



MINISTRY OF
AGRICULTURE

IRAQ

Sustainable Development Strategy

Tomato Sector (2022-2026)

*Iraqi tomatoes we treasure,
from Iraqi producers who care*





IRAQ
Sustainable Development
Strategy
Tomato Sector
(2022-2026)

“Iraqi tomatoes we treasure,
from Iraqi producers who care”

ACKNOWLEDGMENTS

The Republic of Iraq's Sustainable Development Strategy for the Tomato Sector was developed under the leadership of the Ministry of Agriculture (MoA) and Ministry of Planning (MoP). This strategy was designed with the assistance of the International Trade Centre (ITC) as part of the European Union-funded Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq (SAAVI) project. SAAVI is intended to support economic growth and diversification, along with the expansion of employment and entrepreneurship opportunities, particularly for youth, through strategy development, the establishment of value chain alliances, skill development and trade policy reform.

This document reflects the ambitions of the public and private stakeholders who defined the enhancements and future orientations for the sector. The strategy benefited particularly from the inputs and guidance provided by the sector stakeholders that steered the strategy's formulation, namely:

Institutions
Ministry of Agriculture
Ministry of Planning
Ministry of Trade (MoT)
Federation of Farmers Associations
Federation of Iraqi Chambers of Commerce
Prime Minister's Office
Reform Management Cell
Ministry of Higher Education and Scientific Research
Agricultural Engineers Association
Iraqi Businessmen Union
Women's Chapter in the Businessman Union
Businesswomen's Council in the Iraqi Federation of Chambers of Commerce
College of Agricultural Engineering
College of Agriculture Engineering Sciences
Iraqi Agricultural Engineers Syndicate

In addition, valuable suggestions and other contributions were received at various stages of the project from development partners, particularly those with interventions under the European Union (EU) Special Measure for Iraq. These include the Food and Agriculture Organization (FAO), International Labour Organization (ILO), Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), International Organization for Migration (IOM) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), as well as partners including as the Norwegian Refugee Council (NRC), Cordaid and Interdisciplinary Research Consultants (id:rc), among others.

Technical facilitation, guidance and support for the process were provided by the ITC project team.

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ACRONYMS AND ABBREVIATIONS

Unless otherwise specified, all references to dollars (\$) are to United States dollars (USD) and all references to tons are to metric tons.

FAO	Food and Agriculture Organization
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
IOM	International Organization for Migration
ITC	International Trade Centre
MoA	Ministry of Agriculture
MoHESR	Ministry of Higher Education and Scientific Research
MoIM	Ministry of Industry and Minerals
MOLSA	Ministry of Labour and Social Affairs
MoP	Ministry of Planning
MoT	Ministry of Trade
MoYS	Ministry of Youth and Sports
MSMEs	Micro, small and medium-sized enterprises
NGO	Non-governmental organization
NRC	Norwegian Refugee Council
PoA	Plan of action
SAAVI	Strengthening the Agriculture and Agrifood Value Chain and Improving Trade Policy in Iraq
SMEs	Small and medium-sized enterprises
UNESCO	United Nations Educational, Scientific and Cultural Organization
WFP	World Food Programme
WTO	World Trade Organization

FOREWORD BY

**H. E. MOHAMMED KAREEM
AL KHAFAJI**

MINISTER OF AGRICULTURE



Iraq is known for its agriculture identity as for having high-potential natural and human resources. The Ministry of Agriculture continues its efforts to support the tomato sector, in cooperation with our international partners, especially EU-funded SAAVI project, implemented by ITC, that aims to enhance the value chain for agricultural products, particularly tomatoes, and improving the trade policy in Iraq. MoA aims to continue developing agro-food industries, enhancing food processing capacities and agricultural marketing to ensure sustainability in the agriculture sector in Iraq.

FOREWORD BY

DR. MAHDI SAHAR AL JOUBORI

DEPUTY MINISTER AT THE MoA



The Tomato sector is one of the most important and promising agricultural sectors in Iraq as it holds significant competitiveness capacity and increasing demand for fresh and processed tomato products.

All the efforts will be made to ensure successful implementation of the sustainable strategy for the tomato sector with our local partners and international partners, such as SAAVI project under the International Trade Centre funded by the EU.

FOREWORD BY

MR. HASSAN AL-TAMIMI **PRESIDENT OF THE FEDERATION** **OF FARMERS ASSOCIATIONS**



The strategies are essential for the development of the agricultural status, especially the production and marketing fields. The strategy will contribute to enhance the human capacity, address the production high cost, low production units and usage of advance technology in the agriculture field. We acknowledge this important strategy and we support the implementation with high appreciation from our side.

FOREWORD BY

ABD ALRAZAQ AL ZHAIRI **FEDERATION OF THE FEDERATION** **OF IRAQI CHAMBERS OF COMMERCE**



The mandate of the Federation of Iraqi Chambers of Commerce is private sector development and management in addition to supporting and enhancing the private sector role in contributing to the development of Iraq. With relation to investment opportunities, the Federation is working on promoting the professionalism level of investment as well as creating investment opportunities to meet Iraq's needs towards its integration with the global economy. The activities mentioned above are fully compatible with ITC's support in sustainable and private sector development.

As the Federation's Chairman, I truly appreciate ITC's efforts in providing technical support for the development of the Sustainable Development Strategies for these two important sectors (Tomato and Poultry 2022-2026) for Iraq. The Federation remains ready for any support to be provided for their implementation.

FOREWORD BY

AMBASSADOR VILLE VARJOLA

HEAD OF EUROPEAN UNION
DELEGATION TO IRAQ



Iraq's agriculture and agri-food sectors have the potential to contribute to economic growth and diversification, job creation, and enhanced sustainability and resilience. The EU is taking concrete actions to contribute to the implementation of the tomato strategy through the support to its Agri-food Business Development Programme for Iraq and it will continue working closely with the Government towards a more competitive and diversified Iraqi economy which can generate income and jobs for Iraqi people.

FOREWORD BY

IRENA VOJÁČKOVÁ-SOLLORANO

DEPUTY SPECIAL REPRESENTATIVE OF THE SECRETARY-GENERAL FOR IRAQ, RESIDENT AND HUMANITARIAN COORDINATOR



I am pleased to share with you the Sustainable Development Strategies for the Tomato and Poultry sectors. These documents are the product of a highly consultative process and peer review led by the Government of Iraq with the technical support of ITC through the EU-funded SAAVI project. The strategies are the base for a concerted plan of action for the next 5 years as well as providing a common roadmap and optimal collaboration framework for all partners under the leadership of the Iraqi government. By 2025, annual demand for poultry products in Iraq is expected to total almost \$1.3 billion, while according to ITC estimations, fresh tomatoes are the horticultural product with the highest projected import demand (\$183 million) while the demand for prepared tomatoes is even higher (\$291 million).

This growth in agricultural output will require sustainable small supply chain businesses, which will generate greater success in domestic markets. Once established this supply chain of small private businesses will at the same time be able to service the export market.

The end goal is to create jobs and provide opportunities for competitive and sustainable entrepreneurship and I am confident that the development of these two strategies is a key element in moving forward.

Irena Vojáčková-Sollorano
United Nations Resident/Humanitarian Coordinator

FOREWORD BY

PAMELA COKE-HAMILTON

EXECUTIVE DIRECTOR, INTERNATIONAL TRADE CENTRE



This strategy for the sustainable development of Iraq's tomato sector serves as a compass for the government, private sector and development partners to improve the competitiveness of farmers and small and medium-sized enterprises, fostering resilient and sustainable food systems, inclusive growth and job creation for Iraq's citizens.

