by providing input subsidies as well as price support for some staple foods (Woertz, 2017; Lucani and Saade, 2012). The initiative encouraged the formation of farmers' associations and relied on an enhanced role of the private sector and a new land contracts system whereby new farmers could be allocated land through specific contracts with the state on condition that they used it for agricultural production. A special fund was created to offer small loans at preferential interest rates in order to encourage poor farm families, small farmers and businessmen to start productive, income-generating projects in the rural areas. These funds have been used primarily to provide input subsidies as well as price support to key strategic crops such as wheat, barley, rice, maize and dates. Funding is also provided to six special funds that offer small zero-interest loans to encourage poor farm families, small farmers and businessmen to start productive income-generating projects in the rural areas. According to the MOA, these funds have disbursed more than IQD 800 billion (about USD 570 million) since 2008, with a repayment rate exceeding 95 percent (FAO, 2012).

4.5.3. Current status and issues

In the framework of the National Development Plan (2010–2014), the government decided to reform the PDS by minimizing the number of beneficiaries and only targeting the poorest members of the population. The reform also aimed to leverage domestic prices, thus offering more opportunities to the private sector. The same strategy continues with the recent National Development Plan (2018–2022). Nowadays, the Ministry of Trade (MoT) of Iraq remains the main importer of major strategic commodities, such as wheat, rice, vegetable oil and pulses – commodities that have the largest import value, as shown in Annex I: Table 6. The MoT is monopolizing the importation of these products despite the openness of the import market to the private sector.

In addition, local distortions are caused by the MoT's subsidizing the local storage and distribution of these productions through the PDS – which pulls prices down on local markets and demotivates their importation by the private sector. The widespread distribution of subsidized food also discourages the development of competitive private sector agriculture and transparent markets, and it works against the diversification of small farmers' production systems (Lucani and Saade, 2012). The following current issues, under Pillar 5: Reforming marketing, trade and pricing policies, can be summarized as follows.

- Imports.** Food import levels in Iraq are very high and growing fast. The agricultural Import Value Index increased from a value of 100 in 2004 –2006 to 293 in 2013, indicating an increase of about 300 percent of the value of imported food commodities. Import values based on 2005 prices increased from USD 2.6 billion in 2005 to USD 3.4 billion in 2013. Import dependency remains high for most of the strategic agricultural commodities.



- **Agricultural production.** Despite the relatively high production potential, actual agricultural production is limited, in part because internal market mechanisms are inefficient due to market failures, import inflation, faulty value chains and lack of employment opportunities.
- **Market trade.** Iraqi markets are not fully open to the benefits of free trade, which has direct and indirect impacts on both producers and consumers. Consumer markets have been highly supported by the government, which has created a bias at the production level.
- **Value chains.** Market policies that favour market integration for small farmers in their respective value chains and allow for higher producer prices of a wider basket of agricultural commodities will certainly be an effective incentive for higher private investments in productivity enhancements and will allow a shift to high value added crops.
- **Consumer price subsidies.** Reduction and better targeting of consumer price subsidies will result in the greater involvement of the private sector in food importation, and better price transmission between international and national markets, which, in turn, can be a good incentive for production.
- Action 3: Create mechanisms for better targeting of subsidies, particularly to small farmers for production of high value crops and climate-smart agriculture

4.5.5. Financial needs for the period 2019–2022

The distribution of financial needs for investments under Pillar 5, as indicated in Annex II: Table 7, provides a preliminary assessment of the financial needs for implementing Actions 1, 2 and 3 and enhancing food security in Iraq through improved and better targeted trade policies. The costs of this component – which aims to create a trade, marketing and pricing system that encourages efficient agricultural production in line with Iraq’s comparative advantage – are not high costs, as most of these shall be devoted to create mechanisms for better targeting of subsidies, particularly to small farmers for production of high value crops and climate-smart agriculture. The total amount of investment under this programme is about USD 9 million, over three years, or about USD 3 million annually. The total amount will be distributed across the three main investment actions indicated in Annex II: Table 7.

4.5.6. Specific actions and recommendations

A single agricultural strategy in Iraq needs to address consumer subsidies, private involvement in food import, crop areas and land use, productivity levels, and distortions on producers’ prices, which are all interrelated items. Iraq already has a comprehensive strategy, the National Development Plan of 2018–2022, that tends to close parts of the yield gaps. In this NDP 2018–2022, the country strategy is to focus on the implementing of the following plans:

- Action 1: Create a task team to develop a comprehensive trade strategy for agriculture products, and propose changes with an assessment of their impact.
- Action 2: Create a task team to review agriculture-related marketing and pricing policies, and propose changes to encourage more efficient production and enhance market integration, within Iraq and with countries in the region.
- Mobilize resources and expertise to develop a comprehensive political strategy that includes ongoing technical investments for irrigation, land and other infrastructure development.
- Coordinate national programmes to ensure harmonic co-investments through market and non-market actions and policies. This calls for three specific actions:

4.5.4. Needs and priorities

The objective of Pillar 5 is the creation of a trade, marketing and pricing system that encourages efficient agricultural production in line with Iraq’s comparative advantage. This includes reviewing international trade policies, and domestic pricing and marketing policies related to agriculture. This review proposes the following actions under the overall theme of trade policies and food security.

- develop a comprehensive trade strategy for agriculture products where the country has a comparative advantage.
- review agriculture-related marketing and pricing policies, and propose changes to encourage more efficient production and enhance market integration, including with countries in the region.
- develop policies and mechanisms for enabling better targeting of subsidies, particularly to small farmers for production of high value crops and climate-smart agriculture.



5

**Recommendations to
Improve Food Security and
Nutrition**

This chapter presents recommendations and delineates a road map for the way forward. The central argument of this review is the importance of aligning policies to address the immediate and underlying determinants of food security and nutrition in Iraq. This will require an overarching, agreed goal that focuses deliberate action across different sectors. Working toward this coherent and joined-up policy and the required programming raises a real challenge for the Government of Iraq.

5.1. Addressing the key challenges: A holistic and coherent Food and Nutrition Security Policy

The key challenge for Iraq is to develop a holistic and coherent Food and Nutrition Security Policy and Zero Hunger Strategy that will strengthen and align interventions to address food insecurity and nutrition. Addressing the complex drivers of food and nutrition insecurity currently in play in Iraq will require a suite of adequate and clear policies and related programmes that are aligned and mutually reinforce and complete one another and, thereby, contribute to shared goals and outcomes.

5.2. Establishing a coordination mechanism between all actors: Governing Zero Hunger

The best outcomes, in terms of effective implementation, will be achieved when policy interventions are well aligned with political motivations, and there is coordination in implementing this complex and multidimensional policy on the part of government and non-government actors, including the United Nations, World Bank, civil society, NGOs and the private sector. An appropriate institutional and inclusive coordination mechanism – supported by a strong legislative framework – will ensure that the policy goals are taken on board by various sectors and that implementation occurs in a very smooth and accountable manner. This will require enhanced institutional capacity that can contribute to realizing higher degrees of coherence and

coordination among all actors.

5.3. General action recommendations

As emphasized, achieving the goals of the Zero Hunger Challenge will require much more than a single sector – such as agriculture, education, health or social development – implementing interventions in isolation. The following policy and strategy recommendations are based on a large volume of information and consensual viewpoints collected from a variety of stakeholders involved in the extensive consultation process, analyzed using the most recent and available research information. This Strategic Review offers five key recommendations as priority areas with specific strategies for achieving the targets of SDG 2.

5.3.1. Recommendations for Pillar 1: Improving safety net instruments

- Address the major gaps and weaknesses in current social protection systems and existing safety net programmes to ensure the poorest and most vulnerable groups, especially women, children, and elderly, are targeted and institutional coordination is improved.
- Adopt secure digital social protection information systems, and ensure the comprehensiveness and accuracy of databases of vulnerable people in Iraq.
- Conduct a comprehensive survey of all formal and informal social protection institutions to determine: whether or not they are operational; their geographical locations; and the number of people they are able to reach and serve.
- Diversify the sources of funding by, for example, allocating a fixed portion of oil revenues to SSN.
- Strengthen partnerships among civil society organizations and social protection organizations in order to improve the targeting mechanisms and broaden the coverage base.

- Improve targeting performance of the SSN, and increase the programmes within the safety net that are more effective in addressing food deprivation and poverty, such as introducing conditionalities linked to educational and health outcomes or supplementing the cash transfer with nutrient-rich food commodities.

Integrating the PDS and SSN systems, via information enhancement and data exchange, will enable the PDS to target poorest, and a portion of the savings from reducing PDS expenditures can be directed to cover the rising SSN costs. This will also increase the efficiency of public expenditures and the proportion of overall expenditures that is actually transferred to beneficiaries.

5.3.2. Recommendations for Pillar 2: Enhancing sustainable agriculture production

- Give priority to the implementation of the national climate adaptation plan, community-based resilience building, emergency preparedness and livelihood diversification initiatives, which will improve ability to withstand repeated natural droughts and the impacts of climate change.
- Adopt a cohesive sustainable agricultural approach to confront the serious contextual and climatic challenges ahead.
- Establish a comprehensive policy framework for sustainable water resources management, improved institutional capacity for water resources planning and management, improved water-use efficiency and increased effectiveness of existing water infrastructure.
- Strengthen public investments in salinity management, land reclamation, and irrigation and drainage systems, and provide socially profitable interventions, particularly agricultural infrastructure development and agricultural research and extension, while transitioning from output and input price subsidies.
- Revitalize agricultural activities and livelihoods across the most affected and damaged areas through swift and focused intervention, such as repairing damaged irrigation systems and providing temporary watering systems in

the form of new wells and extended water transportation pipes.

- Diversify cropping with a focus on higher income-generating crops, such as dates, fruits and vegetables, and introduce new technologies, such as water-saving technologies and drought-resistant crop varieties, for a more productive sector.
- Develop effective, diversified and adaptive seeds systems based on improved genetic performances, especially wheat and barley, which can help to avoid or overcome the effects of climate change.
- Improve food systems through, for example, promoting consumer behaviour change towards healthy diets, governance of the wholesale and retail segments of the value chain, and the overall affordability of food to key groups of consumers, especially the most nutritionally vulnerable.
- Identify and prioritize local needs and support the provincial reconstruction teams that have been set up to provide technical assistance to support microfinance institutions, agribusiness programmes, value chains and markets, and the marketing of agricultural products with special emphasis to the livestock sector.

5.3.3. Recommendations for Pillar 3: Addressing the triple burden of poor nutrition

Literature from different geographical contexts, including Brazil, Kenya and South Africa (Drake et al., 2016) and examples from the MENA region (WFP, 2016) indicate that the most sustainable government-owned programmes are those designed and implemented holistically by the education, health and TVET sectors.

