



Identifying agricultural and agrifood products with potential for production and commercialization in Iraq

JULY 2021





This project is funded
by the European Union

Identifying agricultural and agrifood products with potential for production and commercialization in Iraq



Strengthening the Agriculture and Agrifood
Value Chain and Improving Trade Policy
in Iraq (SAAVI)

ACKNOWLEDGMENTS

The study *Identifying agricultural and agrifood products with potential for production and commercialization in Iraq* was drafted by Julia Seiermann under the supervision of Julia Spies and with substantive contributions by Dumebi Ochem. Yvan Decreux provided guidance in developing the methodology.

The study was conducted to support the selection of promising sectors for the project Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq (SAAVI). The project is funded by the European Union and implemented under the leadership of the Government of Iraq through the Ministry of Planning (MoP), Ministry of Agriculture (MoA) and Ministry of Trade (MoT).

The authors are grateful to Eric Buchot, SAAVI Project Coordinator, Ky Phong Nguyen, SAAVI Project Officer, and Vanessa Erogbogbo, Chief of the Sustainable and Inclusive Value Chains section, who supported the process. The authors would also like to acknowledge Karla Solis Ruiz, who provided comments and key information as valuable inputs to the preparation of this study.

Vanessa Finaughty provided editorial and production management. Jesús Alés Villota led art direction and layout, with inputs from the SAAVI project team.

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ACRONYMS AND ABBREVIATIONS

AEZ	Agro-ecological zone
GDP	Gross domestic product
GTAP	Global Trade Analysis Project
FAO	Food and Agriculture Organization
HS	Harmonized System
IO	Input-output
ITC	International Trade Centre
MSME	Micro, small and medium enterprise
PDS	Public distribution system
SAAVI	Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq
SITC	Standard International Trade Classification
WTO	World Trade Organization

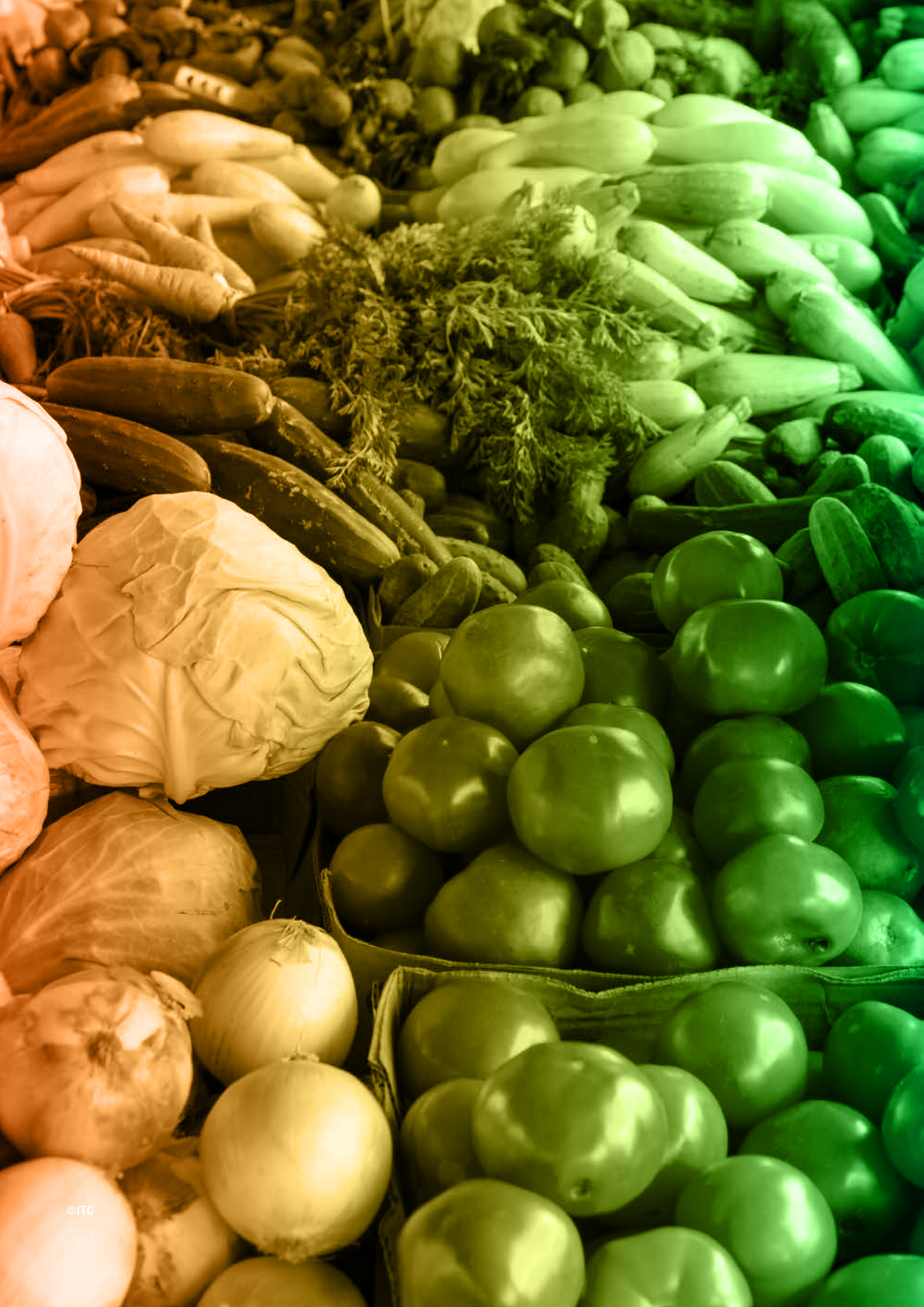
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Executive Summary

This report supports the selection of focus sectors for the Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq (SAAVI) project. It complements the project's pre-inception report¹ and validates its findings using an innovative quantitative approach. In the absence of recent and comprehensive production and consumption data, the analysis leverages current trade data to identify sectors with high domestic demand and supply capacities in the Republic of Iraq. Data on historical exports and agricultural production complements the analysis to ensure a sufficiently broad assessment of the supply side.

The analysis yields a list of 67 products that Iraqi producers are expected to be able to produce competitively, and for which there is considerable demand in Iraq. It further identifies opportunities for value chain development using products for which supply in Iraq is already relatively significant and sustainable. The analysis

results confirm the findings of SAAVI's pre-inception report, suggesting that the following products and sectors present opportunities for increasing production, value chain development and commercialization in Iraq: chicken and eggs, beef and bovine animals, dairy products, and horticulture (most importantly, tomatoes and potatoes). In addition, dried fruits and nuts were identified as potential opportunities.

An analysis of input–output and employment data reveals that each additional \$1 million of production in the crops, livestock and processed food sectors could create approximately 150 new jobs in Iraq, accounting for direct jobs in each sector, indirect jobs along the value chain, and induced jobs through additional demand in the whole economy. At 22%, the share of female employment would be highest in direct employment in the food processing sector.

1. ITC (2020). *Preliminary Research on Potential Target Areas in Products in Iraq* (seen pre-publication).



This project is funded by the European Union

What agriculture products have market potential in Iraq?

ITC conducted an assessment to identify agriculture and agri-food products with market potential in Iraq in the context of the 'Strengthening the agriculture and agri-food value chain and improving trade policy' (SAAVI) project, funded by the European Union.

ITC identified¹ promising agricultural products in Iraq based on²:

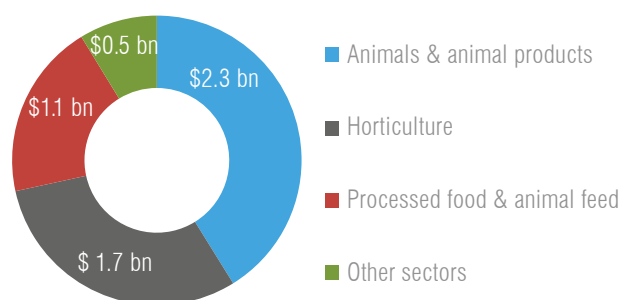
- The capacity of Iraqi producers to supply the product
- The size of projected demand for the product by Iraqi consumers

1. Products covered by the Iraq's Public Distribution System (PDS), products unfit for human consumption and water as a beverage were not considered in the analysis.