Iraqi tomatoes are in high demand, particularly in the domestic market, as consumers have an expressed preference for locally grown produce. Moreover, there are opportunities to obtain premiums linked to added value in products. These are good news, as agrifood value chains have the potential to attract private sector investment, and contribute to women and youth empowerment.

Yet, to realize these opportunities, the sector requires structured and coordinated efforts to adopt new approaches to production, value addition, as well as address consumers' requirements for food safety and quality. The International Trade Centre is pleased to have supported these efforts and provided technical assistance in designing the Tomato Sector Sustainable Development Strategy in the context of the Strengthening the Agriculture and Agri-food Value Chain and Improving Trade Policy in Iraq (SAAVI) project.

An inclusive strategy must be borne out of an inclusive process. This document is the product of extensive consultations, which brought together nearly 400 Iraqi industry leaders, small business owners, farmers and public sector officials. Through constructive dialogue, these key stakeholders agreed on realistic priorities for sector development, identified the challenges inhibiting sector competitiveness, and arrived at a concrete plan to turn strategy into action.

Moreover, the strategy is underpinned by sound technical assessments, including farmer and firms' competitiveness surveys and an unprecedented domestic market research. Importantly, it is fully aligned to and supportive of the Government of Iraq's planning frameworks.

This strategy provides a clear market-oriented vision, a framework for collaborative action and concrete steps through pragmatic and realistic recommendations. But it is only the first step. As we often say, a good strategy is one that gets implemented and generates results. We at ITC are grateful to the European Union for the generous financial support provided for the elaboration of this strategy, and specially for the implementation of its critical elements, so that Iraq and its people can maximize the development potential of its agricultural sector.

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Note to the reader

Iraq's Sustainable Development Strategy for the Tomato Sector was developed based on a participatory approach during which more than 360 Iraqi industry leaders, small business owners, farmers and public sector representatives held consultations to reach consensus on key sector competitiveness issues and priority activities. [These inclusive consultations were held throughout the country, including in Mosul, Kurdistan Region of Iraq \(KRI\), Basra, Thi-Qar and Baghdad, with the participation of stakeholders from more than 17 districts.](#)

Besides in-depth research and value chain analysis, these consultations were complemented by:

- [More than 600 firm and farmers surveyed](#) making use of ITC's SME Competitiveness Survey (SMECS) to develop detailed profiles of their operations and perspectives on the business environment;
- [Field observations and factory visits](#) through which supply chain assessments were carried out to gain further knowledge on key issues such as quality procedures, technical skills, lean management, quality of raw materials and access to market, etc.;
- [More than 2,500 interviews with Iraqi consumers and market actors](#) to acquire strategic insights and market intelligence as well as buyers' requirements in terms of quality standards, food safety, packaging, buying cycles, distribution channels and prices, etc.;
- [Donor coordination meetings](#) to identify synergies with ongoing/planned initiatives of development partners to eventually result in collaboration during the implementation phase.

In spirit and in action: The strategy is aligned with existing national and sector-specific plans and policies, and builds on ongoing initiatives from development partners, including FAO, the International Labour Organization (ILO), IOM, GIZ and UNESCO, in areas related to job creation, economic diversification, agriculture development, investment, and youth and women's economic empowerment.



Source: © ITC

Equally important, the SAAVI strategy initiative already accommodates budgeting to support implementation of critical pilot activities identified during the design process. This will ensure that impact and momentum are generated from early on and support further resource mobilization and confidence building.

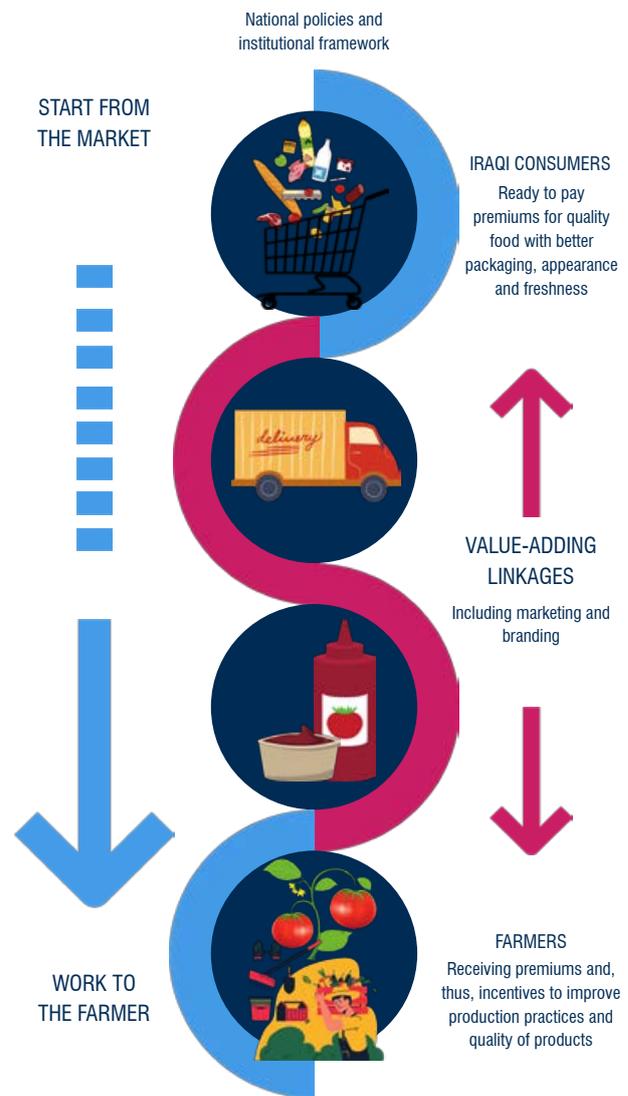
Lastly, once the two initial sector strategies are completed, support for other relevant high-potential sectors in the remaining four years of the project is being considered (e.g. potatoes, other horticulture products, other animal products, dates or honey) in close coordination with other existing initiatives.



Executive summary

Tomato was introduced to cultivation in Iraq in the middle of the eighteenth century and now represents an indispensable food item in the daily life of any Iraqi. Building on favourable growing conditions, from south to north, and the long experience of local producers, the tomato sector has grown to become a key contributor to Iraq’s agricultural and agrifood economic sectors. Iraq has the rare capacity to supply quality and healthy tomatoes to its domestic population all year round, shifting from one production area to another.

Fresh tomatoes are the horticultural product with the highest projected import demand in the country (\$183 million) and demand for prepared tomatoes is even higher (\$291 million), according to ITC estimations. In addition, tomatoes are used in other prepared products. While processed tomato products such as tomato paste, ketchup and tomato-based sauces are in high demand, imports from neighbouring countries currently capture most of this market. This represents a missed opportunity, as tens of thousands of jobs could be generated by seizing this domestic market opportunity. At the same time, ITC research demonstrated that more than 90% of Iraqi consumers would prefer to buy local products over cheaper imports if they meet their expectations. This also represents a missed opportunity to promote trade competitiveness for Iraq. Enhancing Iraq’s ability to become a competitive producer could progressively open opportunities for the country to export local produce.



Tomato products with highest projected demand by 2025



- \$291 million** prepared tomatoes
- \$183 million** fresh tomatoes
- \$18 million** processed food products, such as soups and broth

Source: ITC

As a result, the further expansion of production, processing and related activities in the sector can support market competitiveness and environmentally sustainable, socially inclusive growth. This strategy outlines priorities for the sector’s transformation, with a focus on creating jobs and entrepreneurship opportunities, particularly for women and youth, ultimately leading to increased country stability.