- Promote public-private partnership approaches to create more active participation, especially to improve healthy food preferences, local and seasonal food consumption, and efficient and stable supply chains. Achieving this will call for consistent investments.
- Implement programmes in line with the paradigm shift towards local sourcing and

production of food and away from food aid except in humanitarian crises. This shift has led to countries all over the world introducing stronger regulatory frameworks as well as financial reporting mechanisms. Emerging trends include a stronger role for the community in national policy and greater recognition of the role of smallholder farmers, including women, in food production and preparation. This also benefits from integrating the nutrition education component in the national curriculum at primary level and reframing ad hoc school meals systems. Positioning schools as a point of entry to provide basic needs to all Iraqi children, such as access to a healthy diet and potable water, adequate sanitation facilities and health care, will also increase the level of nutrition-sensitive agricultural interventions aimed at improving the nutritional status of all age groups, especially infants and young children, including the reduction and management of acute malnutrition, and vitamin and mineral deficiencies.

- Strengthen monitoring and surveillance systems for nutrition, including government baseline measures, regular inspections to ensure quality standards and regular data collection on nutritional quality of the food against children's well-being and educational attainment. This will improve the use and reporting of agreed indicators to monitor progress in achieving SDG 2.

5.3.4. Recommendations for Pillar 4: Increasing employment, especially among youth and women

- Increase investment in cooperatives and business incubators to increase employment, with special emphasis on rural areas diversifying their services and integrated activities involving women.
- Develop medium-term (1–2 year) courses in technical, financial and business management training in selected colleges for farm technicians and managers.
- Promote and support growth of businesses. To incubate businesses, the government should revisit its credit/loan scheme, and a better

analysis should be conducted on the comparative advantage of establishing certain activities in rural or urban areas. The balance between rural and urban areas should be coherent with the infrastructural development planned by different ministries and governorates.

- Design and implement a national strategy to revitalize the vocational training system, in order to incorporate the latest knowledge and research, and to be able to accommodate the requirements of the labour market in both rural and urban areas.
- Explore alternative educational approaches, including the use of mobile learning units, remote learning, the internet, television, social media and mobile phones as effective channels for knowledge to address rural-urban disparities.

5.3.5. Recommendations for Pillar 5: Reforming marketing, trade and pricing policies

Develop a national strategic food reserve especially for strategic crops to ensure the food availability and guarantee buffer stocks of essential commodities to stabilize prices for optimal consumption and sustenance of nutrition security. This strategic inventory policy will tend to protect the poor segment of the population in front of the highly volatile commodity markets. It also would pay specific attention to wheat, which dominates the average diet of the Iraqi population and is subject to climate change variability.

- Ensure food markets are highly efficient and transparent, with effective control of food price inflation. Import and export controls, supply management and price floors are the kinds of measures that governments typically take to keep prices within acceptable ranges.
- Restore agricultural markets to make value chains function again.
- Enhance market effectiveness through appropriate administrative and regulation tools and, at the same time, reduce market distortions due to subsidies of food consumption.
- Initiate progressive rationalization of government intervention in agricultural commodity prices with, in parallel, a liberalization of the markets for

fertilizer and other inputs.

- Conduct a comprehensive study on the wheat sector in order to assess its sustainable profitability and to understand to what extent the market trade of this sector could be liberalized, and investigate the advantage of a shift to higher yielding and income-generating crops, such as dates, fruits and vegetables. Existing policies aimed at supporting wheat producers have often led to inefficiencies and decreased production. The current procurement price represents a sharp price decline from recent years and may lead to a lower planted area in coming years. Lower world oil prices and the cost of Iraq's ongoing reconstruction will most likely present another constraint to support for Iraq's agriculture sector.

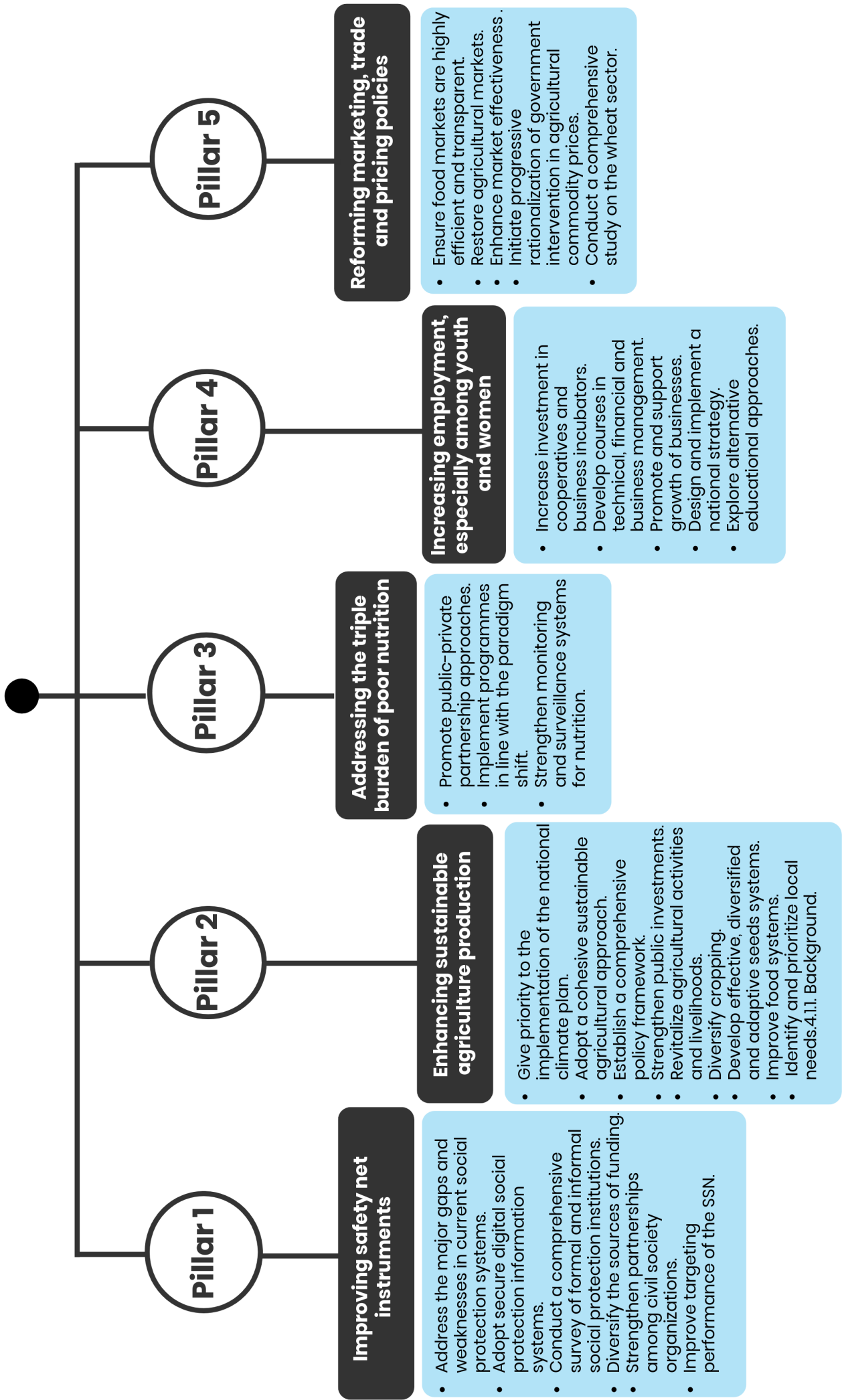
5.3. General action recommendations

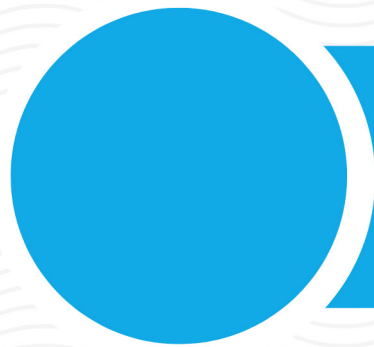
Achieving Zero Hunger in Iraq by 2030 is attainable if sufficient resources are allocated and appropriate policies and investments are pursued. Key to this will be establishing a process to develop a holistic and coherent Food and Nutrition Security Policy based on specific actions and recommendations (as introduced in Chapter 4), and building appropriate institutional arrangements for the effective governance of the food system, including effective alignment and coordination of programmes, and Facilitated by the committee that is headed by

efficient resource allocation across sectors. the Secretary-General of the Council of Ministers, the first step is to convene a multi-sectoral and multistakeholder forum to establish a coordinating mechanism. Looking beyond the establishment of such an entity, appropriate strategies and policies will need to refocus on Iraq's food and nutrition challenges identified in this Review. To achieve this, a high-level process should be convened to: i) review the five key analyzed pillars and ensure their focus on a shared vision developed on a foundation of sound evidence, and ii) to agree on the strategic options for Zero Hunger.

This process should identify and design alternative policy options or policy packages to address sectorspecific or economy-wide issues, and consider whether appropriate institutional arrangements for implementation are in place. A related activity is to assess the individual, organizational and systemic capacities required and the financing available to adopt and support different policy options. This could be supported through applying a food security and nutrition lens to capacity with regard to: individuals (analytical tools, skills), organizations (staff, infrastructure), and wider systems (cross-sectoral mechanisms and platforms for engagement). Based on this information, decision-makers can choose the policy package that optimizes the net expected impacts of a given action.

Recommendations





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Annex
I

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Methodology

Annex I: Methodology

Research Objectives

In line with the targets of Sustainable Development Goal 2 (SDG 2), this Strategic Review was explicitly intended to provide indications for eliminating food insecurity and malnutrition in Iraq, and suggests enabling conditions, policies, institutions, costs and other capacities to help achieve this target.

This strategic review was conducted with the support of the Government of Iraq and WFP/ICARDA partner efforts to eliminate food insecurity and malnutrition in the country. The review sought to understand the current status of the implementation of SDG 2 in Iraq, identify knowledge gaps, and provide an indication of the sort of policy, institutional changes and resources required for effectively implementing the Goal. In response to these efforts, the purpose of the research is to meet the following overall and specific objectives:

Overall objective: To discuss, synthesize and prioritize actions that will be required to meet response gaps and accelerate progress toward ensuring food security and enhanced nutrition, in line with the four key areas of SDG 2.

Specific objectives:

- To undertake a comprehensive analysis of the current food security, nutrition situation, and agricultural sustainability against SDG 2 targets;
- To review current food security, nutrition and agricultural sustainability policies which are being considered and undertaken in Iraq for eradicating hunger;
- To determine the progress and achievements of current food security policies and programmes, and the adequacy of the institutional setup and allocation of resources; and on this basis identify the required policy and institutional gaps, as well as the resources needed to achieve SDG 2 objectives in Iraq (and goals or targets that are implied or established both at national and regional levels).