2. The methodology used for this analysis is based on ITC's export potential and product diversification methodology

Results

The agriculture and agri-food sectors with the highest projected demand:



Agriculture, one of the keys to addressing the employment challenge

More than **170,000** additional jobs could be created by 2030 with a **growth rate of 3%** in agriculture production (moderate-growth scenario).

67 agricultural products with high potential were identified.

The sub-sector with the largest potential is **animals and animal products** with a **\$2.3 billion** projected demand.

The most promising products by sector are:

Animal and animal products: **Chicken**, specifically **whole and cut chicken**, followed by **eggs**.



Horticulture products: **Tomatoes**



Processed food products: **Prepared tomatoes**



Iraq's agriculture and agri-food products with high market potential

Based on quantitative and qualitative assessments, including this analysis, SAAVI's activities are focused on **poultry (chicken meat and eggs)** and **tomato products**. SAAVI's activities will seek to enhance competitiveness of farmers and micro, small and medium enterprises in high-potential products, by developing action-oriented strategies for these sectors, building productive and commercial agricultural alliances and fostering the growth of youth-owned agribusinesses.

A closer look at:

Chicken products with highest projected demand



\$900 million Chicken meat (whole and cut combined)

\$350 million Eggs

\$26 million prepared and preserved chicken meat or offal

Tomato products with highest projected demand



\$291 million prepared tomatoes

\$183 million fresh tomatoes

\$18 million processed food products, such as soups and broth

What is SAAVI?

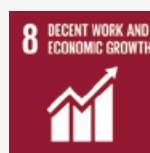
SAAVI contributes to inclusive economic growth and job creation, particularly for youth, by improving Iraq's agriculture competitiveness and supporting trade development.

The project forms part of the overall European Union special measure for supporting employment creation and improving economic governance in Iraq. As such, SAAVI is fully aligned with the activities of FAO, IOM, ILO, UNESCO and GIZ in the domain of private sector engagement and agricultural development.



Learn more at: <https://www.intracen.org>

Contribution to Sustainable Development Goals



INTRODUCTION

This report supports the selection of focus sectors for the Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq (SAAVI) project. The SAAVI project aims to enhance the competitiveness of agriculture and related activities in Iraq, among others, through the design of strategies for products with high potential in domestic markets.

This study identifies agricultural products that Iraqi producers are able to produce competitively in the present or in the near future, and for which there exists a significant demand by Iraqi consumers. As recent and comprehensive production and consumption data from Iraq is not available, the analysis leverages trade data to gain insights into supply and demand capacities. This innovative approach is based on the International Trade Centre's (ITC) export potential and product diversification methodology.

METHODOLOGY

The approach followed in the analysis is based on ITC's export potential and product diversification methodology.² It identifies promising agricultural products for the SAAVI project based on two main criteria:

- The size of projected **demand** for the product by Iraqi consumers ;
- The capacity of Iraqi producers to **supply** the product.

The analysis is complemented by alternative data sources to support the product selection, an approach to identify opportunities for value chain diversification, and an estimation of the job creation potential of different sectors. This section provides details on the data and methodologies used.

Products covered by Iraq's public distribution system³ (PDS), products unfit for human consumption and water as a beverage were not considered in the analysis.



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2. For further details on the export potential and product diversification methodology, see Decreux and Spies (2016). *Export Potential Assessments – a methodology to identify export opportunities for developing countries*. Available from https://umbraco.exportpotential.intracen.org/media/1089/epa-methodology_141216.pdf.

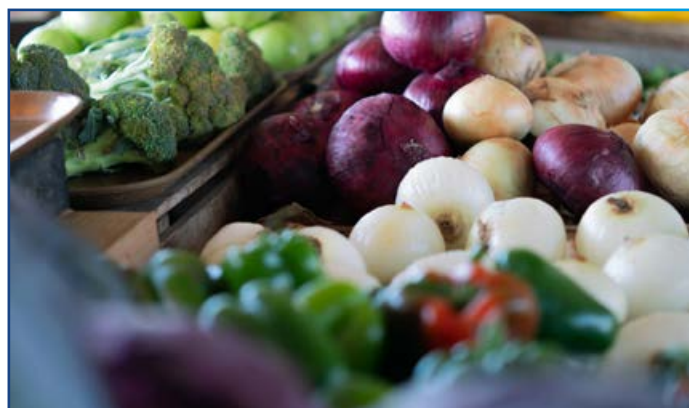
3. The PDS includes wheat flour, sugar, vegetable oils and rice. Products for which any of these is a main ingredient are not included in the analysis either (e.g. sugar confectionery and uncooked pasta).

Data

The availability of recent production and consumption data from Iraq is limited. Therefore, this report uses contemporary data on Iraq's exports and imports from the ITC Trade Map to identify agricultural products with high potential for domestic supply and demand. As Iraq has not reported data on international trade for 2015–19, mirror data reported by its trading partners is used to capture Iraqi exports and imports. While many of Iraq's trading partners have reported trade data, this is not the case for all of them. For example, the Islamic Republic of Iran, which is an important exporter of agricultural and food products to Iraq, has not yet reported 2019 trade.

Data on the production of crops, processed crops, primary livestock and processed livestock from the Food and Agriculture Organization (FAO) of the United Nations and data on historical exports from UN Comtrade and are used to confirm and complement the analysis results.

Data for the analysis of value chain opportunities relies on input–output (IO) matrices and their corresponding technical coefficients to capture linkages between different sectors in the production process. The matrices at the sector level are based on a combination of IO tables of the United States of America, the United Mexican States and the Republic of the Philippines. Technical coefficients are then computed at the product



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level based on a word-matching technique, as well as rules of origin conditions.

The employment creation analysis requires information from an input–output (IO) table. As there is no recent input–output table for Iraq,⁴ a social accounting matrix from Iraq (containing production and employment by sector) is combined with an input–output table from Iran (containing technical coefficients; i.e. measures of how much inputs from each sector are used to produce the output from each other sector). To the best of our knowledge, the most recent IO table from Iraq is from 1988, and the one from Iran is from 2011. As production technologies could have evolved considerably between those dates, the more recent data from a similar country is preferred over the older data from Iraq.

Historical exchange rates, discussed in Annex II (Note on the devaluation of the Iraqi dinar), are from fxtop.com.

Demand

The demand-side analysis aims to estimate the size of demand for different agricultural products by Iraqi consumers. As data on domestic consumption is not available, data on imports is used as a proxy for demand that is currently not met by local production.

The analysis of demand relies on Iraq's current and projected imports of different agricultural products. Some agricultural products with high import demand could offer opportunities for Iraqi producers. Satisfying part of the domestic demand with domestic production would allow the country to become less import-dependent.

Projected imports are based on Iraq's current imports (a weighted average of trade data from 2015–19). They are augmented by expected population growth in the country and expected growth of gross domestic product (GDP) per capita in the next five years. Demand for any good increases as a result of population growth, but demand for luxury goods increases more when GDP per capita is expected to grow. This effect is accounted for by demand elasticities.

To ensure that the products selected for the SAAVI project have a high domestic demand, ITC retained products with an expected import demand of at least \$10 million per year up to the year 2025.

4. A thorough search yielded a 1988 input–output table to be the most recent for Iraq.

Supply

The supply-side analysis aims to estimate Iraqi producers' capacity to supply different agricultural products competitively. Data on agricultural production is available from the FAO. However, it does not cover all products of interest for the SAAVI project – most importantly, processed food is not included. Therefore, data on Iraq's exports and the exports of countries with a similar export basket is used to identify products that Iraq is already exporting or close to being able to export.

Finally, historic export data from 1962–2000 is used to complement the analysis and identify products that Iraq used to export in important quantities in the past.⁵ Successfully exporting a product, having exported it in the past or being close to exporting it in the future implies that producers are likely to be able to supply the product at a price and quality that is attractive to consumers and could fulfil local demand.