Enhancing competitiveness relative to imported tomato products is critical to realizing the sector’s full potential. This requires addressing supply-side constraints,



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managing costs and addressing consumer concerns about local products, such as packaging, appearance and freshness. In other words, marketing and branding strategies should go hand in hand with production and quality capability to yield real results in Iraq.

More fundamentally, stakeholders across the value chain will need to work together to address challenges to the ability of farmers and firms to compete with imported products, connect to markets and change to adapt to their evolving context. Key competitiveness constraints related to inputs and equipment use, water and soil management, skills, policy, value chain coordination, access to market information, quality management, sector organization, institutional support, investment in climate change adaptation, access to financial services, entrepreneurship, technology use and women's economic empowerment all impede some aspect of sector development.

This strategy aims to address these challenges and seize opportunities for tomato products.

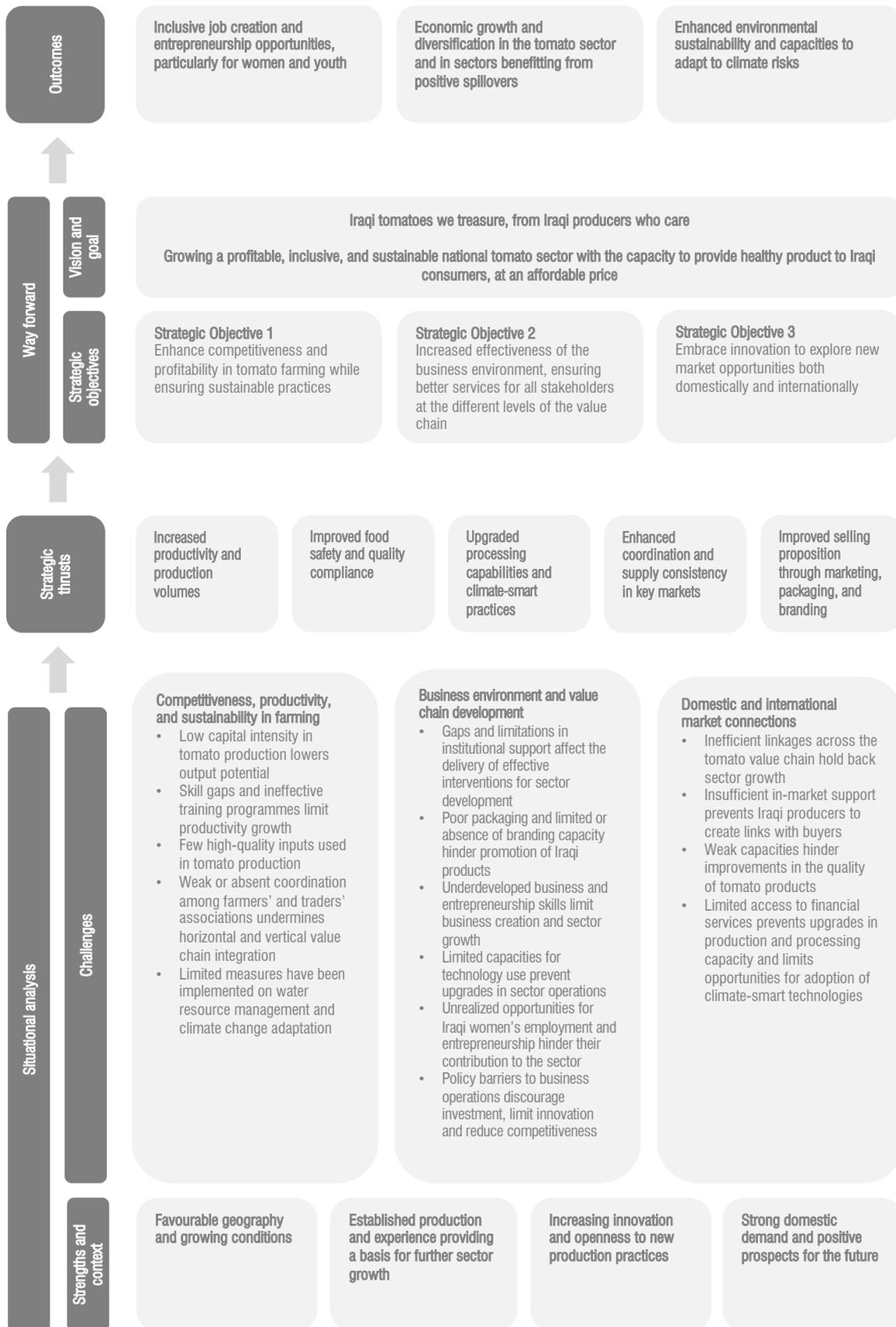
Its vision, '[Iraqi tomatoes we treasure, from Iraqi producers who care](#)', led to the definition of a sector goal: '[Growing a profitable, inclusive and sustainable national tomato sector with the capacity to provide healthy products to Iraqi consumers at an affordable price](#)'.

This is to be achieved through three strategic objectives:

- Enhance competitiveness in tomato farming through activities on improving farm productivity and profitability through targeted training programmes, support access to affordable improved inputs and equipment, encourage adaptation of production to actual market requirements, foster sector organization and cooperation, strengthen capacities for managing climate risks and a more effective and efficient use of water, and foster gender-inclusive value chain development;
- Promote an effective marketing system and a supportive business environment for farms and firms in the tomato sector through activities on building capacities for supporting value chain development and strategy implementation management, build awareness of entrepreneurship opportunities and business skills, encourage establishment of new businesses (particularly for youths), address legal and regulatory barriers to value chain development, and improve access to finance and investment to sector stakeholders;
- Develop farm and firm capacities to seize new opportunities on high-potential market segments engaging in value-addition activities such as processing, enhancing quality and strengthening institutions for managing quality, ensuring food safety, supporting innovation through access to investment and skills development and developing efficient connections and commercial alliances across the tomato value chain.

Figure 1 illustrates the strategy's theory of change.

Figure 1: Theory of change





Opportunities in tomato sector development: a promising sector well positioned to benefit from high domestic demand

The development of the agriculture and agrifood value chain has the potential to contribute to economic growth and diversification, job creation, and the reduction of poverty in rural areas in particular. The potential seen in the agriculture sector as a driver of resilience and economic diversification is based in part on its proven capacity to attract private sector investment

and generate employment. Private sector investment picked up quicker than public sector investment after a drop in 2014, rising from \$112 million in 2016 to \$503 million in 2017. Furthermore, the sector's development can contribute to enhancing food security and access to nutrition in Iraq (Box 1).

Box 1: Improving food security in Iraq

In addition to contributing to economic development goals such as job creation, competitive agricultural systems make a considerable difference in enhancing food security – measured in terms of people's access to sufficient, safe and nutritious food.

This is a particularly relevant benefit in Iraq, which faces considerable challenges related to food security. Undernourishment has long been relatively high in Iraq when compared to other countries in its region or income group. The situation worsened with a jump in undernourishment from 24.9% of the population in 2008 to 36.7% in 2011. At 37.5% in 2019, this rate is three and a half times the Middle East and North African average and two and a half times the upper-middle-income country average (FAO statistics).

Food security is prioritized in development planning in Iraq, though it is often discussed in terms of promoting self-sufficiency. Achieving food security is a target for the agriculture and water sector in the National Development Plan 2018–2022 and, in 2020, the Ministry of Planning launched the National Food Security Project in Iraq (2020–2022).

In supporting improved competitiveness, expanded production and strengthened domestic market linkages, the tomato sector strategy and the poultry sector strategy also support the population's improved physical, social and economic access to food that defines food security. Boosting productivity and competitiveness includes reducing production costs, improving product quality and reducing losses, which can lower prices for consumers while making sure the food they consume is safe and nutritious. There is enormous potential in Iraq to expand production and increase farmers' yields through improved access to knowledge and technological innovations, improved varieties, quality inputs, and market information and connections. Finally, strengthened market connections will help to ensure better physical access to food across the country.