Research Questions

In order to make realistic recommendations for strategic interventions and actionable areas to achieve SDG 2 and its targets in a comprehensive manner, the participation of all key partners is required. To effectively guide this work, the research responds to seven main research questions:

1. What are the trends, main drivers, and problems of food insecurity and malnutrition in Iraq?
2. What are the main causes and threats that generate food insecurity and malnutrition in Iraq?
3. Which existing programmes, financial frameworks, policies, legal and institutional strategies have addressed the food and nutrition challenges?
4. What are the main gaps of the existing Iraqi programmes related to food and nutrition security?
5. What are the existing resources and national institutional capacities devoted for SDG 2 targets, and what are the related gaps?
6. What priority actions and interventions might be appropriate to fill these gaps, and therefore accelerate progress towards achieving sustainable food security and nutrition?
7. How can these strategic interventions and actionable plans be implemented from the stakeholders' perspective, and what are the anticipated costs?

Research Methodology

The research methodology includes:

A desk/literature review to extract information from various types of documents both published and unpublished. Documents included scientific reports, books, journal articles, working papers, research reports, web-based publications, national policy documents, programme frameworks, national evaluations, financial reports and budgets, funding reports, annual reports, monitoring reports, workshop proceedings, and other documents related to food and nutrition security in Iraq. Both quantitative and descriptive information were collected. The research team used this desk research to identify the most important information to be used in the analysis for the Strategic Review.

A total of 12 in-depth interviews with local experts, government officials, civil society representatives, and relevant stakeholders identified in consultation with WFP and the project's technical advisor (See Annex V for a list of organizations which contributed to the key informant interviews and validation workshops).

Six (6) focus group discussions (FDG's) with government officials, academia, civil society and food security committee members.

Timeline

The analysis of this research, the compilation and the validation workshops took place over the period between 07 January 2018 and April 15, 2018. Activities started with several rounds of discussions between various technical experts from WFP, ICARDA, UN Agencies, and the World Bank and concerned Ministries, along with a review of existing literature of all relevant background and research documentation, in addition to documents from similar reports relevant to SDGs in general and SDG 2, in particular, which aims to define the key pillars needed to achieve SDG 2 and consequently to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Data Collection

Data and information needed for the Strategic Review process were collected using different data collection tools that included consultation; desk research; and key informant interviews.

Consultations were done by an ICARDA team that interviewed and discussed issues with key stakeholders, supported by WFP staff. Representatives from the following organizations and institutions participated: Ministry of Planning, Ministry of Labour and Social Affairs, Ministry of Trade, Ministry of Water Resources, the National Food Security Committee (FSC) headed by the Ministry of Agriculture with the support of FAO, and The World Bank.

The technical representatives endorsed once again the five key actions areas defined and presented during the first workshop validation meeting (held on 5 March, 2018) and stressed the need for a change to achieve sustainable results at SDG level and in particular for SDG 2.

This need derives from two key drivers: a) the reduced funding scenario leading to the necessity to increase efficiency through targeting, and b) the awareness to improve collaboration among concerned institutions.

Field research was conducted in the form of Focus Groups Discussions (FGD's) and Key Informant Interviews (KIIs) using semi-structured questionnaires.

The selection of the key informants was based on the desk research and comprised representatives from most of the state, non-governmental, academic, and community-based organizations, who are working in the fields of food security, nutrition and sustainable agriculture.

Annex II: Empirical Results

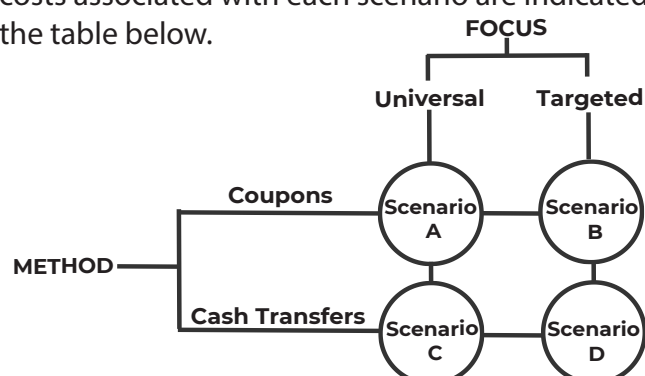
Options for reforming the PDS system

The eventual goal of the food security system is to assist every citizen in getting a minimal level of nutrition depending upon the individual's own ability to provide for it. This is tied to the broader concept of the state's responsibility of providing income opportunities for its citizens that in turn creates self-sufficiency. The state also has the responsibility to provide a safety net for vulnerable food insecure sections of the populations until they are able to enhance their incomes through effective participation in the economic growth process. As such, state-sponsored food security initiatives should be limited only to those individuals who do not have the income or other means to provide for themselves. These two basic tenets form the platform for reforming Iraq's PDS.

To end the existing order and re-institute a fresh system that has social and economic legitimacy two schools of thought have emerged:

1. One of them advocates the replacement of the in-kind food subsidy with cash transfers with immediate effect.
2. The second proposes a move towards a targeted food support system through income supplements over a transition period after taking into account many social, economic and political factors critical to its sustainability.

Upon this premise, four possible scenarios have been presented below, each of which introduces a host of issues that policy makers will have to consider before deciding on a course of action. The costs associated with each scenario are indicated in the table below.



Scenario A: Move from universal in-kind to universal Coupon system

The salient feature of this change is a move from in-kind subsidy to a coupon or a voucher system leaving other things unchanged.

Pros

- Partial monetization of the food subsidy.
- Easier to implement than a cash subsidy in the absence of well-functioning financial infrastructure.
- Food coupons may be perceived as an entitlement to the female head of the household, which may be beneficial to the nutritional welfare of household members.
- Enables beneficiaries to exercise their choice in buying food and other essential items allowed by the program.
- Gives consumers a wider choice of retail outlets.
- Reduces distribution costs for the government.
- Increases opportunity for the private sector in retail food distribution.
- Revives free markets for food and removes price distortions.
- Food coupons may not be as attractive as cash for theft and fraud.
- Food coupons (assigned to beneficiaries) may facilitate more effective legal proceedings against theft and fraud.

Cons

- Does not reduce demand on government budgets.
- Violates the principle of food security only for the needy.

- May be difficult to implement quickly for lack of coupon distribution mechanisms.
- The coupon redemption system (for the merchants) may take some time to develop.
- If food coupons are limited to a given set of food commodities, it will be virtually the same system as the current PDS ration coupon system.

Risks

- The absence of secure delivery mechanisms may result in some recipients being shut out.

Scenario B: Move from universal in-kind to targeted Coupon system

The principal focus of this option is to move the food subsidy gradually from a universal to a targeted system using coupons instead of in-kind transfers.

Pros

The ultimate target would be reached through a gradual process of elimination of undeserving people from the food security net.

Substantial reduction in the government budget.

Adheres to the principles of food security.

May be easier to phase out than a cash subsidy when employment increases.

Would provide all other benefits from 1-7 listed under Option A.

Cons

Requires reliable estimate of household income and good assessment of vulnerability for targeting.

May be difficult to implement quickly for lack of coupon distribution mechanism.

The coupon redemption system (for the merchants) may take some time to develop.

Coupon counterfeiting may become a problem.

Risks

Institutional mechanisms may not be able to handle coupon distribution and redemption efficiently.

Scenario C: The PDS delivery is changed from universal in-kind to universal cash system

The salient features of this approach would be the replacement of the food basket with a cash payment of around USD 17 in local currency to every individual.

Pros

- Cash transfers do not distort market prices; and are therefore conducive to development.
- Cash transfers respect consumer sovereignty; consumers get the freedom to choose the preferred goods from any seller anywhere in the country.
- Administrative costs will be lower because of the absence of food distribution costs.
- Will open opportunities for market development through increased private sector participation in marketing, trading, processing and storage.
- Will increase employment opportunities induced by market development.
- Will revive free market prices and induce the more efficient allocation of resources.
- Will have a salutary effect on domestic agriculture with free market pricing.
- Will Increase opportunities for private sector participation in retail distribution.

Cons

- A universal cash subsidy does not reduce demand on the government budget beyond savings through reduced distribution costs.

- Cash transfers may be inflationary, especially during the initial period of large-scale cash transfers to consumers if the market supplies cannot meet the new demand for food and other goods from consumers.

- Cash transfers would require secure, wellfunctioning and widely-spread delivery mechanisms (banks, financial institutions) which may be difficult to obtain in the short-run in Iraq.
- The universal cash entitlement created in the short run may encounter significant opposition to its elimination later on.
- Cash transfers may not be used for the intended purpose by its recipients.
- Lowers the control of the female head of households, who are more concerned about nutritional welfare of household members, especially of children.
- Cash may have a greater proneness to theft and fraud.
- Cash transfers may induce more non-food purchases.
- Adheres to the principles of food security.
- May be easier to phase out than a cash subsidy when employment increases.
- Would provide all other benefits from 1-7 listed under Option A.

Cons

- Requires reliable estimate of household income and good assessment of vulnerability for targeting.
- May be difficult to implement quickly for lack of coupon distribution mechanism.
- The coupon redemption system (for the merchants) may take some time to develop.
- Coupon counterfeiting may become a problem.

Risks

- Institutional mechanisms may not be able to handle coupon distribution and redemption efficiently.

Risks

- May entrench itself as an entitlement in the minds of the public.
- The nutritional goals may be jeopardized.
- The absence of secure cash delivery mechanisms may result in some recipients being left out of the food security net.

Scenario D: Move from universal in-kind to targeted cash systems

This approach would be compatible with rising employment and stable market prices.

Pros

- Would achieve the end goal of food security i.e. efficient income transfers to targeted vulnerable groups.
- Would provide all the benefits from 1-7 listed under Option A.
- Will have the beneficial impacts of cash transfers on the consumers, markets and agriculture, as mentioned above.
- Will meet the food security objective of assisting vulnerable groups and achieving food security.
- Will benefit from the efficiency gains and

Scenario B: Move from universal in-kind to targeted Coupon system

The principal focus of this option is to move the food subsidy gradually from a universal to a targeted system using coupons instead of in-kind transfers.

Pros

- The ultimate target would be reached through a gradual process of elimination of undeserving people from the food security net.
- Substantial reduction in the government budget.

² This figure is based on the WFP calculation for a "Survival Food Basket". The minimum food basket monitored by WFP contains five food commodities. The quantities are adjusted against the survival caloric intake needs. The five commodities are wheat flour (6.75Kg), sugar (1Kg), rice (6.75Kg), vegetable oil (0.9L) and lentils (1.8Kg). The food basket analyzed is the monthly minimum food basket per household.

other benefits (discussed above) provided by targeting.