EXPORT POTENTIAL INDICATOR: PRODUCTS THAT IRAQ IS CURRENTLY EXPORTING

If Iraq has exported a product in several consecutive years, this confirms that domestic producers are able to produce this product competitively. To identify such products, the following method was applied, derived from ITC's export potential methodology:

- Information on Iraq's exports in 2015–19 is collected from mirror statistics reported by its trading partners (as Iraq itself has not reported this data).
- A weighted average of exports in these five years is computed, with higher weights placed on more recent years. To ensure that production is continuous and sustainable, a product must be exported in the three most recent years to remain in the analysis.⁶
- Iraq's projected market share up to the year 2025 is then computed for each agricultural product as an approximation for potential domestic supply. It is based on Iraq's current share in the world market, augmented by expected gross domestic product (GDP) growth in the next five years. The indicator also includes a filter on certain sectors to exclude re-exported products and returned merchandise, based on specific criteria on the relative values of Iraq's exports and imports.
- This process yields a total of 43 agricultural products that demonstrate sufficient supply capacity. To avoid further restricting the range of potential products, the standard threshold applied on the export potential indicator was not imposed.

FAO: AGRICULTURAL PRODUCTION DATA

The FAO provides information on the production of crops, processed crops, primary livestock and processed livestock by Iraq. This data is used to identify products that have been produced in Iraq consistently and/or in large quantities in the past years. This is especially interesting for products that have not been exported, or only in small quantities. Products produced in Iraq are retained if, for the last five years of available data (2015–19 for some, and 2014–18 for other products), average yearly production reached at least 10,000 tons and production in each year is at least 1,000 tons. For live animals, the threshold is set at 1 million heads in the last five years. For eggs, the

only product in this dataset measured in numbers, no threshold was defined. With an average of 772 million eggs per year since 2015, production was considered significant and the product was retained.

The FAO data does not include information on all products that can be identified from trade data. In particular, processed food, fish and tea are not included. Products that appear in raw form in the FAO data and exist in both raw and lightly processed form in the Harmonized System (HS) classification are retained in both forms. Examples for lightly processed products include frozen potatoes and provisionally preserved cucumbers and gherkins.

5. A previous version of this analysis also included historical trade data from 2000–19 from the ITC Trade Map. This data did not yield additional products compared to the current sources and methodologies, which is why it is not used in this version of the paper.

6. Note: The criterion of being exported continuously during the last three years could exclude products from the export potential analysis that are suitable for the SAAVI project. However, such products would be captured by the other data sources and methods to identify products with supply potential, described in what follows.

UN COMTRADE: HISTORICAL TRADE DATA (1960–2000)

Historical data on exports from UN Comtrade allows identifying products that were not exported and/or produced in large quantities in recent years, but played a more important role in Iraqi agriculture in the past. Products were retained for the analysis if exports reached at least \$100,000 in one year and at least \$10,000 in five years between 1960 and 2000.

The historical trade data follows the Standard International Trade Classification (SITC) 1, which is less detailed than the Harmonized System (HS) classification used as a basis for the analysis of projected demand. For some products, it is not possible to identify the exact product that Iraq exported in the past. This is the case for cheese (different types), fish, nuts, stone fruit and beans, peas and lentils.

Whenever possible, the data was compared to historical information on production from FAO, to verify which

exact products were produced in Iraq. This procedure allowed narrowing down some SITC categories to a more restricted list of products, for example in the case of nuts, stone fruit and beans, peas and lentils. In addition, it allowed excluding products that were apparently exported, but never produced (most notably, bananas). Fish was not included in the FAO data, but the more detailed Harmonized System (HS) products also appeared in the product diversification analysis (see details below), which is why they were retained.

For cheese, it was not possible to narrow down the analysis to specific products in other data sources. All cheese products with high demand in Iraq were retained for this analysis, as it is confirmed that Iraq was exporting some type(s) of cheese in significant quantities in the past and it appears feasible to start producing one type of cheese in the near future if one is already capable of producing other types of cheese.

PRODUCT DIVERSIFICATION INDICATOR: PRODUCTS THAT IRAQ IS NOT CURRENTLY EXPORTING

As available data on production does not cover all products of interest (in particular, processed food), an additional method, again based on trade data, is used to identify products that Iraq is likely to be able to supply.

The product diversification indicator is based on the idea that some products are similar to each other in terms of the capabilities and conditions required to produce them.⁷ If a country is able to produce certain products competitively, it is assumed to be able – or close to being able – to produce similar products as well. Data on most of the capabilities and conditions required to produce products is not available for most countries. However, trade data contains information on all products exported by each country. From observing which products are often exported together (i.e. by the same country), products requiring similar capabilities and conditions can be deduced without needing to know what these capabilities and conditions actually are. Based on all countries' export baskets, ITC computed a measure of average "proximity" for each product and country to reflect supply capacity. The closer a product is to a country's current export basket, the more likely it is that the country is able to produce this product competitively in the present or near future.

To account for the shortcomings of reported trade data in reflecting "true" supply capacities, ITC used a measure of revealed comparative advantage that filters out re-exports and corrects for global tariff advantages. Production opportunities were further narrowed down as follows:

- A Global Trade Analysis Project (GTAP) dataset on land endowments that distinguishes 18 agro-ecological zones (AEZs) is used to identify relevant moisture regimes and climatic zones enabling the production of agricultural and forestry products, by means of an iterative process.⁸ AEZs are available for 121 individual countries and for all other countries at the level of their respective region.
- ITC then determined a list of products produced by countries that have the same or a smaller set of climatic zones as the one for Iraq. These regions are considered as "producing" a product if they have exported it with comparative advantage and a strictly positive trade balance in the three most recent years of the analysis.
- Finally, if the product space approach identifies strong links from Iraq's current export basket to a particular product, but no other country with similar land types is producing it, the product is removed from the list of feasible opportunities for Iraqi producers.

7. This method is based on the concept of the product space. See Hausmann and Klinger (2007), Hausmann et al. (2007) and Hidalgo et al. (2007).

8. The following Export Potential Map product groups are included: 060110 to 140490, 1701, 1801, 1802, 4001, 4401 to 4403, 4407, 4409, 4501, 5201 to 5203, 5301 to 5303, and 5305. For details on these product groups, please see <https://exportpotential.intracen.org/en/resources/data/correspondences>.



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Combining supply and demand

The supply products identified using the different sources and methodologies are combined into one dataset. For this purpose, all products are converted to the Harmonized System (HS) classification. It should be noted that several products appeared in more than one of the data sources used, which provides further

confirmation of the supply potential. The supply products are combined with data on projected demand, and only products with an expected import demand of at least \$10 million per year up to 2025 are retained. The resulting list comprises 67 products and is discussed in more detail in the results section.

Value chain diversification opportunities

The different analyses above have predominantly identified products that Iraq is already producing and/or successfully exporting. While the product diversification indicator does provide suggestions for new products that Iraq is likely to produce, these tend to be either raw or lightly processed products. The analysis was complemented by the value chain indicator to identify vertical diversification opportunities that promote the transformation of inputs that are already produced domestically.

For the purpose of this analysis, the list of relevant inputs is determined based on the products identified in the supply-side analysis described in previous sections. Only products that were confirmed by either the export potential indicator methodology or the FAO

production data were selected, to ensure that Iraq's current production capacity of the inputs is sufficiently well established.

Based on this list of inputs, ITC identified potential value-added outputs following a methodology similar to the one used for the product diversification indicator. The supply component of the indicator is based on a measure of a country's average proximity to a new potential product (i.e. the "density" measure) from a matrix of conditional probabilities between all products, using a measure of revealed comparative advantage. The closer a product is to a country's current export basket, the more likely it is that the country is able to produce this product competitively.



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In order to enforce a value chain approach, the methodology establishes conditional probabilities only among products that are in an input–output relationship, as defined by the input–output tables. It also uses the technical coefficients as weights for the conditional

probabilities. A high density means that Iraq has comparative advantages in inputs for the production of a product, implying that it can be reached relatively easily by transforming these inputs.

Employment creation

The analysis also quantifies employment potential – the approximate number of jobs that can be created if Iraq increases its production of agricultural products, livestock and processed food by a certain amount. The level of sectoral detail and precision of the results is limited by the data available for Iraq and its quality. The results should, therefore, be interpreted with caution. Nonetheless, they can provide an indication of the magnitude of employment creation through increased production.