According to recent ITC research,¹ with a moderate growth rate in agricultural production of 3% per year, more than 170,000 additional jobs could be created in Iraq by 2030. This includes indirect jobs created within the same value chain through the use of domestic inputs such as fertilizer, electricity and water and induced jobs created in the whole economy through an increase in demand, as those newly employed increase their consumption more generally. At 22%, the share of women in new direct employment is highest

in processed food, twice as high as in 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 2). The potential for Iraq's tomato production is also confirmed by other research, including that of the World Bank, although their calculation focused solely on direct job creation.

Figure 2: Share of men and women in direct employment, by sector



Source: ITC.

There is ample scope for expanding tomato production and processing activities, given the significant domestic demand. Iraq imports \$223 million worth of processed tomatoes annually, as tomato paste is a very common ingredient used in local cooking. The crop has considerable potential for value addition, especially if new technology is adopted to improve quality and new

varieties are introduced to the market, particularly with the trending hypermarkets that are becoming increasingly popular in Iraq. Tomato production and processing are promising activities from a gender perspective due to the opportunities for women's involvement and economic empowerment. There is also the potential to grow the sector in an environmentally sustainable way.

Untapped market opportunities and market requirements

Realizing the considerable potential in Iraq's tomato sector will require the adoption of new approaches to production, value addition and connecting to markets, all of which will need to be informed by an understanding of domestic market functioning and consumer expectations.

Fresh tomatoes are the horticultural product with the highest projected demand in Iraq, estimated at \$183 million by 2025, according to ITC estimates.² At \$291 million, projected demand for prepared tomatoes in Iraq is even larger and tomatoes are also used as an input to several other processed food products, such

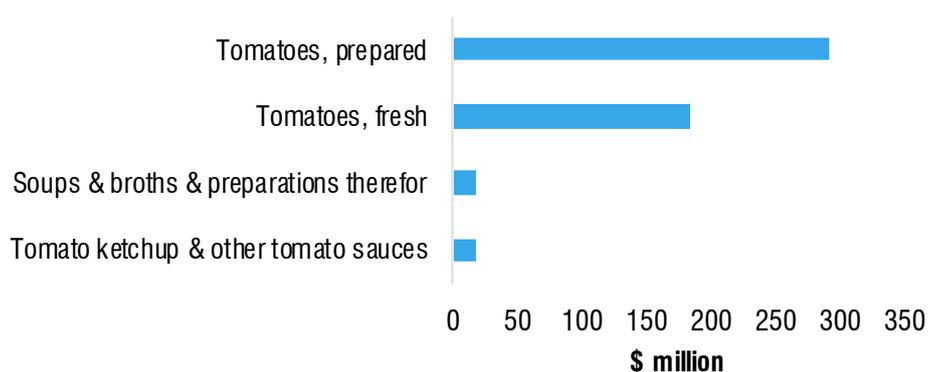
1. See https://www.intracen.org/uploadedFiles/intracenorg/Content/Redesign/Projects/SAAVI_Iraq/SAAVI%20TMI%20report%202_web.pdf.

2. See https://www.intracen.org/uploadedFiles/intracenorg/Content/Redesign/Projects/SAAVI_Iraq/SAAVI%20TMI%20report%202_web.pdf.

as soups and broth (\$18 million projected import demand) and tomato ketchup and other tomato sauces (\$18 million). In total, demand for agricultural products in Iraq is expected to be approximately \$5.6 billion (\$2.3

billion in animals and animal products, \$1.7 billion in horticulture, \$1.1 billion in processed food and \$0.5 billion in other products). There is thus large untapped potential for the sector.

Figure 3: Total projected demand for selected tomato products (2025)



Source: ITC.

This represents huge opportunities for the Iraqi tomato industry. However, at current demand levels, the full potential in the local market is not being realized by domestic tomato producers. In total, tomato imports in 2020 were approximately \$145 million based on mirror data.³ Notably, the Iraqi market fills supply–demand gaps, particularly during specific periods according to the agricultural calendar. Imports tend to be sold through traders, reaching similar end markets.

The proportion of the volume of imports into Federal Iraq are nearly 10% of the volume of production, while for the Kurdistan Region of Iraq the same ratio is nearly 120%. Increasing production in the Kurdistan Region of Iraq and using production from other areas in Iraq can help lower this ratio and reliance on imports.

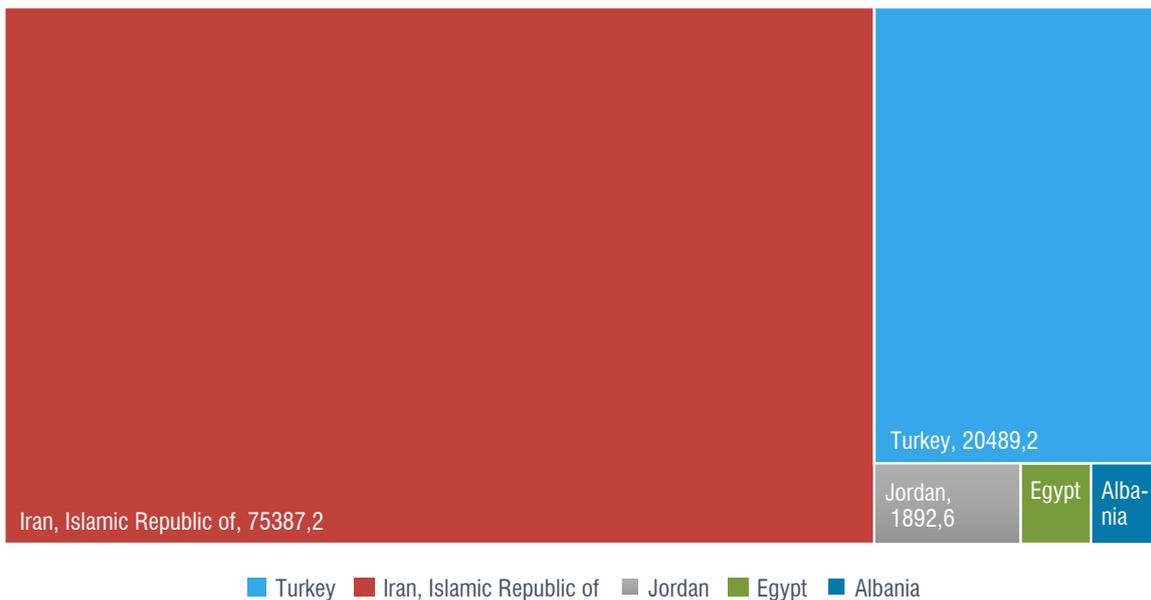
Processed tomato products such as tomato paste, ketchup and tomato-based sauces are popular, but many brands are produced outside Iraq. This is largely due to the lack of processing factories in Iraq, as well as competition from imported processed products from the Islamic Republic of Iran and other neighbouring countries. The supply of Iraqi tomatoes may also be inadequate for processing, as producing tomato paste

and sauces requires large quantities of fresh produce of specific varieties (e.g. tomatoes with low water content), which are not always available domestically. Most work at the processing factories is manual, although there are some machines, for example to slice or shred vegetables for pickling. The factories do not conduct any testing of products beyond simple visual inspection and they maintain relationships with trusted local farmers to help ensure quality. After delivery, vegetables are washed, prepared and pickled in barrels.