Cons

- The undesirable effects will be same as the ones discussed above under universal cash transfer option; but being a targeted option, the intensity of the effects may be lower.
- Requires the presence of well-functioning cash delivery systems with extended outreach.

The scenarios shown above could also be viewed as distinct phases in the gradual transformation of the PDS. In that case, one possible movement would be from scenario A (first phase) to scenario B (second phase) to scenario D (final phase). The logic of this sequence is based on the necessity of having a functioning financial system and improvement of income opportunities before a relatively risk free cash transfer system could work out.

The second possible movement may be from Scenario

A (phase one), to scenario C (phase two) to scenario D (final phase). This could have an advantage if it is believed that the socio-economic system would take a longer period to recover and universal food subsidy has to be provided for a longer period.

Iraq: Food subsidy rationalization options 2019-2022 (USD)

Assumptions:

1. Total population of 39.76 million is 2018, assumed to increase by 2.5% annually.
2. Per person per month ration value in 2018 is USD 7, considering stocks coming from 2017.
3. Operating costs are estimated at 10% from the universal distribution cost.
4. Targeting at 80%, 60%, 40% and 20% of the population in 2019, 2020, 2021 and 2022 respectively.

Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
Option 1: In-Kind PDS Distribution (Value of current food basket USD 7)					
Universal PDS Distribution Cost ¹	3,339,840,000		3,512,343,576	3,601,908,324	3,693,757,032
Operating costs	33,398,400	342,500,592	351,234,357	360,190,832	369,375,703
Total	3,673,824,000		3,863,577,934	3,962,099,156	4,063,132,735
Targeted PDS Distribution from 2019 ²	3,339,840,000		2,107,406,146	1,440,763,330	738,751,406
Operating costs	333,984,000	274,000,474	210,740,615	14,4076,333	73,875,140
Total	3,673,824,000		2,318,146,760	1,584,839,663	812,626,547
Option 2: Conversion to Universal Cash of USD 17/person/month					
Disbursement Requirement ³	8,111,040,000		8,529,977,256	8,747,491,644	8,970,552,792
Operating costs	811,104,000	831,787,152	852,997,726	874,749,164	897,055,279
Total	8,922,144,000		9,382,974,982	9,622,240,808	9,867,608,071
Option 3: Annual Reduction of coverage by 20% each year from 2019-2022 (Cash/coupon at USD 17/person/month)					
Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
Population Covered (%)	100	80	60	40	20
Population Covered	39,760,000	32,619,104	25,088,168	17,151,944	8,794,659
Targeted cost	8,111,040,000		5,117,986,272	3,498,996,576	1,794,110,436
Operating costs	811,104,000	665,429,722	511,798,627	349,899,657	179,411,044
Subsidy Reduction: 0-20-20-20	8,922,144,000		5,629,784,899	3,848,896,234	1,973,521,480

³ Per person per month ration value in 2018 is USD 7 considering stocks coming from 2017

⁴ Targeting at 80%, 60%, 40% and 20% of the population in 2019, 2020, 2021 and 2022 respectively.

Option 4: Annual Reduction of coverage by 40% in 2019, 20 % from 2020-2021 and 50% in 2022 (Cash/coupon at USD 17/ person/month)					
Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
Population Covered (%)	100	60	40	40	20
Population Covered	39,760,000	24,464,328	16,725,445	17,151,944	8,794,659
Targeted cost	8,111,040,000		3,411,990,780	3,498,996,576	1,794,110,436
Operating costs	811,104,000	499,072,291	341,199,078	349,899,657	179,411,044
Subsidy Reduction:					
0-40-20-0-50	8,922,144,000		3,753,189,858	3,848,896,234	1,973,521,480
Option 5: Annual Reduction of coverage by 30% in 2019, 30 % from 2020-2021 and 50% in 2022 (Cash/coupon at USD 17/ person/month)					
Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
Population Covered (%)	100	70	40	40	20
Population Covered	39,760,000	28,541,716	16,725,445	17,151,944	8,794,659
Targeted cost	8,111,040,000		3,411,990,780	3,498,996,576	1,794,110,436
Operating costs	81,1104,000	582,251,006	341,199,078	349,899,657	179,411,044
Subsidy Reduction:					
0-30-30-0-50	8,922,144,000		3,753,189,858	3,848,896,234	1,973,521,480
Option 6: Annual Reduction of coverage by 20% in 2019, 40 % from 2020-2021 and 50% in 2022 (Cash/coupon at USD 17/ person/month)					
Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
Population Covered (%)	100	80	40	40	20
Population Covered	39,760,000	32,619,104	16,725,445	17,151,944	8,794,659
Targeted cost	8,111,040,000		3,411,990,780	3,498,996,576	1,794,110,436
Operating costs	811,104,000	665,429,722	341,199,078	349,899,657	179,411,044
Subsidy Reduction:					
0-20-40-0-50	8,922,144,000		3,753,189,858	3,848,896,234	1,973,521,480

Options for reforming the PDS system with enhanced targeting (the PDS targeting only poor people)

In this section, we present the results of a system for which the same total budget is used but equal size cash transfers are received only by people classified as poor using a total value of the PDS food basket for USD 17.

The recent statistics suggest that 22.5% of the Iraqi population are poor. In our hypothesis, we assume the following:

- Total population of 39.76 million is 2018 assumed to increase by 2.5% annually.
- The PDS budget for 2017 will remain the same as for the period 2018-2022, and the operating costs (10%) are included within the allocated PDS budget.
- The operation costs are approximately 10% of the PDS budget.
- All poor Iraqis are perfectly identified and are given a PDS (In kind; voucher or transfer).

Scenario 1: The poverty rate will decrease progressively in the coming 5 years: 22.5%; 20%; 17.5%; 15%; 12.5% for 2018, 2019, 2020, 2021, and 2022, respectively, and the budget allocated to the PDS will remain unchangeable (USD Billion 1.6)

Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
% Poor Population	22.5%	20%	17.5%	15%	12.5%
Poor Population targeted	8,946,000	8,154,776	7,317,382	6,431,979	5,496,662
PDS allocated budget (USD)	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000
Operating costs (USD)	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000
Distributed PDS budget (USD)	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000
In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/year (USD)	204	204	204	204	204
In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/month (USD)	17	17	17	17	17
Total cost needed to cover the poor population (USD)	1,824,984,000	1,663,574,304	1,492,745,928	1,312,123,716	1,121,319,048
Coverage rate of PDS for poor population (%)	78.9	86.5	96.5	109.7	128.5
Budget Needed /Exceeded to cover the full poor population (USD)	384,984,000	223,574,304	52,745,928	-127,876,284	-318,680,952

Scenario 2: The poverty rate (22.5%) and the budget allocated to the PDS will remains the same for the coming 5 years (USD Billion 1.6)

Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
% Poor Population	22.5%	22.5%	22.5%	22.5%	22.5%
Poor Population targeted	8946000	9174123	9408063	9647969	9893992
PDS allocated budget (USD)	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000
Operating costs (USD)	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000
Distributed PDS budget (USD)	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000
In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/year (USD)	204	204	204	204	204
In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/month (USD)	17	17	17	17	17
Total cost needed to cover the poor population (USD)	1,824,984,000	1,871,521,092	1,919,244,852	1,968,185,676	2,018,374,368
Coverage rate of PDS for poor population (%)	78.9	76.9	75.0	73.1	71.3
Budget Needed /Exceeded to cover the full poor population (USD)	384,984,000	431,521,092	479,244,852	528,185,676	578,374,368

Scenario 3: Optimal PDS ration cost where we have all the poor population covered by the PDS budget

(The poverty rate (22.5%) and the budget allocated to the PDS will remain the same for the coming 5 years)

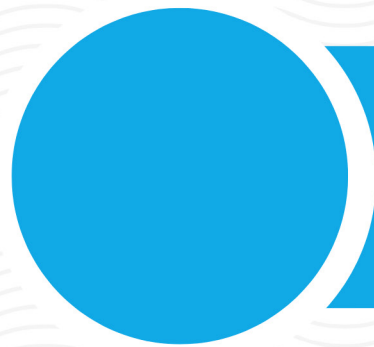
Years	2018	2019	2020	2021	2022
Total Population	39,760,000	40,773,880	41,813,614	42,879,861	43,973,298
% Poor Population	22.5%	22.5%	22.5%	22.5%	22.5%
Poor Population targeted	8946000	9174123	9408063	9647969	9893992

PDS allocated budget (USD)	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000	1,600,000,000
Operating costs (USD)	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000
Distributed PDS budget (USD)	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000	1,440,000,000
In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/year (USD)	160.9	156.9	153.0	149.2	145.5
Optimal In-kind cost of PDS food basket (Voucher/cash transfer)/poor capita/month (USD)	13.41	13.08	12.75	12.43	12.13

Option for merging the PDS and SSN programmes into a mainly voucher-based system (the PDS targeting only poor people)

Pillar 1: Improving food safety net					
Goal/Objective	Action	Costs		Implementation	Comments
		Average annual investment costs (USD million)	Average annual recurrent costs (USD million)		
Objective: Establish efficient and effective food safety net for the poor.	Merge the PDS and SSN programmes into a mainly voucher-based system, targeting the poor.				
	Action 1: Manage and operate the reformed Food Safety Net.		2,000	MOT MOLSA MOP	Costings based on provision of a food basket valued at USD 16.70 to 22.5% of the population who live below the poverty line of IQD 105 000 (USD 84) per month. It also includes 10% overhead costs.
	Action 2: Prepare registered lists of target households with systems for periodic review and revisions.	1.0 (1 year))	1.0	MOT MOLSA MOP Civil society organizations	MOSLA has registered 4 million people. Lists need to be reopened for new applicants who need to be screened and verified.
	Action 3: Redefine the food support package to make it nutritionally suitable.	0.3 (1 year)		MOT MOLSA MOH	The current PDS comprises flour, rice, sugar and oil. A redefined package will include a nutritionally improved set of commodities.
	Action 4: Prepare a detailed design and implementation plan for the complete or partial move to a cash or voucher scheme.	1.0 (1 year)		MOP MOT MOLSA	Define the cash or voucher programme, taking into account results of the recent experience conducted in Najaf Pilot; what commodities and quantities eligible for purchase; the participating shops and stores, and control the audit and complaint resolution systems.