The methodology to analyse this data quantifies the expected employment impacts of production growth. It considers job creation within each production sector (direct effects) as well as linkages between sectors. Using input–output analysis, it also measures employment created through increased demand for intermediate goods from upstream industries (indirect effects)

and greater consumption (induced effects). For example, if production of canned tomatoes is increased, it creates direct jobs in the processed food sector (for workers in the canned tomato factory). It also creates indirect jobs in agriculture (for farmers growing the tomatoes to be used as inputs) and induced jobs in the whole economy (when the workers and farmers spend their additional income on other domestic goods and services). Accounting for these linkages is important, as they tend to prioritize sectors with relatively high local value addition and wages. In such sectors, the induced effects from an increase in exports may be greater than the direct and/or indirect effects on employment. The methodology estimates employment effects for the entire population, disaggregated by gender.⁹

9. For further details on the employment potential methodology, see ITC (2018): *Turning export potential into employment: A case study for Jordan*. Available from <http://www.intracen.org/publication/export-potential-employment-Jordan/>. (Note: While the Jordan study focuses on the effect of exports and the present study on the effect of production, the remainder of the methodology is identical.)

RESULTS

Products with high supply and demand potential

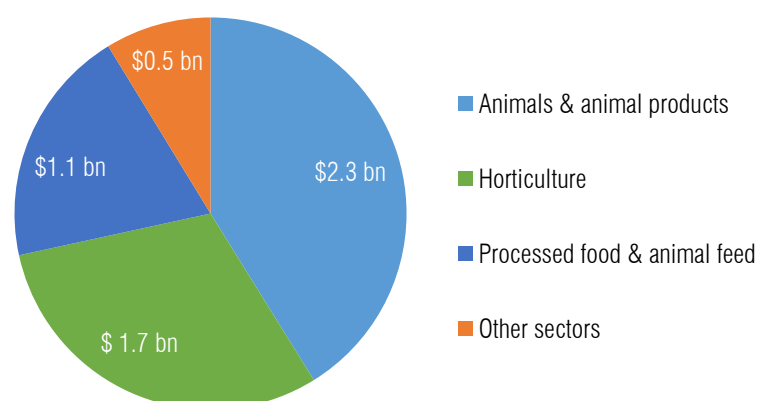
The analysis for products with high potential for both supply and demand yields a list of 67 products. Figure 1 shows that the sectors with the highest combined demand include animals and animal products (\$2.3 billion), horticulture (\$1.7 billion) and processed food (\$1.1 billion). Production in other sectors (beverages, sea animal products, cereals and cereal products and vegetal products n.e.s.) account for \$0.5 billion of demand combined.

Figure 2 displays the most prominent products from each of these sectors – all for which projected import demand exceeds \$75 million.¹⁰ In the animals and animal products sector, chicken is by far the most important product. Taken together, projected demand for whole and cut chicken exceeds \$900 million.¹¹ It is followed by eggs (\$358 million). Other top products include beef and bovine animals, as well as dairy products.

Demand in the horticultural sector is more uniformly distributed than in other sectors, such that a relatively large number of products feature significant demand. The most important ones are tomatoes (\$183 million), and potatoes and apples (\$135 million each), followed by a number of different fruits and vegetables. The importance of tomatoes and potatoes is further confirmed in the results of the processed food sector, in which prepared tomatoes (\$291 million) and prepared potatoes (\$100 million) are among the Top 3 products, along with other food preparations (\$249 million).

In other sectors, only one product exceeds projected demand of \$75 million – black tea in packings <= 3kg (\$104 million). While Iraq has never exported or produced tea, countries with similar export baskets and/or in the region, including Iran, produce tea. Others, however, such as the United Arab Emirates and the Arab Republic of Egypt, merely re-export tea. Further research would be required to confirm the feasibility of producing tea in Iraq.

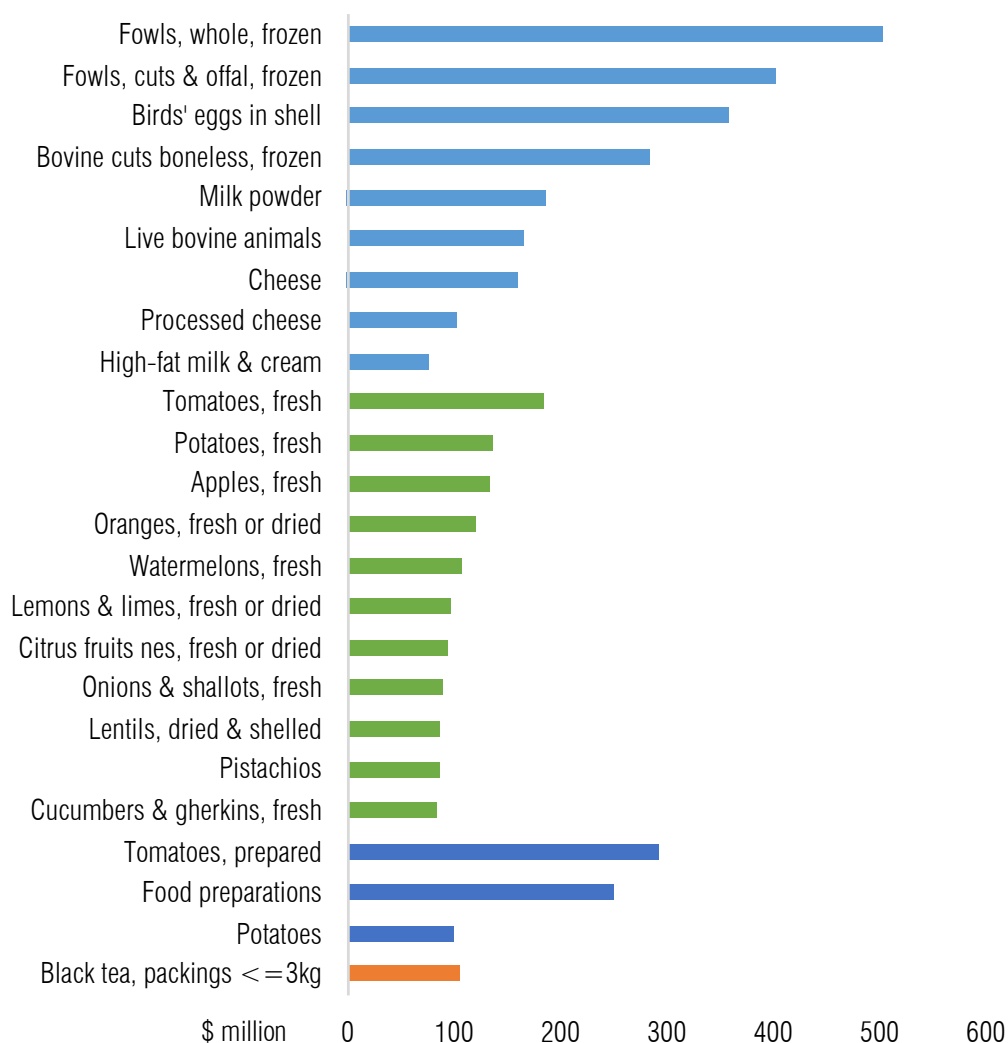
Figure 1: Total projected demand in products with high supply and demand, by sector



Source: ITC calculations.

10. Annex I contains a figure covering all products of more than \$10 million projected demand.

11. As projected demand is computed based on trade data, products tend to appear in their most commonly traded form (e.g. frozen chicken and beef, and milk powder). In the domestic market, depending on distribution channels and other factors, they can be replaced by less commonly traded substitutes (e.g. fresh chicken and beef, and bottled milk).

Figure 2: Total projected demand in selected products, by sector

Source: ITC calculations.

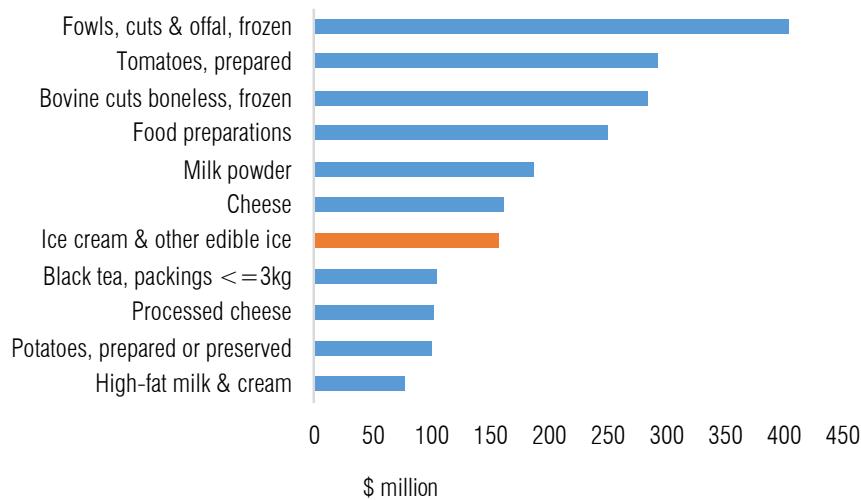
Value chain analysis

As described in the methodology section, the value chain analysis identified additional processed food products for which Iraq exports and/or produces inputs at a significant scale. Several processed food outputs were already among the products identified in the previous analysis; others were excluded from the analysis because their main ingredients comprise wheat and/or sugar.