Production costs in neighbouring countries tend to be lower, leading to significant imports from these countries that account for most of the total supply in Iraq. According to FAO statistics, domestic production of tomatoes and tomato products accounted for 25.2% of domestic supply quantity in 2017, the most recent year for which data is available. Imports of tomatoes (HS 0702) totalled \$67.8 million in 2019, according to mirror data (Figure 4 and Figure 5). Imports of vegetables (HS 07) totalled \$49.6 million in 2019, according to mirror data. Trade policy has been used as a means of protecting local production, including through import bans implemented in the Kurdistan Region of Iraq and the rest of the country.

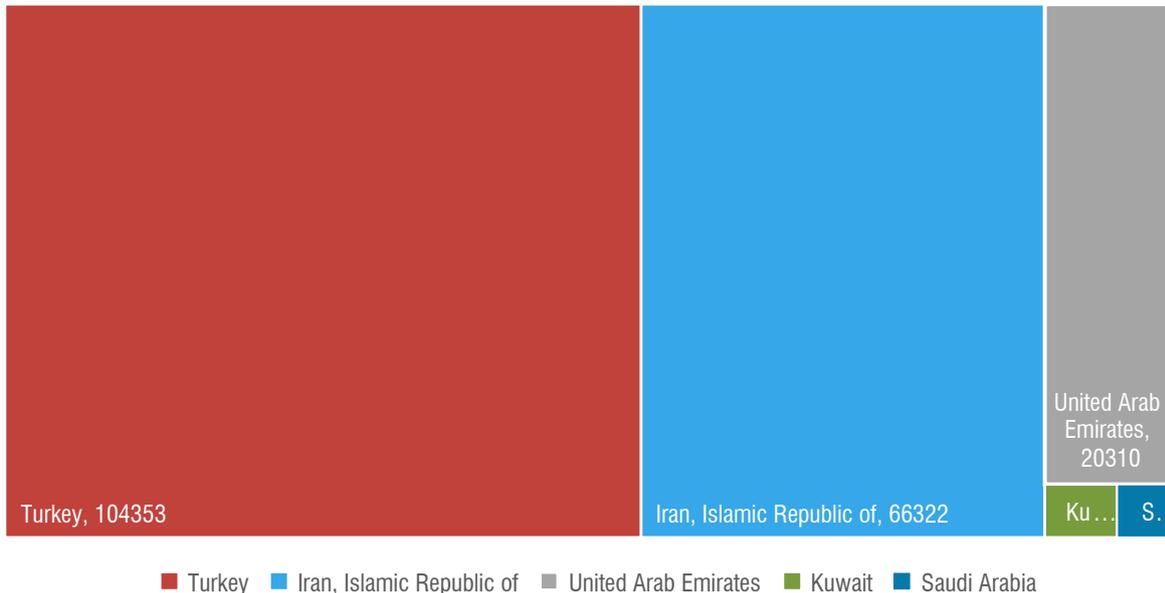
3. ITC Trade Map.

Figure 4: Average fresh tomatoes annual import value (2016–20) (thousand USD)



Source: ITC Trade Map.

Figure 5: Average prepared/preserved tomatoes annual import value (2016–20) (thousand USD)



Source: ITC Trade Map.

The competitiveness of imports has often made trade policy an attractive tool to be used in supporting domestic production. Especially in light of Iraq’s ongoing World Trade Organization (WTO) accession process, increasing competitiveness of domestic tomato production will benefit Iraqi producers once Iraq becomes a member by, among others, expanding

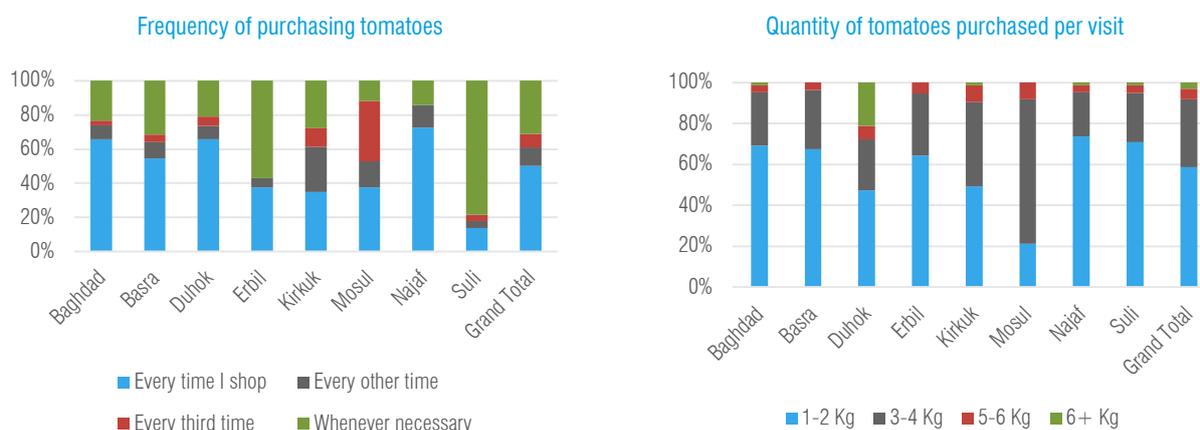
market access. Many Iraqis, including smallholder agricultural producers, blame competition from subsidized Turkish and Iranian imports for the difficulty that Iraqi farmers face in selling their products. Tomatoes were among the 29 agricultural products for which an import ban was imposed by Iraq’s Ministry of Agriculture in September 2020, with the explanation

that domestic supply was sufficient to meet demand in Iraq. It is important to note that the Kurdistan Regional Government banned tomato imports from southern and central Iraq in 2021 following farmers' protests about a severe drop in prices.

ITC conducted a consumer survey of close to 2,500 individuals within the framework of a domestic market analysis for selected agrifood products. Results from the survey indicate that, in general, farmers tend to believe that cheaper prices, timing and varieties are the most important reasons for the success of imported products in the Iraqi market.

Most Iraqi consumers shop for tomatoes 1–3 times per week and many shoppers buy tomatoes in small quantities each time they shop for groceries (Figure 6). These patterns are common across gender and age groups. Neighbourhood grocers are generally the preferred place to shop for tomatoes and other vegetables, though green grocers were second and, in the Kurdistan Region of Iraq, supermarkets were the most common location. In the Kurdistan Region of Iraq, strengthening marketing channels between farmers and large retailers, therefore, seems to have the biggest potential. Farmer co-ops and effective farmer associations could be a potential method to connect farmers with retailers, as unions are more likely to be willing to be contractually obliged to large retailers.

Figure 6: Consumer purchasing of tomato products



Source: ITC.

While the COVID-19 pandemic disrupted demand from restaurants for food, they have generally seen steady demand in recent years. Procurement managers confirmed that, on average, there is little to no difficulty in sourcing basic ingredients such as vegetables, poultry inputs and dairy products. However, when there is a difficulty, it usually pertains to the fluctuation in prices rather than quality, freshness, packaging or other concerns. Judgements on quality are typically made by the procurement manager. Procurement managers typically go to the central market on a daily basis and have no contract with suppliers. Facilitating direct trade between farmers and large customers, who typically purchase vegetables from open markets, would benefit both buyer and seller if risks can be appropriately managed.

Nearly 90% of both male and female respondents confirmed that they prefer local vegetables. Further, 77% of consumers believe that local tomatoes would be better than imports if the prices were the same. Although encouraging, a few issues should be considered,

including that locally produced products are not available almost one-third of the time. There was variance in responses across governorates and in terms of seasonality. It is worth noting that respondents from Erbil indicated the most difficulties in this regard, as 55% of them answered that locally produced tomatoes are not often available. Nevertheless, the majority of Erbil and Duhok consumers (91% and 88% respectively) indicated their preference for local tomatoes was throughout the entire year, while the majority of Basra consumers (92%) reported their preference for local products was seasonally only. This may be related to the capacity of production within each governorate and the quality of local production reaching these markets.