	Action 5: Support high quality production of local commodities procured by the new PDS.	0.2 (1 year)		MOT MOA	PDS reform needs to be closely linked to the agriculture policy currently under preparation.
	Action 6: Establish monitoring and evaluation unit.	1.0 (1 year)	1.0	MOP MOT MOLSA MOH	The unit would primarily monitor and evaluate the functioning of the new PDS/SSN. It would also monitor progress on SDG 2.1 and SDG 2.2, and report to the overall SDG 2 monitoring unit.
Total		3.5 (1 year)	2.002		



Tables, Figures and Maps

Table 1. Sustainable Development Goal 2 targets

Goal No	Targets	Indicators
2.1	By 2030, end hunger and ensure access by all people, particularly the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.	2.1.1 Prevalence of undernourishment 2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)
2.2	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.	2.2.1 Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age 2.2.2 Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)
2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size 2.3.2 Average income of small-scale food producers, by sex and indigenous status
2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production; that help maintain ecosystems; that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters; and that progressively improve land and soil quality.	2.4.1 Proportion of agricultural area under productive and sustainable agriculture
2.5	By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge, as internationally agreed.	2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities 2.5.2 Proportion of local breeds classified as being at risk, not-at-risk or at unknown level of risk of extinction
2.5a	Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, particularly least-developed countries.	2.5a.1 The agriculture orientation index for government expenditures 2.5a.2 Total official flows (official development assistance plus other official flows) to the agriculture sector

2.5b	Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.	2.5b.1 Agricultural export subsidies
2.5c	Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, to help limit extreme food price volatility.	2.5c.1 Indicator of food price anomalies

Source: UNDP, 2015.

Table 2. Commodity balances of the main food groups in Iraq, 2015

Item	Self-dependency (%)	Available for consumption	Balance		Imports		Exports		Production
			V	Q	V	Q	V	Q	
Cereals (Total)	97.31	7592.36	348.27	204.36	361.93	274.44	13.66	70.08	7388.00
Wheat and flour	99.91	2647.41	114.45	2.41	128.11	72.49	13.66	70.08	2645.00
Maize	100.00	289.00	0.00	0.00					289.00
Rice	84.39	1293.95	225.25	201.95	225.25	201.95			1092.00
Barely	100.00	3297.00	0.00	0.00					3297.00
Potatoes	97.24	1657.30	16.49	46.30	16.49	46.30			1629.00
Pulses (Total)	50.83	11.67	4.15	5.74	5.04	8.84	0.89	3.10	5.93
Vegetables (Total)	96.09	3287.59	67.64	128.59	67.66	128.61	0.02	0.02	3159.00
Fruits (Total)	84.53	1625.01	82.41	251.31	91.95	288.39	9.54	37.08	1373.70
Sugar (Re-fined)	0.31	402.65	306.58	401.38	306.58	401.38			1.27
Fats & Oils (Total)	17.05	126.64	62.02	105.05	62.04	105.07	0.02	0.02	21.59
Meat (Total)	81.33	381.31	112.41	71.18	113.12	71.54	0.70	0.37	310.13
Red Meat	99.74	236.75	2.76	0.62	3.01	0.70	0.25	0.08	236.13
Poultry Meat	51.19	144.56	109.66	70.56	110.11	70.84	0.45	0.29	74.00
Fish	59.96	115.85	64.00	46.38	64.00	46.38			69.47
Eggs	35.59	95.18	53.39	61.30	53.45	61.38	0.06	0.07	33.87
Milk & Dairy	49.80	634.17	45.05	318.33	45.15	319.0	0.10	0.73	315.84
Total			1162.42		1187.42		25		

Source: Arab Organization for Agricultural Development, Annual Book of Agricultural Statistics, Volume No. 36, Khartoum, 2016, Table No. 305, page 312.

Note: Value (V): Million-U.S Dollars Quantity (Q): 1000 M.T.

Table 3. Financial needs for enhancing sustainable agricultural production (USD Million)

Pillar 2: Enhancing sustainable agricultural production					
Goal/Objective	Actions	Costs		Implementation	Comments
		Average annual investment costs (USD million)	Average annual recurrent costs (USD million)		
Objective 1: Revive agriculture production systems in conflict-affected area.	Special 2-year programme to revive agriculture in conflict-affected areas.				Special program to be established for conflict-affected governorates, such as Anbar, Diyala, Kirkuk, Ninewa and Salahadin
	Action 1: Repair major and minor irrigation systems in conflict-affected areas.	100 (3 years)		MoWR Local administrations	Small and medium public diversion structure, canals and pumping stations. Short-term decent rural employment opportunities through cash for work.
	Action 2: Repair and rehabilitate on-farm buildings and structures.	50 (3 years)		MoA Local administration	Assistance for reconstruction of on-farm irrigation, livestock shelters, greenhouses and fishponds.
	Action 3: Support restarting production using value chain approach.	50 (3 years)		MoA Local administration	Provision of cash, inputs (seeds, fertilizer and animal feed), tools, equipment and machinery; restocking of livestock; and provision of essential animal health services. Sustainable jobs created.
Subtotal		200 (3 years)			
Objective 2: Create more productive, climate-smart and resilient agricultural production systems.	Integrated set of programmes and actions aimed at increasing productivity, employment and incomes in agriculture and related activities over a five-year period.			MoA MoWR Local administration	Legislative and regulatory changes, institutional reforms and investments will be undertaken in the context of a new Agriculture Policy and Strategy. Water scarcity should be leading element in formulating climate-smart and resilient agrosystems

	Action 1: Rehabilitate and upgrade public infrastructure.	200 (5 years)	60	MOA MOWR MOE	Improvements of existing irrigation and drainage systems and further development of viable and sustainable schemes. Improvement of farm-to-market roads. Irrigation and drainage development will be accompanied by discussion on water sharing with neighboring countries.
	Action 2: Strengthen research, extension and regulatory capacity of national and local institutions.	20 (5 years)	5.0	MOA Universities	Research and extension efforts will promote a diversified production system with an emphasis on high value crops, local processing and value chain development, as well as development of crops and production techniques that are climate smart. Regulatory systems should focus on ensuring quality inputs to farmers and livestock producers, and supplying safe and hygienic products to consumers.
	Action 3: Improve markets and value chains, improve farmers' links to markets, and encourage production of high value crops.	100 (5 years)	1.0	MOA MOT MOP	Market and logistics infrastructure, including transport and storage facilities, will be promoted through public private partnerships. Training will be provided to farmers, transporters and store operators on proper packing and handling of produce. Laws and regulations related to agriculture, including laws on land registration, ownership and leasing/renting will be reviewed.
	Action 4: Enhance supply of credit to farmers for purchasing inputs, machinery and equipment, and for construction facilities.	700 (5 years)		MOA MOP Banks	Flow of short, medium and longer-term credit to farmers will be improved – and 1.7 million farmers will each have access to credit of USD 2 000.

	Action 5: Protect environmental hot spots.	20 (5 years)	5	MOA MOWR	Special focused programmes to address emerging issues, such as land degradation, loss of biodiversity and salinization of soil and water.
Subtotal		1,040 (5 years)	71		
Objective 3: Establish monitoring unit for tracking progress on SDG 2	Establish SDG 2 monitoring unit in the MoA.	1 (5 years)	1	MOA MOP	The Monitoring Unit will collect and compile data on SDG 2 progress. This data and analysis will be shared with the MoP which is in charge of overall progress on SGDs.
Total		1,241 (3-5 years)	72.0		

Table 4. Financial needs for addressing the double burden of poor nutrition

Pillar 3: Addressing the double burden of poor nutrition					
Objectives/Goals	Actions	Costs		Implementation	Comments
		Average annual investment costs (USD million)	Average annual recurrent costs (USD million)		
Objective 1: Improve nutritional status of vulnerable and at-risk groups.	Special 3-year programme to ensure that conflict affected vulnerable groups are provided good nutrition.				Provision of nutritious supplements that will be provided to young children, and pregnant and lactating women where needed.
	Action 1: Provide school meals in conflict-affected areas.	2 (3 years)	64	MOE MOH MOLSA Local Authorities	Meals will be provided in primary schools in six most affected governorates with a target of 200,000 children.
	Action 2: Provide nutrition supplements to pregnant and lactating women, and to infants.	2 (3 years)	50	MOH MOLSA Local Authorities CBOs	Supplements to be provided in six most affected governorates to 100,000 children and women.
	Action 3: Provide nutritious vegetable seed kits to vulnerable households for backyard gardens.		5	MOA	Seed kits and training to be provided in six most affected governorates to 0.1 million HHs, mainly women.
Subtotal		4 (3 years)	119		
Objective 2: Promote nutritional status of all Iraqis through proper nutrition and promotion of healthy eating habits.	Launch of a nationwide school feeding programme, along with building awareness of healthy lifestyle				Vulnerability framework applies at both rural and urban level.
	Action 1: Establish school feeding programme that includes: - refurbishing dining facilities, access to potable water and adequate sanitation facilities, - adding nutrition education and promotion of healthy lifestyles to the school curricula, - introducing school gardens, - establishing a monitoring and inspection unit.	10 (5 years)	160	MOE	Primary schools in all rural and urban areas to be covered (about 500,000 children). Guidelines designed and adopted on school canteen procedures, hygiene and quality standards.

	Action 2: Launch of country-wide awareness campaign involving national media on nutrition and health.	0.1	2.0	MOE MOH	TV campaigns, billboards, radio messages, brochures and handouts/flyers.
Subtotal		10.1 (5 years)	162.0		
Total		14.1 (3-5 years)	281.0		

Table 5. Financial needs for increasing employment especially among youth and women (1000 USD)

Pillar 4: Increasing employment especially among youth and women					
Actions	Target	Costs		Implementation	Comments
		Average annual investment costs (USD million)	Average annual recurrent costs (USD million)		
Objective 1: Provide enhanced access to employment opportunities.	A targeted 5-year programme will be put in place for creating greater employment for youth, women and smallholder farmers in both rural and urban areas.				Priority will be given to poorer governorates, areas of high youth unemployment, and where there are large number of “returnees”.
	Action 1: Provide short-term vocational and technical training for youth, women in rural and urban areas, and smallholder farmers. Establish business incubators, including mobile units for rural areas.	3 (5 years)	3	MOLSA MOE MOA	Training in rural areas will focus on storage, handling and processing of agriculture products, particularly high value products. In urban areas, it would focus on marketing, catering and food businesses. Strong emphasis will be placed on setting up financially sound units.
	Action 2: Develop medium-term (1–2 years) courses in technical, financial and business management training in selected colleges for farm technicians and managers. Scholarships for 200 students a year.	1 (5 years)	1	MOLSA MOE Agricultural colleges MOHESR	Training would be for those who did not complete their educations in rural area and would focus on practical skills in crop and livestock production, management of farm, equipment and irrigation. In urban areas, the focus would be on establishing and managing food processing, marketing and catering businesses. There would be a strong emphasis on business management. Graduating students will be eligible for loans from the proposed investment fund (see Action 3). The official curriculum will designed and adopted by MOE/MOA.
	Action 3: Create an agriculture and rural investment fund.	65 (5 years)	4	MOF MOLSA MOA	The fund would support establishment of small- and medium-scale enterprises related to on- and off-farm activities including production of high value commercial crops; equipment and machinery rental units; and processing, packing and transport activities, including in urban areas.
Total		69.0 (5 years)	8.0		