Figure 3 presents the projected demand of all processed products that resulted from the general product selection or value chain analysis (i.e. for which supply of the product or inputs for the product is significant) and for which projected demand is at least \$75 million.

Most of these products already emerged from the initial product selection analysis; the only major product added to this list is ice cream, with a projected demand of \$157 million.

Other major processed food products pertain to some of the key sectors highlighted in the previous section: chicken and beef, dairy, tomatoes, potatoes and black tea. The following section focuses on these key value chains, with the exception of tea (for which, as discussed above, further research would be required to determine viability of production in Iraq). It is organized by key input and includes a discussion of products with smaller, yet significant projected demand (more than \$10 million).

Figure 3: Total projected demand in selected processed food products

Source: ITC calculations.

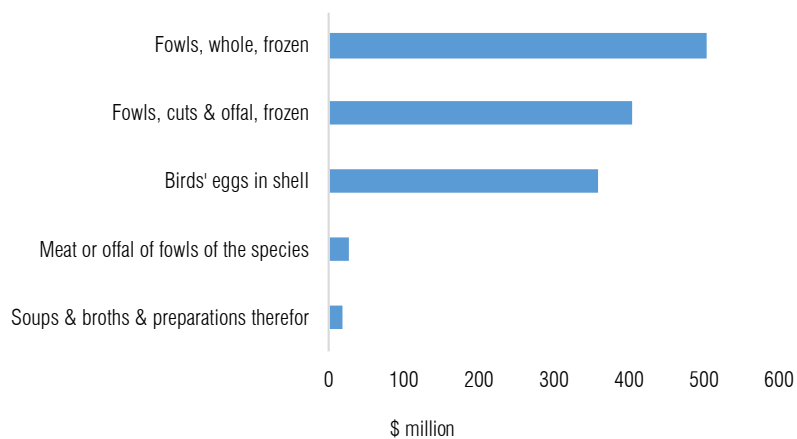
Focus on specific products and value chains

CHICKEN AND EGGS

With more than \$900 million (whole and cut combined), chicken meat has been highlighted above as the product with the highest projected demand in Iraq, and another \$26 million in demand can be added for prepared and preserved chicken meat or offal. Eggs are among the top products with projected demand as well, with more than \$350 million. Chicken is used as an input for processed food preparations such as soup and broths, which encounters a projected import demand of \$18 million in Iraq. Furthermore, eggs are inputs for preparations such as biscuits and pasta, which were excluded from the analysis due to key inputs falling under PDS, but could become relevant for Iraq in the future.



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Figure 4: Total projected demand, selected food products from the chicken value chain

Source: ITC calculations.

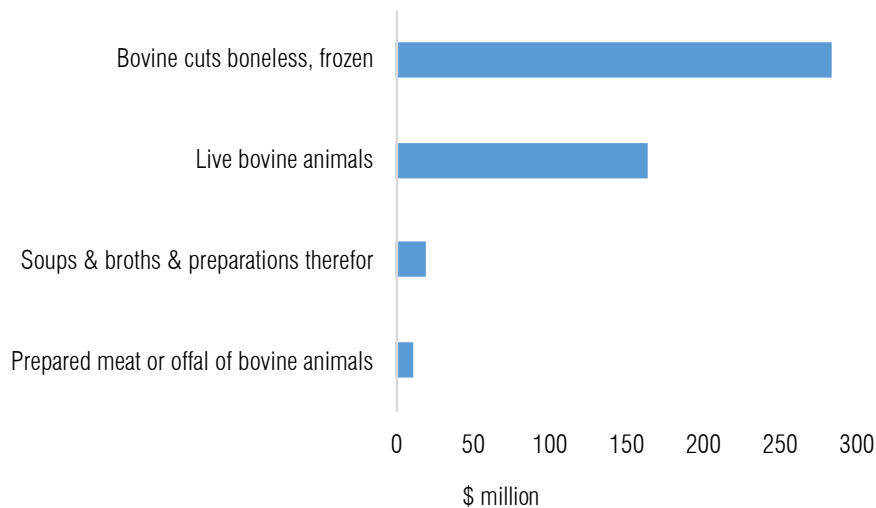
BEEF AND BOVINE ANIMALS

Like chicken, frozen beef and live bovine animals were among the products with the highest projected imported demand, with \$284 million and \$164 million respectively. Beef can furthermore be used as an input to processed food preparations, such as soups and broths (projected import demand: \$18 million), or further transformed into prepared meat and offal (\$10 million).



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Figure 5: Total projected demand, selected food products from the chicken value chain



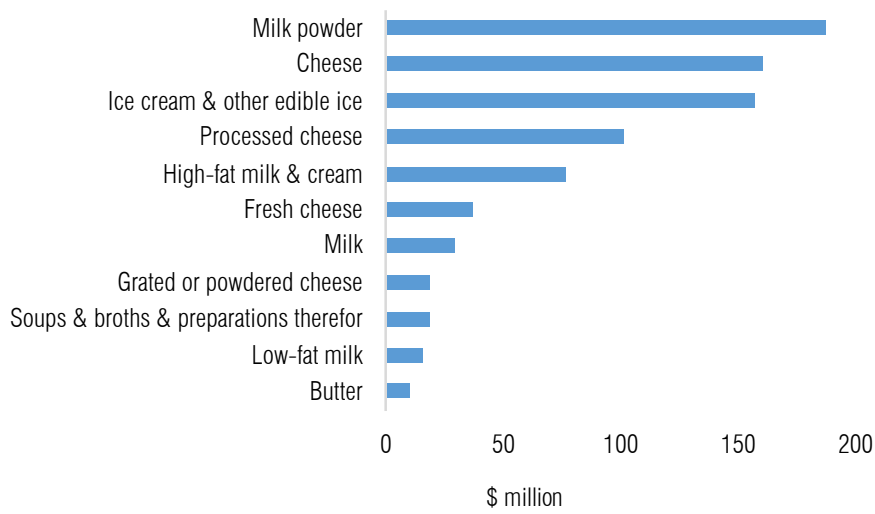
Source: ITC calculations.

MILK AND OTHER DAIRY PRODUCTS

Milk and a variety of dairy products, including milk powder, cheese and ice cream, are expected to be in high demand among Iraqi customers – together, they account for a projected import demand of \$800 million. Milk is also an ingredient in other processed food products such as soups and broths, and ice cream. Ice cream not only faces a projected import demand of \$157 million in Iraq, but, along with dairy products, its production also requires other inputs from other sectors key for Iraq, such as fruit and nuts. Finally, like eggs, some dairy products are inputs for other processed food products currently excluded from the analysis because their production uses significant amounts of PDS products, but that might hold opportunities in the future (e.g. biscuits).



(cc) Харчова промисловість

Figure 6: Total projected demand, selected food products from the dairy value chain

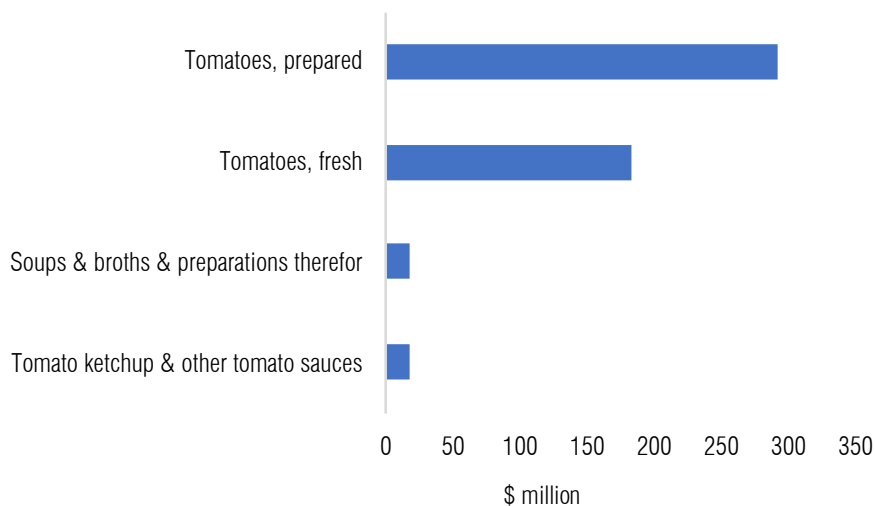
Source: ITC calculations.