Consumers' buying decisions when purchasing tomatoes are influenced by flavour, colour and local production. Most consumers (82%) indicated flavour as the absolute main criterion on which they base their decision, which is most likely associated with history of purchases. Colour, often associated with flavour,



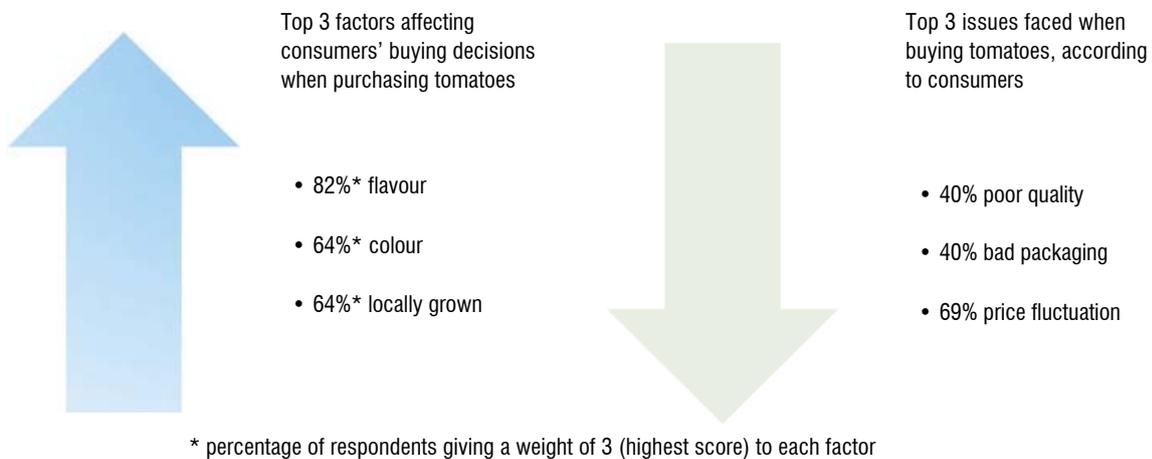
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was scored as having a high importance by 64% of consumers. Similarly, 64% of consumers indicated local production was another top criterion considered when purchasing tomatoes. The highest scores regarding local production were given by consumers in the Kurdistan Region of Iraq.

Price fluctuations were indicated as the top challenge by 69% of consumers. This was followed by nearly 40% identifying bad packing and poor quality as the second

and third challenges for tomatoes. Reasons for fluctuation could include the fluctuation in the exchange rate of the USD in recent years, along with frequent opening and closing of international borders, which causes fluctuation in the inflow of imports. Generally, consumers think that local vegetables can best be made more attractive through improvements on price (including reducing price fluctuations), quality and availability. Not many consumers are aware of organic vegetables and few are highly motivated consumers of these products.

Figure 7: Top 3 factors affecting tomato purchasing decisions and Top 3 issues faced



Source: ITC.

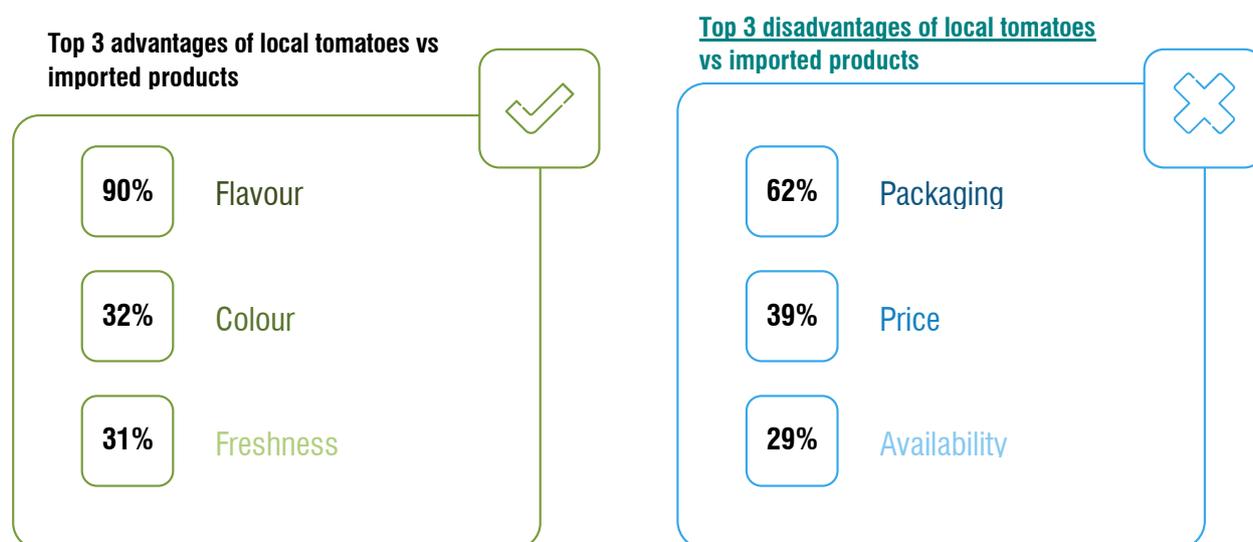
While consumers would be willing to pay somewhat more for local products, this is subject to improvements in flavour, colour, size and ripeness. The additional percentages that respondents are willing to pay more for local products varied by governorate. Nearly 40% of consumers indicated their willingness to pay up to 20% for local tomatoes. Respondents indicated better flavour (85%), colour (51%) and ripeness (48%) as the main reasons behind their willingness to pay a premium.

Local tomatoes' best competing feature is flavour (90%), while their top disadvantage is packaging (62%). The second advantage of local vegetables compared to imported products varied by governorate. However,

in general, the main advantages were flavour (90%), colour (32%) and freshness (31%). By contrast, the top advantages of imported products were packaging (62%), price (39%) and availability (29%).

Agents tend to think of products' impact on health as being the most important factor that affects products' prices. This may be linked to other factors such as the freshness of the products and not using preservative materials in the products. Surprisingly, taste and colour were the least important factors affecting products' prices, according to agents. Although consumers insisted on the importance of such factors, it does not seem to affect agents' pricing negotiations.

Figure 8: Top 3 advantages and disadvantages of local vs imported tomatoes



Source: ITC.

Implications for the Iraqi tomato sector

- Local products are preferred by consumers and there are opportunities to obtain premiums linked to added value in products. However, there are several factors and practices to be enhanced.
- Packaging is a crucial element to be improved.
- Increasing capacities in post-harvest activities, such as washing and grading, but also cold storage, can have a major impact in the positioning of local production compared to imported products.
- Availability of production is another issue to be tackled, for example, through the introduction of new technologies, varieties and good farming practices.