Table 6. Import of main agricultural commodities in Iraq between 2005 and 2013 (in 1000 USD)

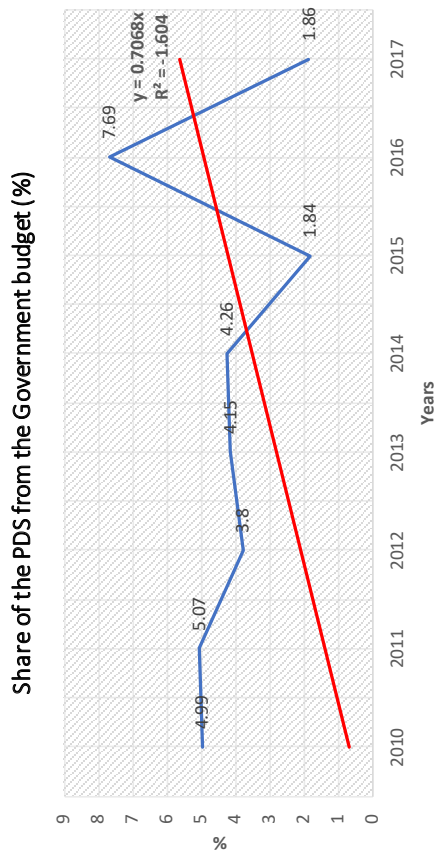
Items	2005	2010	2011	2012	2013
Agriculture Products (Total)	3047406	6430318	7149555	7817781	7970893
Total vegetable oils	265665	340619	532310	660937	606283
Bovine Meat	7585	58378	95343	114681	143612
Cereals	1044474	1407755	2235248	2226424	2307246
Dairy Products + Eggs	189143	629465	531139	626994	766202
Fruit + Vegetables	269507	1645264	615253	554703	753494
Milk Dry	147100	161363	119537	133312	144400
Olive Oil, Total	2421	4648	6293	7203	9239
Oranges+Tang+Clem	12957	46455	110447	132462	124979
Ovine Meat	1068	11047	4927	4969	5365
Poultry Meat	32797	409221	691542	717515	827156
Rice	290154	586720	640038	940730	957321
Total Meat	41713	479229	792391	837918	976975
Sugar,Total (Raw Equiv.)	164136	259700	585931	751242	375497
Wine+Vermouth+Sim.	236	1785	2401	2855	2252

Source: FAOStat 2018.

Table 7. Financial needs for reforming marketing, trade and pricing policies (USD Millions)

Pillar 5: Reforming marketing, trade and pricing policies					
	Actions	Costs		Implementation	Comments
		Average annual investment costs (USD million)	Average annual recurrent costs (USD million)		
Objective 1: Creation of a trade, marketing and pricing system that encourages efficient agricultural production in line with Iraq's comparative advantage and strategic contribution to the PDS.	Review of international trade policies, and domestic pricing and marketing policies related to agriculture.				Based on these reviews, changes in trade, marketing and pricing policies will be formulated.
	Action 1: Create a task team to develop a comprehensive trade strategy for agriculture products. The team will propose changes and include an assessment of their potential impact.	1 (3 years)	-	MOT MOP MOA	The costs and benefits of trade reforms, including current procurement procedures for major imported commodities, will be reviewed, taking into account fiscal base, competitive advantage of national production over imports, and scarcity of natural resources (water).
	Action 2: Create a task team to review agriculture-related marketing and pricing policies, and propose changes to encourage more efficient production and enhance market integration, including with other countries in the region.	1 (3 years)		MOA MOP MOT	The costs, impacts and benefits of various subsidies and pricing measures will be assessed with a view to reduce controls and build capacities of government institutions at central and regional levels.
	Action 3: Create mechanisms for better targeting of subsidies, particularly to small farmers for production of high value crops and climate-smart agriculture.	1 (3 years)	2	MOA MOP	Mechanisms using modern ICT will be developed to target subsidies to poor farmers and to encourage environmentally sound and climate-smart agriculture.
Total		3.0 (3 years)	2.0		

Figure 1. Share of the PDS from the Government budget (%)



Source: Own elaboration from Iraqi national data (2018).

Figure 2. Food production Index and cereal yield index in Iraq compared to a set of MENA and other developing countries (Source: World Bank Development Indicators).

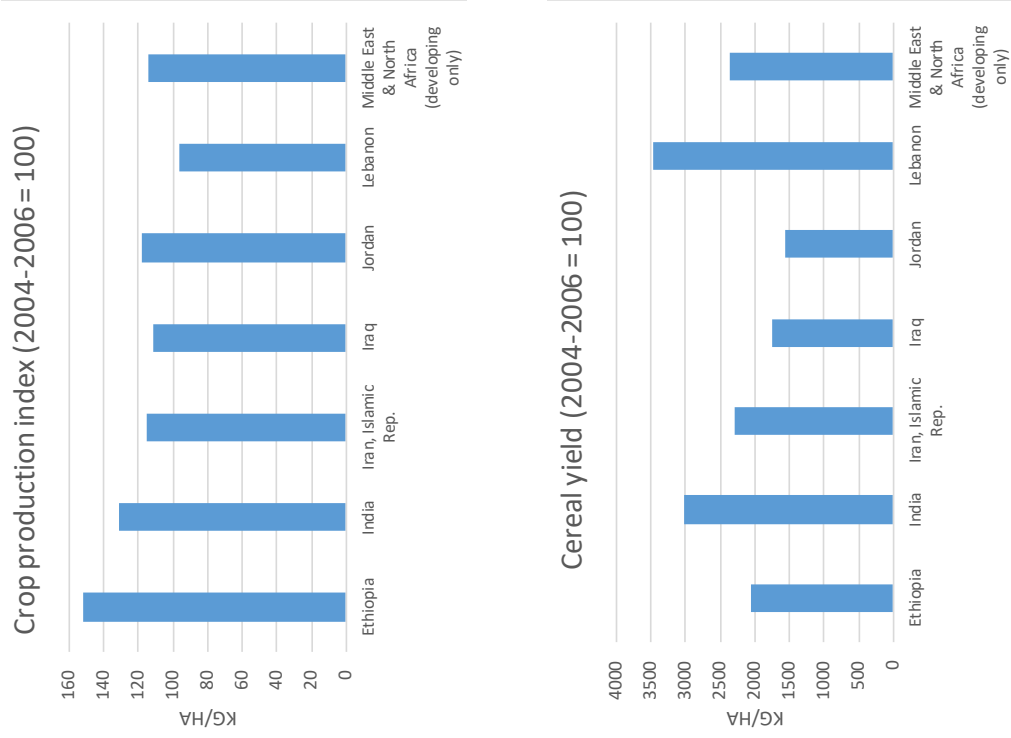


Figure 3. Past trends of agricultural yields for the major agricultural commodities produced in Iraq.



Figure 4. Land use in Iraq between 2004 and 2016.

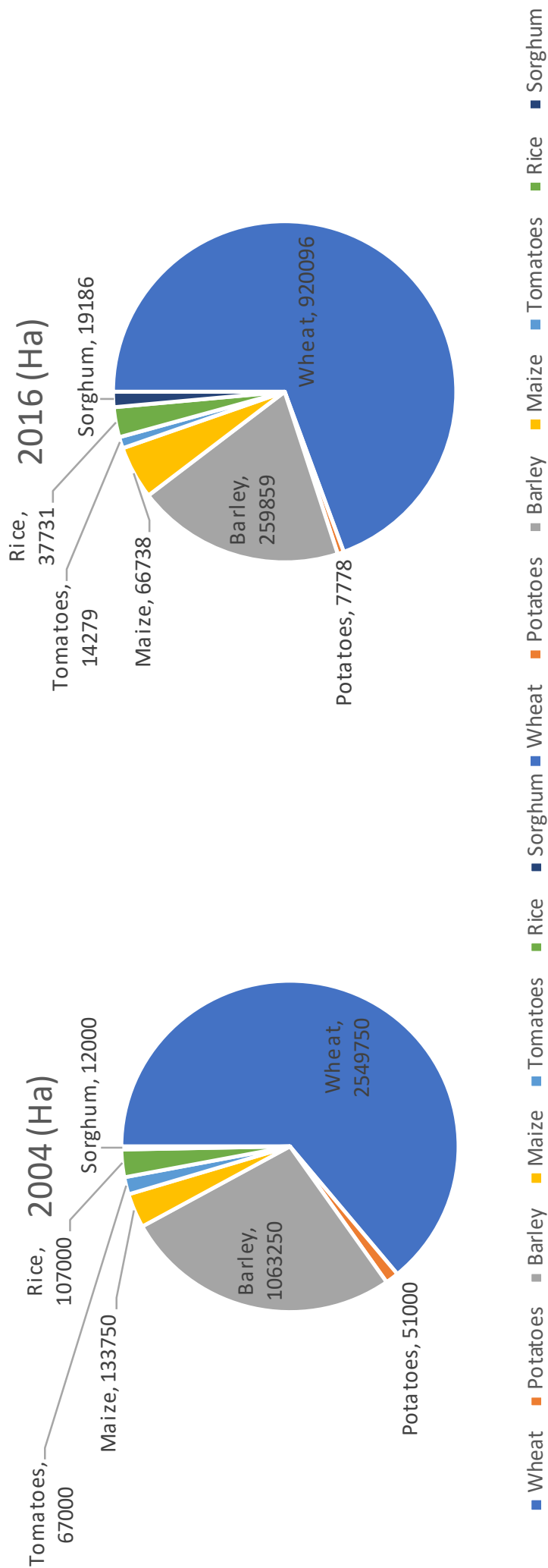


Figure 5. Yield projections under “Business as Usual” (continuous historical trend) scenario (considering population growth and fragmentation SSP economic scenario).