TOMATOES

Fresh tomatoes are the horticultural product with the highest projected import demand in Iraq (\$183 million). With \$291 million, demand for prepared tomatoes is even higher; and tomatoes are used as an input to several other processed food products, such as soups and broth (projected import demand: \$18 million), and tomato ketchup and other tomato sauces (\$18 million).



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Figure 7: Total projected demand, selected food products from the tomato value chain

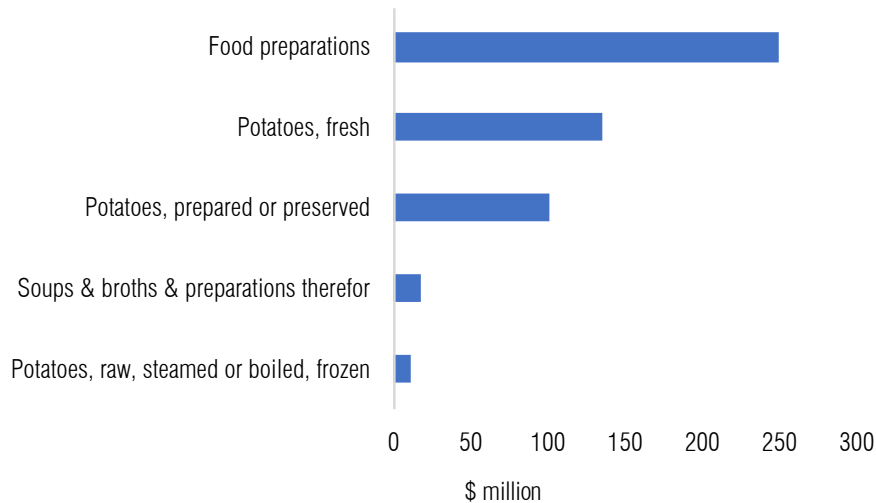
Source: ITC calculations.

POTATOES

Potatoes are the second most important fresh horticultural product after tomatoes, with a projected import demand of \$135 million. They also face significant demand in prepared and preserved (\$100 million) as well

as frozen form (\$11 million). In addition, potatoes are used as an input in food preparations, which account for a projected import demand of \$249 million, as well as soups and broths (\$18 million).

Figure 8: Total projected demand, selected food products from the potato value chain



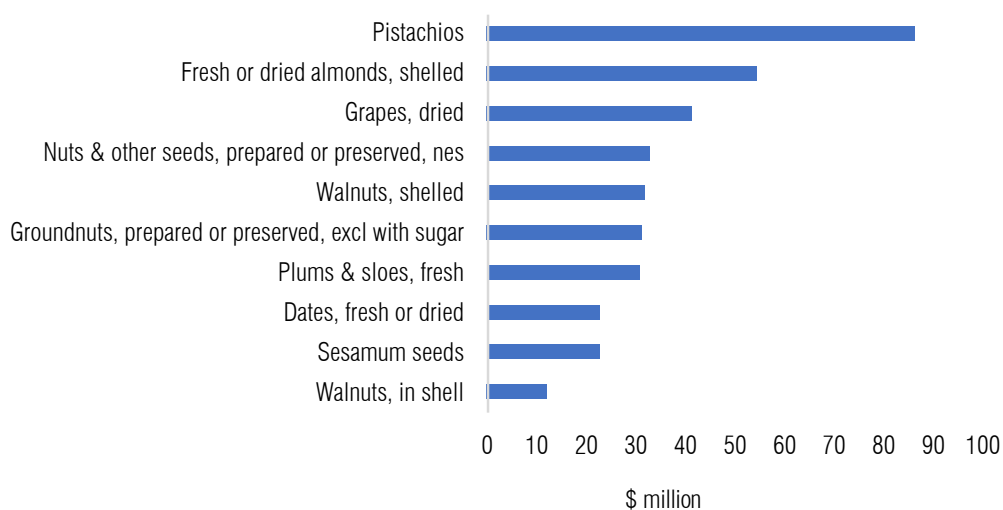
Source: ITC calculations.

DRIED FRUITS AND NUTS

Iraq has the potential to supply a variety of nuts and dried fruits. Some of these encounter a significant projected import demand, and serve as inputs for processed food products. Together, different nuts, dried fruits and products thereof account for more than \$350

million of projected import demand. Given that dates are one of Iraq's most important export products other than oil, it might be possible to build on the country's experience in dates to expand production and commercialization of other dried fruits and nuts.

Figure 9: Total projected demand, selected food products from the dried fruits and nuts value chain



Source: ITC calculations.

Alignment with SAAVI's focus and scope

What is SAAVI?

- SAAVI contributes to inclusive economic growth and job creation, particularly for youth, by improving Iraq's agriculture competitiveness and supporting trade development.
- The project forms part of the overall European Union special measure for supporting employment creation and improving economic governance in Iraq. As such, SAAVI is fully aligned with the activities of FAO, IOM, ILO, UNESCO and GIZ in the domain of private sector engagement and agricultural development.



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Based on different criteria and a different methodological approach, which combined available information on supply, demand, and environmental and social impact, the SAAVI project's pre-inception report suggested the following products to be considered for project implementation: chicken meat, fresh eggs, dairy products, beef/buffalo meat, tomatoes, potatoes, and other fresh vegetables and fruits.

The analysis results presented in this report confirm that the products suggested by SAAVI's pre-inception report are promising from both a demand and supply perspective. It provides additional insights on the projected import demand of these products in Iraq and on potential value chain opportunities, thus further informing the product selection and project design. For example, the

analysis in this report confirms that tomatoes and potatoes provide the most important opportunities among fresh horticultural products. For the other products in this category mentioned in the pre-inception report (fresh vegetables such as cucumbers and aubergines, watermelons, melons, onions, green chilies/peppers, maize and grapes¹²), the present analysis allows to establish a ranking in terms of projected import demand. It further identifies additional products from the same category that can be produced by Iraqi producers and encounter significant domestic demand (for example, apples, oranges and other citrus fruit, and lentils). In addition to the product categories identified in the pre-inception report, dried fruits and nuts are identified as a sector with potential for domestic production, including value chain development, and commercialization.

Employment potential

This section discusses the results of the production and employment analysis for agriculture, livestock and processed food. Figure 10 displays the number of jobs that can be created per additional USD million of production in each of these sectors and distinguishes between direct jobs (created in the sector itself), indirect jobs (created in upstream sectors within the same value chain) and induced jobs (created through additional demand in the whole economy). As previously mentioned, the availability and quality required for this analysis are particularly limited, which is why results should be interpreted with caution.

Figure 10 displays the expected job creation by sector. The total number of jobs created in livestock, processed food and different crops is relatively similar, ranging between 138 (processed food) and 154 (livestock).¹³ The main difference between sectors lies in the distribution of these jobs. In processed food, the number of direct jobs per USD million is smaller than in agriculture and livestock. However, more jobs are created in the sectors providing inputs to processed food, such that the final total number of jobs created is similar.

12. Sugar crops were not considered in this report, as sugar is covered by Iraq's PDS.

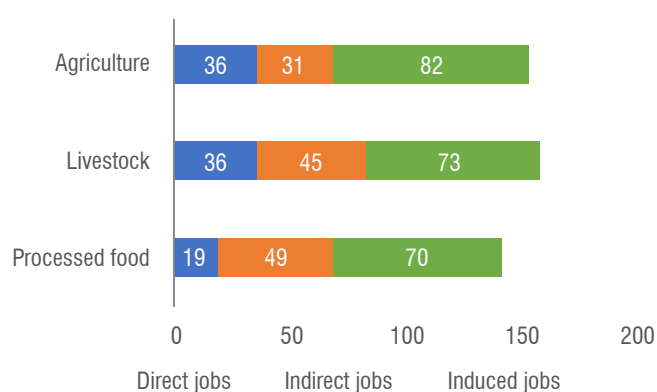
13. As a comparison, expected job creation is higher than for Iran, for which the same methodology using the country's input-output table from 2011 yields 75 jobs per USD million in agriculture and 59 jobs per USD million in food processing.