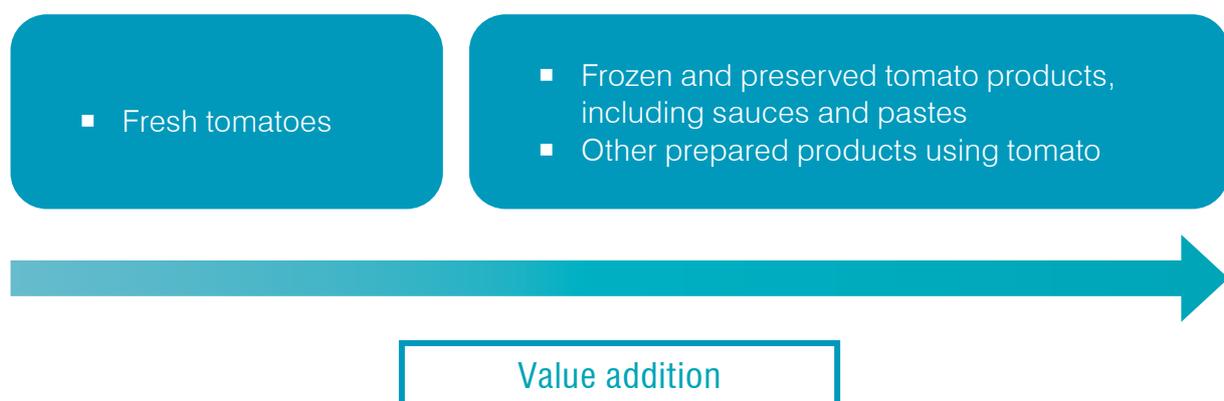


Sector profile and value chain mapping: a recovering sector with room for growth

The strong performance of imports in the Iraqi market suggests the considerable scale of unrealized potential in domestic tomato production and value chains, which can be significant drivers of growth and job creation. On the production side, there are opportunities for expansion and enhanced competitiveness to meet this challenge. Production trends and sector strengths are identified as aspects to be built on in the strategy. Mappings of the value chain and the institutional and policy context illustrate the relationships, supports and influences on the operations of farms and firms in the sector.

This sector strategy covers all tomato sector products. These include **fresh tomatoes** (commercial varieties of tomatoes grown from *Lycopersicon esculentum* Mill, of the *Solanaceae* family, to be supplied fresh to the consumer, after preparation and packaging) and **frozen and preserved products** such as tomato paste, canned tomato products and tomato sauces, as well as other prepared products using tomato (Figure 9).

Figure 9: Tomato product map



Source: ITC.

Current value chain and operations: Iraq’s unique supply-side aspects for tomato production

PRODUCTION

Iraq’s varied soil and climatic conditions make the country well suited to the production of a range of varieties and a year-round production. In the winter season, tomatoes are produced in the desert conditions of Basra/Al-Zubayr and Samarra, and in spring production comes from Al-Diwaniya, Najaf and Karbala. In the summer, tomatoes can be produced in the Wasit, Al-Kūt and An-Nu’mānīyah areas as well as in Diyala. In autumn, the northern regions of Nineveh (Mosul and Sinjar), the Kurdistan Region of Iraq and Kirkuk represent the main producing areas.

Although tomatoes are the most commonly grown vegetable in Iraq, production has been expanding unevenly throughout the country (Figure 10). Production is highest in Karbala, Basra and Najaf. There are an estimated 14,000 farmers involved in tomato commercial production (World Bank figures). Tomato and other vegetable farmers often operate as family farms, using family labour and seasonal employees (typically 1–10 workers operating on less than 25 donums of land). In some cases, they will alternate between summer vegetables and winter crops, including potatoes and grain crops such as wheat and barley. Prices achieved for vegetables on the market are low and vary with seasonal demand.

Figure 10: Tomato production and harvested areas in Iraq (1989–2019)



Source: FAOSTAT.

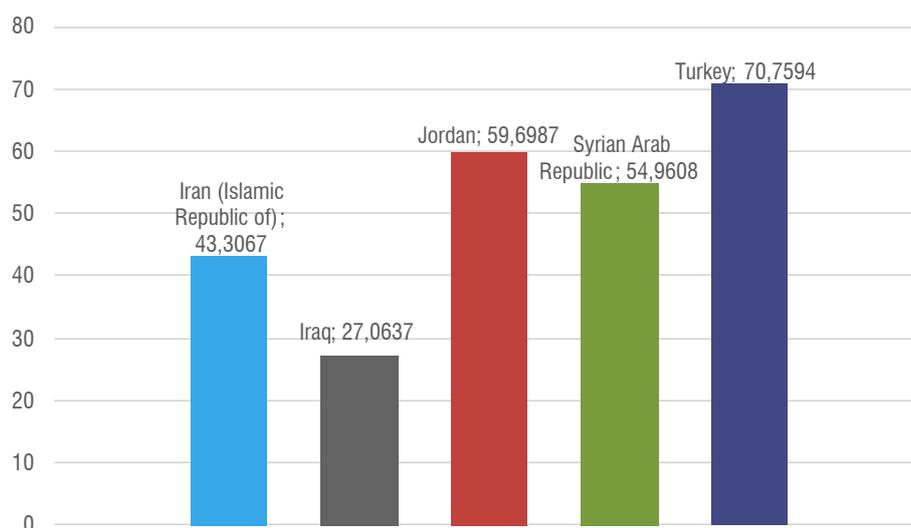
Production is characterized by relatively low yields in comparison to neighbouring producing countries (Figure 11). Many farmers lack access to needed

quality inputs such as pesticides and fertilizers due to their cost.

Inputs to the tomato value chain include seeds, plantlets, pesticides and fungicides, fertilizer and water. According to ITC's survey targeting Iraqi producers of select horticulture and animal products, for tomato farmers, inputs represent a disproportionate share of

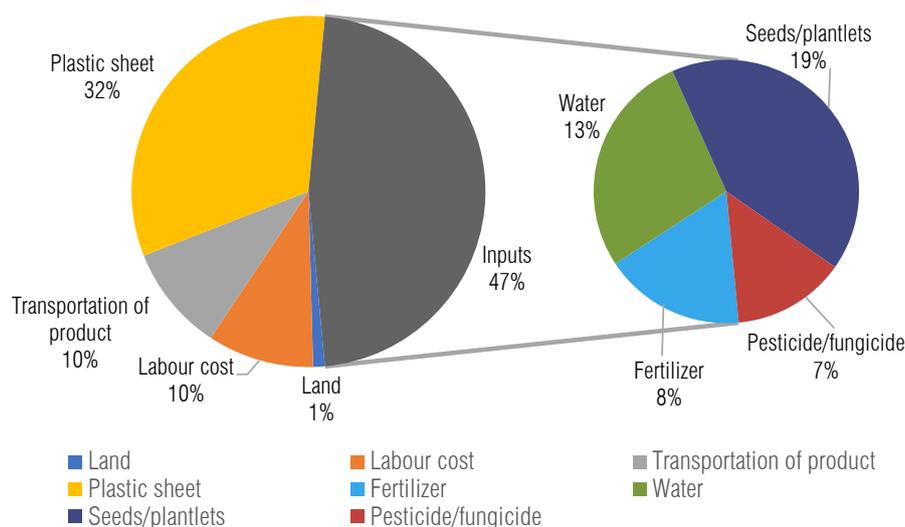
the production cost. This directly affects their competitiveness in comparison of competitors from Iran, the Republic of Turkey or the Hashemite Kingdom of Jordan (Figure 12).

Figure 11: Compared yields for tomato production (2020) (tons per hectare)



Source: FAOSTAT.

Figure 12: Typical tomato production cost in Iraq (2021)



Source: ITC.

High transaction costs ultimately affect the share of the final price returning to producers and other stakeholders. Elevated transportation costs, checkpoints and various fees to enter the market, etc. decrease Iraqi producers' competitiveness (Figure 13). During the

various consultations, it was found that, under current conditions, Iraqi farmers can begin to be economically viable at a farm gate price level of approximately IQD 300 per kg (approximately \$0.21 per kg).

Figure 13: Example price information (2021)

Price	Minimum	Average (regular)	Maximum
Farm gate/ wholesale price	IQD 70 per kg <i>The lowest they recorded, which was not even the cost of the plastic box</i>	IQD 250 per kg	IQD 850 IQD 1,000 for rare premium varieties <i>Under optimal conditions (other regions are not producing or minimum imports)</i>
Consumer price	IQD 500 per kg	IQD 550 per kg	IQD 1,500 per kg at the end of spring

Source: ITC.