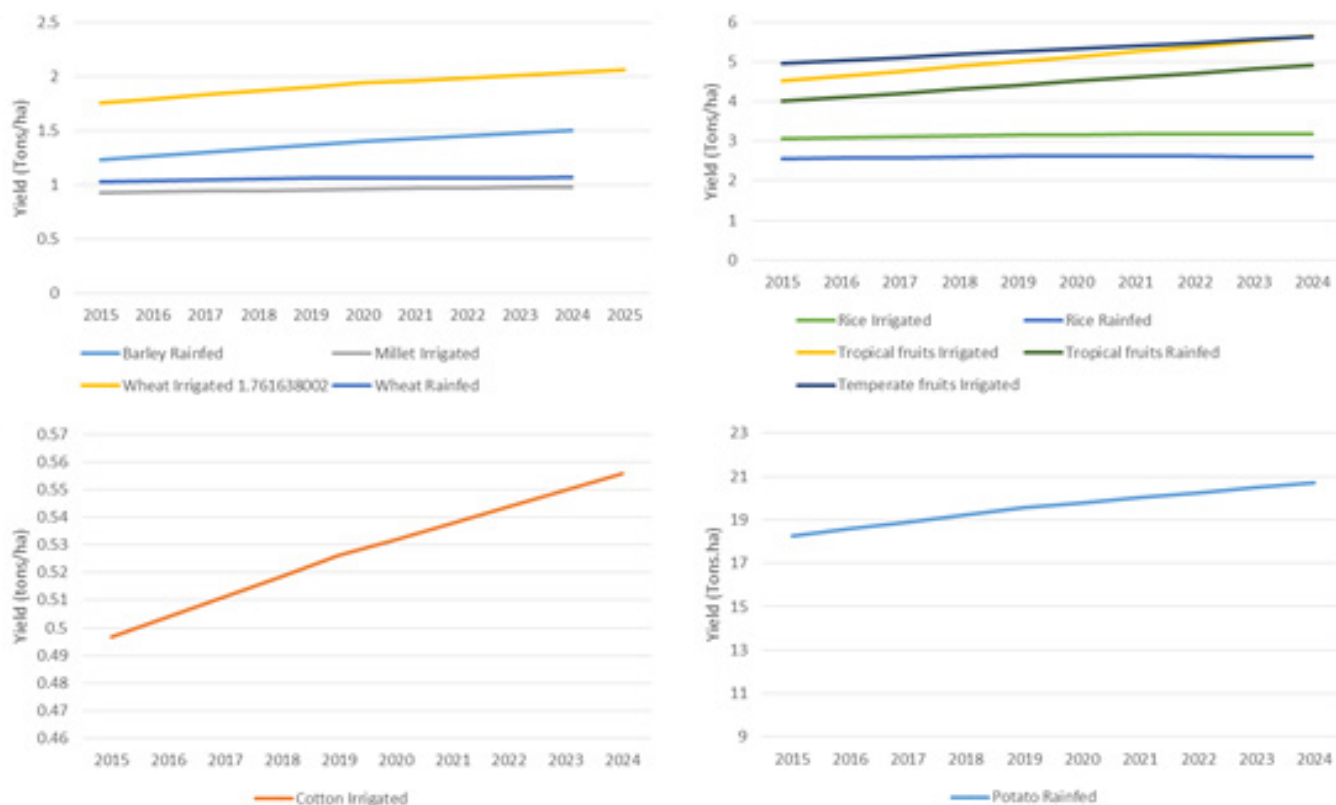


Figure 5 provides some of these yields being which estimated based on model simulations while considering climate change conditions (RCP 8.5 climate scenarios). These projections assume investments and policy conditions will remain the same as they currently are. Based on the obtained yield projections, we also simulated the future trade balance of major agricultural commodities in Iraq (Figure 6), showing that the crop trade balance in Iraq can be exacerbated in agricultural yields and will not significantly improve.

⁶ Using the IMPACT model. Details of the IMPACT model can be found in Robinson, Sherman; Mason d’Croze, Daniel; Islam, Shahnaila; Sulser, Timothy B.; Robertson, Richard D.; Zhu, Tingju; Gueneau, Arthur; Pitois, Gauthier; and Rosegrant, Mark W. 2015. The International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT): Model description for version 3. IFPRI Discussion Paper 1483. Washington, D.C.: International Food Policy Research Institute (IFPRI). <http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129825>.

⁷ Using HGEM climate model

Figure 6. Trends of food trade balance in Iraq based on population and economic growth under fragmentation SSP scenarios.



Figure 7. Historical trends of arable land and irrigated areas between 1961 and 2015

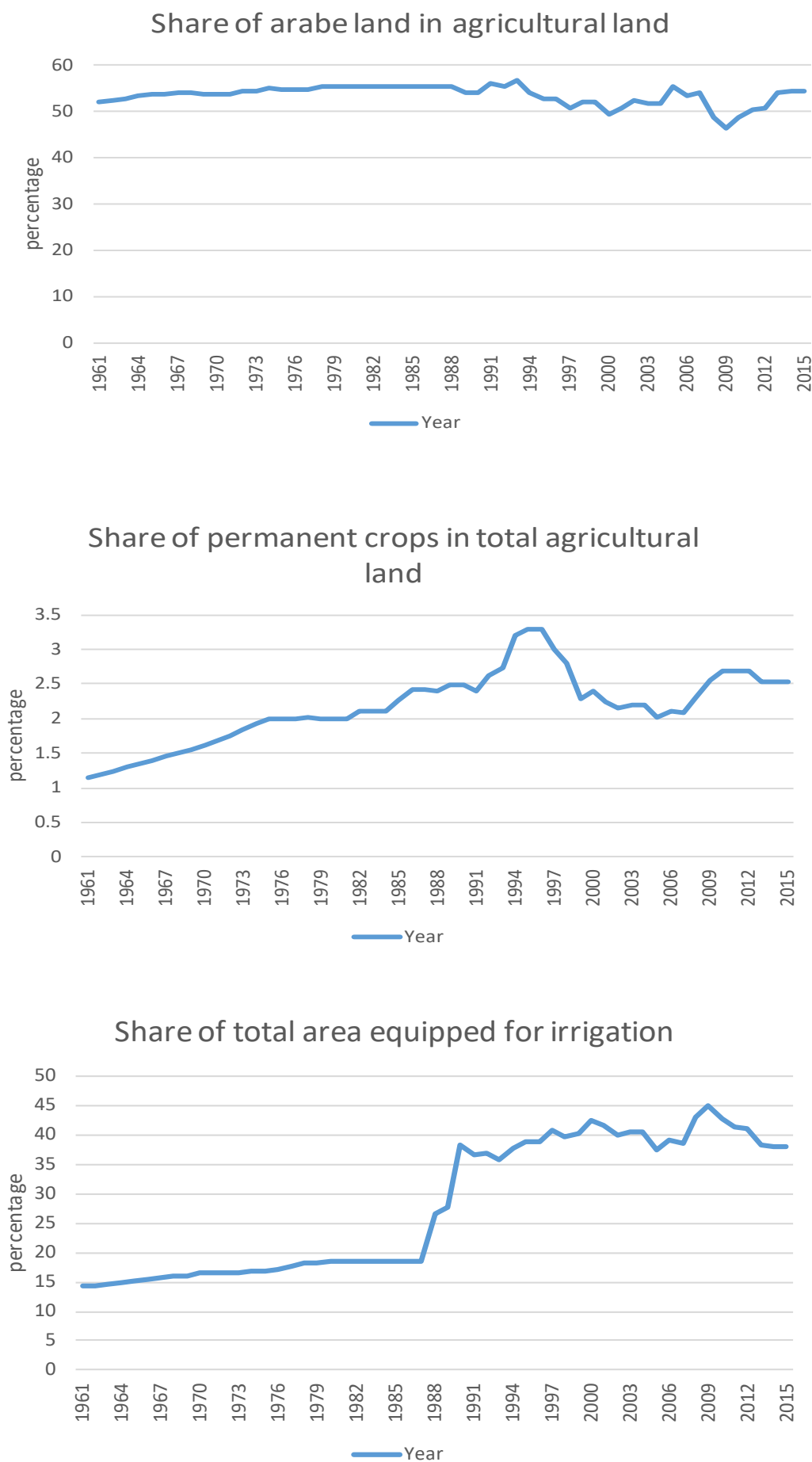
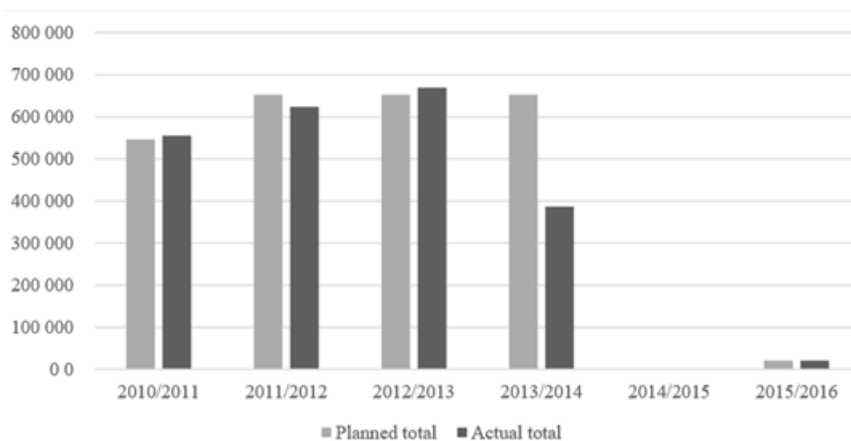
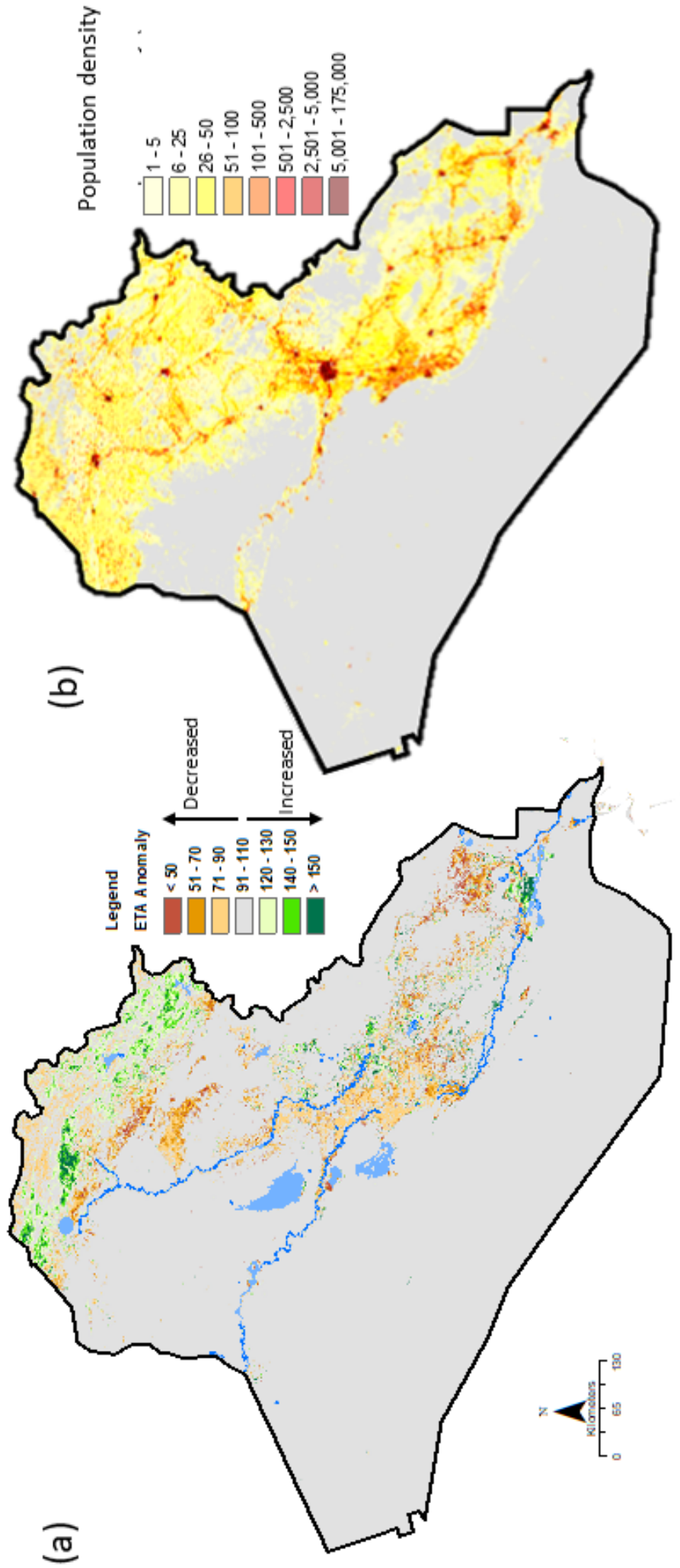