The methodology and data used appear to predict a larger potential for employment creation than the methodology used in a recent report by the World Bank.¹⁴ The World Bank report suggests that 120,000 jobs could be generated in a high-growth scenario by 2030. Under the assumption of the results presented in this report that each USD million in production would create approximately 150 jobs, creating 120,000 jobs would require an increase in production of \$800 million. Further assuming that agricultural production stood at \$3.45 billion in 2018 (the total production recorded by the FAO and thus a conservative estimate, as not all relevant products are recorded by the FAO), this result could be achieved by a clearly moderate yearly growth rate of 1.75%. Finally, in a moderate growth scenario, more than 170,000 additional jobs could be created by 2030 with a growth rate of 3% in agriculture production.¹⁵

Hence, the results presented in this report provide a more optimistic outlook on the job creation potential of agriculture, livestock and food production in Iraq than the above-mentioned World Bank report. That said, numerous differences in data sources, methodologies and underlying assumptions could explain the different results, and an in-depth exchange between ITC and the World Bank would be necessary to compare these details.

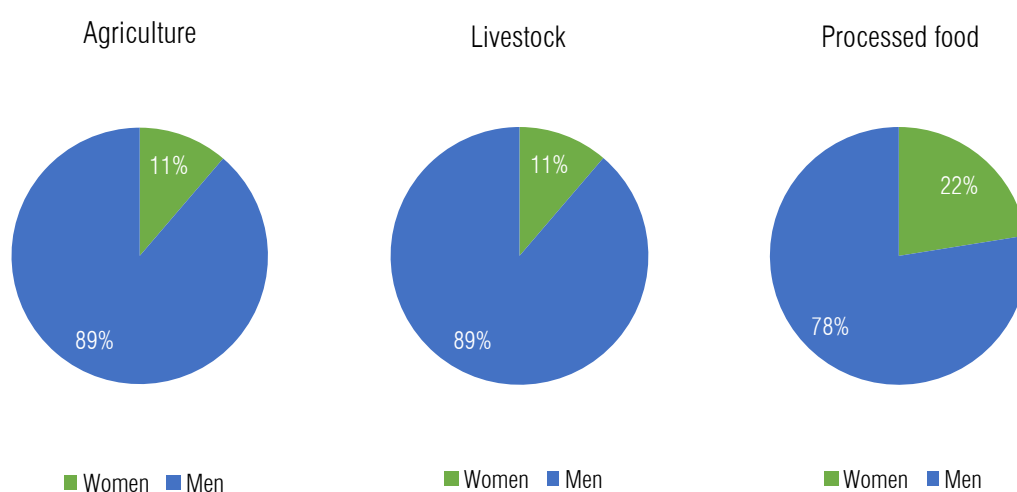
Figure 11 presents the share of men and women in direct employment in agriculture, livestock and processed food. With 22%, the share of women is highest in processed food – twice as high in the agriculture and livestock. However, the overall impact of increasing production in processed food on employment for women is weakened by the lower share of female employment in the sectors in which indirect and induced jobs would occur.

Figure 10: Employment creation per USD million of production, by sector



Source: ITC calculations.

Figure 11: Share of men and women in direct employment, by sector



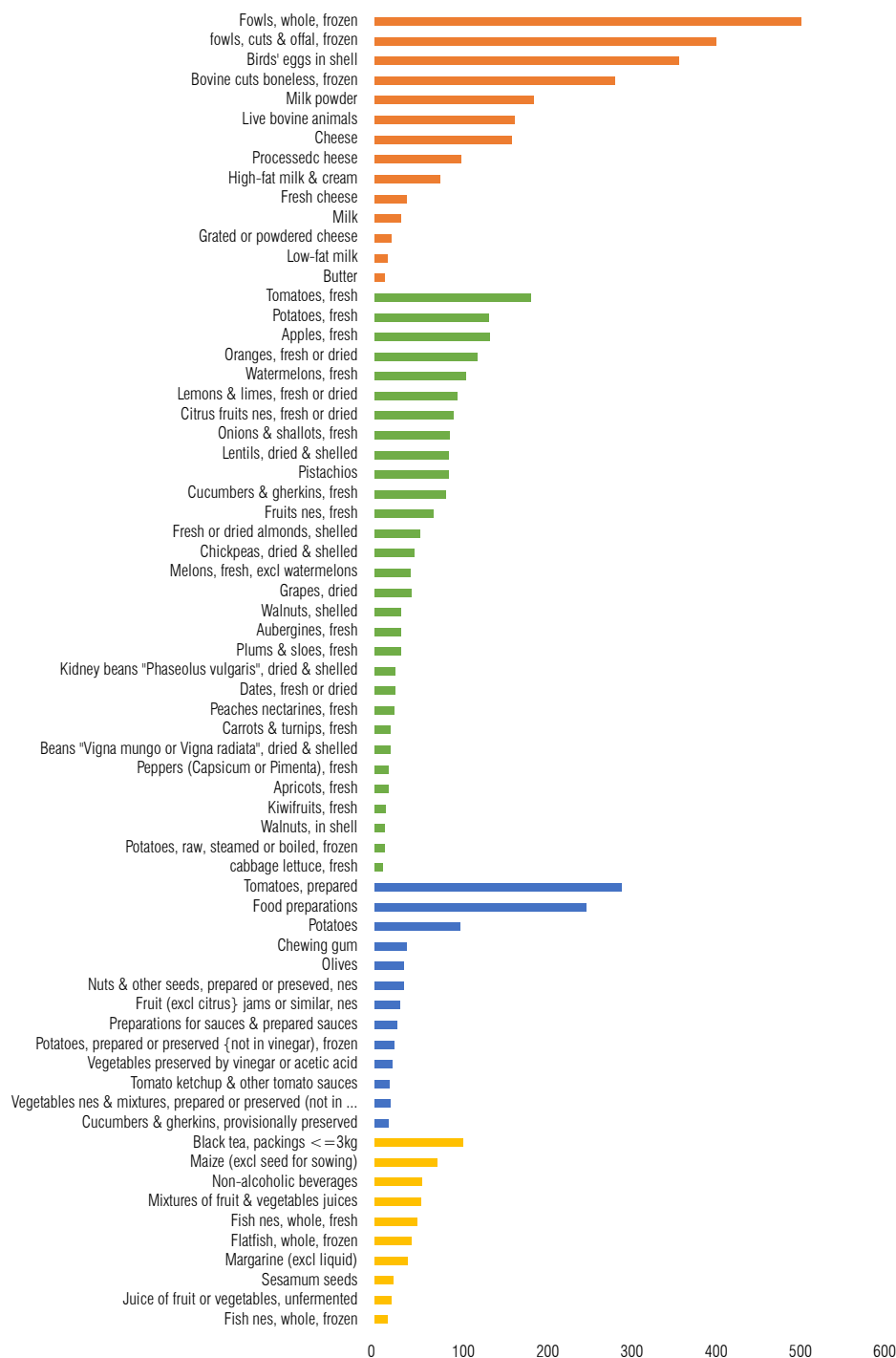
Source: ITC calculations.

14. World Bank (2020). Breaking Out of Fragility. A Country Economic Memorandum for Diversification and Growth in Iraq. Available from <https://www.worldbank.org/en/country/iraq/publication/breaking-out-of-fragility-a-country-economic-memorandum-for-diversification-and-growth-in-iraq>.

15. Even under a much more conservative estimate for job creation, for example, 70 jobs per USD million in additional production, which is close to the results estimated for Iran, 120,000 additional jobs could be created by 2030 with a growth rate of 3.4%, which one might still qualify as moderate or intermediate.

ANNEX I.

PROJECTED IMPORT DEMAND FOR SELECTED PRODUCTS (USD MILLION)



Source: ITC calculations.

ANNEX II. NOTE ON THE DEVALUATION OF THE IRAQI DINAR (IQD)

In December 2020, the Central Bank of Iraq revised the official exchange rate from IQD 1,182 to IQD 1,450 per USD, corresponding to a devaluation of more than 20%.

In the short run, the devaluation is expected to increase food prices paid by consumers, as the share of imported food is high and local producers need time to increase their supply and take advantage of the higher price competitiveness compared to imported products brought about by the devaluation. This is in line with anecdotal evidence on increases in the price of food and medicines in the country. It is worth mentioning that there are significant differences between the price of the food basket in Baghdad vis-à-vis other governorates. The increases in food basket prices following the devaluation of the dinar have varied largely from governorate to governorate.¹⁶

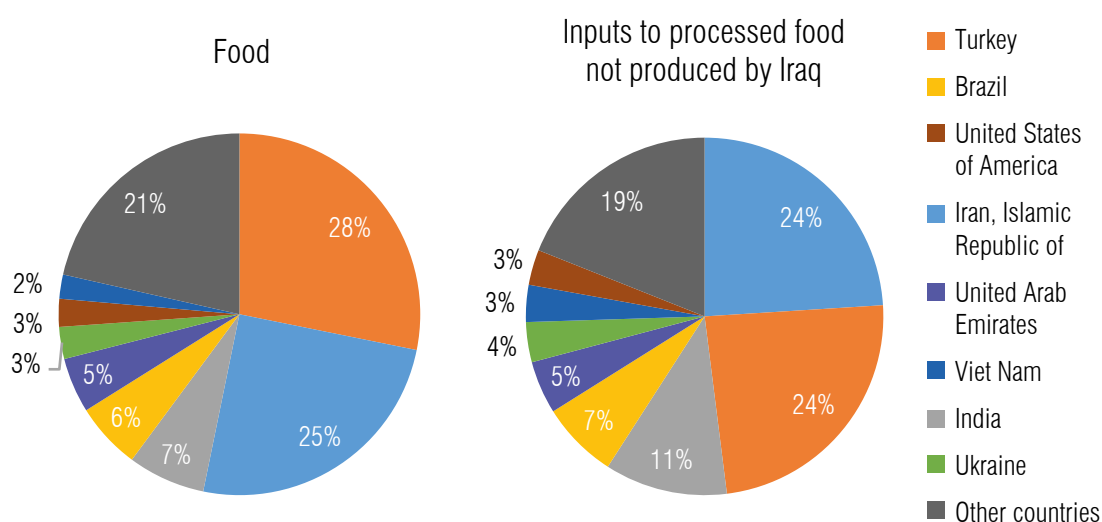
In the medium and long term, if necessary reforms are in place, a weaker dinar could make it easier for domestic producers of agricultural and processed food products to compete with imports. The importance of oil exports and the resulting high exchange rate have

been viewed as being among the key challenges to Iraq's international competitiveness. However, increasing prices for imported inputs that cannot be produced domestically might be a concern for Iraqi producers of processed food products in this context.

Figure 12 displays the origin of Iraq's food imports in the pie chart on the left, and the origin of its imports of inputs to processed food that are not produced domestically on the pie chart on the right. Both graphs are based on weighted average in 2015–19. Together, the eight most important countries account for 79% of Iraq's food imports and 81% of its imports of not domestically produced inputs to food processing.

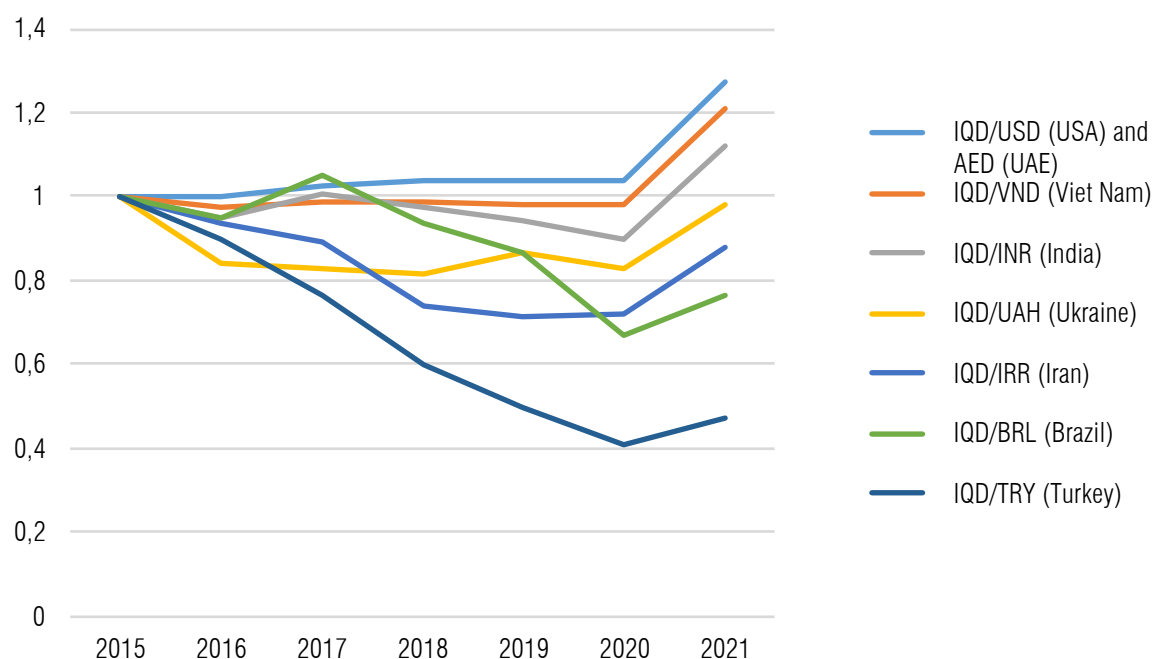
Figure 13 displays the evolution of the Iraqi dinar against the currencies of Iraq's main trading partners. Since 2015, the Iraqi dinar has depreciated against the US dollar and the United Arab Emirates dirham (which is pegged to the US dollar), the Vietnamese đồng and the Indian rupee. At the same time, it has appreciated against the Ukrainian hryvnia, the Brazilian real, the Iranian rial and the Turkish lira.

Figure 12: Iraq's imports, by exports, weighted average (2015–19)



Source: ITC calculations.

16. World Food Programme (WFP) (2021). Iraqi dinar devaluation and the price of the food basket. Available from <https://www.fsinplatform.org/sites/default/files/resources/files/WFP-0000124511.pdf>. The food basket referred to is the cash-based transfer basket, which includes wheat flour, rice, lentils, sugar, salt, pasta, chicken, vegetables/leaves/tubers, milk and vegetable oil.

Figure 13: Evolution of the Iraqi dinar against selected currencies, yearly averages (2015–21)

Source: ITC calculations.

Together, the Republic of Turkey, the Federative Republic of Brazil, Iran and Ukraine represent 62% of Iraq's food imports and 59% of its imports of not domestically produced inputs into processed food. While the immediate increase of food prices in response to the devaluation shock is not unusual, food prices should have decreased during the previous years, given the significant appreciation of the dinar against the currencies of main food exporters if they were purely driven by exchange rates. In the same vein, in theory, the recent devaluation should also not have a significant negative impact on the Iraqi food processing industry through the prices of imported inputs.

As highlighted elsewhere, including Iraq's White Paper for Economic Reform (2020), reforms are necessary to increase the competitiveness of the Iraqi agricultural sector. Due to a variety of issues, such as low farm-level productivity, limited commercialization, weak agriculture value chains and a challenging business environment, the sector currently appears unable to benefit from the Central Bank of Iraq's monetary policy and translate a currency depreciation into a competitive edge in domestic and international markets. An enhancement of the sector's performance is thus required, not only to increase local production and generate employment, but also to shield consumers from the negative consequences of currency fluctuations.

The SAAVI project will include a variety of activities to address the most crucial competitiveness issues and foster value addition, at the policy, institutional, enterprise and farmer levels. These interventions include the elaboration of market-led action-oriented strategies for high-potential products, assisting the improvement of micro, small and medium-sized enterprise (MSME) competitiveness through productive and commercial value chain alliances, fostering an enabling business environment with a particular emphasis on the improvement of knowledge and skills for employment among youth, as well as improvements in quality management and regulatory infrastructure. To further build on this support for growth and diversification through improved competitiveness and reduced distortions to trade, SAAVI will also focus on enhancing Iraq's trade policy, including progress towards World Trade Organization (WTO) accession.

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