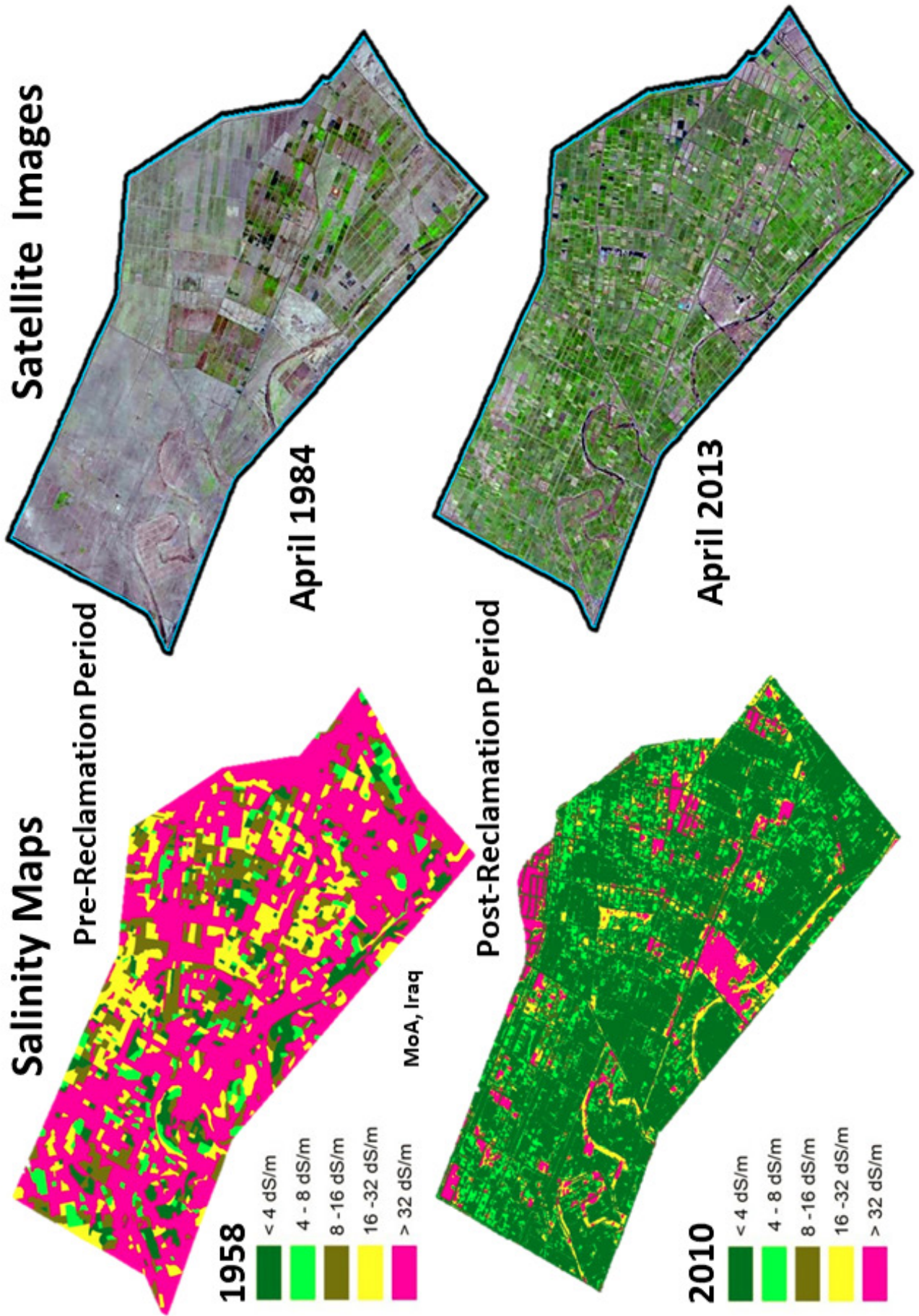
Figure 8. Actual versus planned school meals beneficiaries, 2010-2015 Source: WFP, 2016a.



Map 1. Evapotranspiration anomaly (ETa) map (left) showing area of variability (decreasing or increasing) of the evapotranspiration from agricultural area and (b) corresponding population density



Map 2. Salinity maps and satellite image shows the pre and post salinity reclamation projects in the Dujaila area in Iraq.



Annex III: Architecture of the Consultative Process for the Strategic Review

- **Lead Convener**
 - Hon Dr Mahdi Al Alak - Secretary General of the Council of Ministers
- **Research Team**
 - **Technical Team: International Center for Agricultural Research in the Dry Areas - ICARDA**
 - Dr Boubaker Dhehibi – Agricultural Resource Economist - ICARDA
 - Dr Aymen Frija – Agricultural Economist - ICARDA
 - Dr Enrico Bonaiuti - Monitoring, Evaluation and Learning Specialist - ICARDA
 - Dr Chandrashekhar M. Biradar - Head Geo-informatics Unit - ICARDA
 - **Technical Advisor**
 - Daud Khan (Senior Adviser – World Food Programme – WFP)
- **Pillar Leads (Participants from the different entities)**
 - Representative - Ministry of Trade
 - Representative - Ministry of Agriculture
 - Representative - Ministry of Water Resources
 - Representative – Ministry of Labour and Social Affairs
 - Representative – Ministry of Planning
 - Representative – Ministry of Health
 - Representative – National Food Security Committee
 - Representative – World Food Program
 - Representative – Food and Agriculture Organization
- **List of all participants/ contributors**

Inception and validation 1st workshop (05th February 2018)

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5	Raul Cumba	VAM, Monitoring and Evaluation Officer	World Food Programme
6	Daud Khan	Senior Adviser	World Food Programme
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8	Enrico Bonaiuti	ICARDA Coordinator	ICARDA
9	Salih Badir	Consultant	ICARDA
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14	Aseel Abdel Hamid	Assistant representative of FAO	FAO
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19	Abtahal Hashim Sabet	General Director of Planning(Ministry of Trade)	Minister Of trade
20	AbdulKarim Abdullah Shalal	Deputy Minister of Labour and Social Affairs	Minister of Labour and Social Affairs
21	Maher Hamad Johan	Deputy Minister of Planning	Minister of Planning
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Validation of the 2nd workshop (28th March 2018)

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11	Farooq Alwakeel	Programme analyst	UNDP
12	Munir Thabit	Country director	UNDP
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18	Saad Eldin Mohammed Farhan	Chief Nutritionist	MOH
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20	Mohammed Jawad Kadhim	Director of Agricultural Sector Planning	MOP
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22	Abdulkareem Abdullah Shalal	Deputy Minister of Labour and Social Affairs	MOLSA
23	Raaed Jabar Bahidh	Office of the Deputy Secretary	MOLSA
24	Saad Aldeen	Doctor	MOH

Final restitution workshop (10th May 2018)

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10	Aseel Abdulhameed	Programme assistant	UNFAO
11	Atheer Almothafar	Translator	UNAMI
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14	Munir Thabit	Country director	UNDP
15	Ruaa Adel	Programme assistant	UNICEF
16	Amin Alhillo	Programme officer	WFP
17	Saman Ahmed	Programme officer	WFP
18	Peter Hawkins	Country Director UNICEF	UNICEF
19	Ramzi Niman	Programme officer	World Bank
20	Saad Eldin Mohammed Farhan	Chief Nutritionist	MOH
21	Ibtihal Hashim	Director General of the Department of Planning and Follow-up	MOT
22	Mohammed Jawad Kadhim	Director of Agricultural Sector Planning	MOP
23	Mahir Mohammed Johan	Deputy Minister of Planning	MOP
24	Abdulkareem Abdullah Shalal	Deputy Minister of Labour and Social Affairs	MOLSA
25	Mohammed Khalid Mohammed Farhan	Researcher	MOA
26	Jasim Al Falahy	Deputy Minister	MOH
27	Saad Aldeen	Doctor	MOH
28	Ali Ghaly	Secretariat office	MOA

This section outlines the various public bodies in Iraq that are directly involved in management and policy setting of food and nutrition security in the country. The list below is meant to be indicative rather than extensive.

1. Ministries
 - Ministry of Trade (MoT)
 - Ministry of Agriculture (MoA)
 - Ministry of Water Resources (MoWR)
 - Ministry of Labour and Social Affairs (MOLSA)
 - Ministry of Planning (MoP)
 - Ministry of Health (MoH)
 - Ministry of Education (MoE)
2. Public Institutions
 - University of Baghdad – College of Agriculture
 - University of Wasit – College of Agriculture
 - University of Al Muthanna – College of Agriculture
 - Al Mouthanna Governorate
3. Other Institutions / Entities
 - National Food Security Committee (NFSC)
 - Food and Agricultural Organization (FAO)
 - World Food Program (WFP)
 - United Nations Assistance Mission for Iraq (UNAMI)
 - The World Bank (WB)
 - United Nations Development Programme (UNDP)

AnnexV: Interviews and Validation Workshop Participants



World Food Programme

Government of Iraq	Academia	Civil society
Ministry of Trade	University of Baghdad – College of Agriculture	Al Muthanna Governorate
Ministry of Planning	University of Wasit- College of Agriculture	
Ministry of Agriculture – National Food Security Committee (NFSC)	University of Al Muthanna- College of Agriculture	
Ministry of Water Resources		
Ministry of Labour and Social Affairs		
Ministry of Health		
Ministry of Education		
Ministry of Agriculture		

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION




7 AFFORDABLE AND CLEAN ENERGY



THE GLOBAL GOALS

For Sustainable Development

8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION




14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE AND JUSTICE STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



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