Water management is particularly crucial for tomato production, as it requires specific attention at the plant's various vegetative stages. Under regular conditions, the water footprint for tomato production is only of 214 m³/ton (1,644 m³/ton for cereals, 322 m³/ton for vegetables and 15,415 m³/ton for bovine meat). Tomato production can, however, require large amounts of water

when rain-fed and without appropriate technology. It is thus particularly relevant to climate-smart agriculture practices. In the southern areas of Basra, water salinity poses a challenge for the crop's sustainable production. Water scarcity in general is another substantial constraint to sector development.

PROCESSING

Farmers generally acknowledge the profitability of greenhouse/tunnel farming, which is becoming a more common approach. Greenhouse farming is associated with better packing practices such as the use of cartons as opposed to baskets, which are common in open-field farming. Only 25% of farmers perform value-adding post-harvest activities (cleaning, weighing, sorting and grading), and only a few acknowledge their benefits to product quality and value. Like other vegetables,

most tomato harvesting in Iraq is conducted by hand, with the crops typically stacked in plastic or cardboard boxes before being packaged for market. Most are sold fresh for domestic cooking. Due to the lack of refrigerated storage and cold chain logistics capacity, vegetable growers are required to sell their fresh produce to wholesalers and local vendors and markets within a short window before it spoils. Prices therefore drop rapidly, as the product loses freshness.

MARKETING AND DISTRIBUTION

Farmers typically organize their own transport to local markets. The major value chain functions that vegetable growers perform include planting, fertilization, weeding, pest/disease control, harvesting, post-harvest handling and transporting to selling areas. Some products are sold to retailers and traders, who transport them to Baghdad, Basra or Mosul for sale. In very rare cases, farmers use refrigerated storage to keep their crop fresher for longer, paying third-party storage facilities for the service.

Traders and distributors operate on both the local and national level and can be small- or large-scale operations. These stakeholders rarely purchase products directly from farmers. Most of the product is procured from local vegetable markets, to which farmers transport products themselves. Traders may sell to small local processors and shops, or to larger, further-away processing plants and supermarkets. Among the larger firms active in the sector, Khudairi Group is a wholesaler involved in the trade of tomato and tomato products. As of 2021, four Iraqi tomato-processing plants

are theoretically operational – one in Duhok and three in Baghdad – and five are currently inactive.

Direct sale of fresh tomatoes from farmers/producers' organizations to retailers is uncommon. As a result, most farmers do not know about the requirements and standards of large chain supermarkets for specifications such as size distribution and packaging preferences, etc., which could help better market their products. The value chain includes multiple intermediaries, and the products are exchanged almost exclusively on wholesale markets through licensed agents. Licensed agents at wholesale markets pay a fee to the market authority to get the authorization to operate (with little transparency on selection criteria and the amount of the official fees to get a licence). Some of these agents are large farmers themselves. Traders/agents usually levy 3% on sale revenues from farmers to remunerate their services. Farmers are often financially indebted to the agents and are, therefore, forced to sell to them directly to repay their debts. In some cases, this is related to provision of inputs. Traders/agents pay often



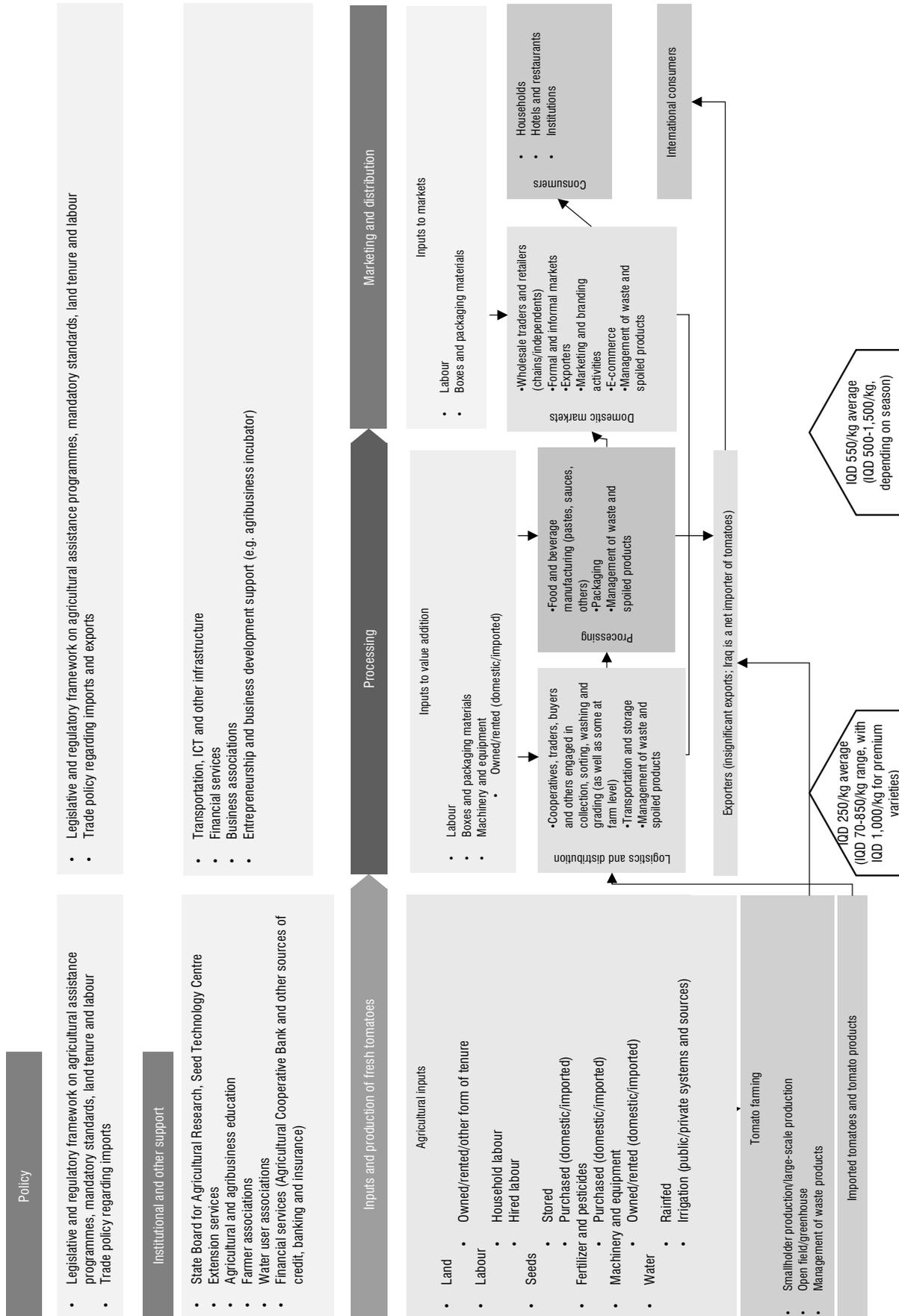
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by providing a voucher that will be exchanged against cash the following month. Producers have limited bargaining power on price or contract terms.

Value chain mapping

Roles and flows of goods and services from pre-production to final consumers in the tomato sector are mapped in Figure 14 from raw products to value addition and markets and consumers.

Figure 14: Tomato sector value chain



Source: ITC generated.



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Institutional and policy framework

At the policy level, key ministries relevant to the tomato sector include:

- **Ministry of Agriculture:** Responsible for policymaking, regulation, extension services, research and other topics;
- **Ministry of Water Resources:** Manages the country's irrigation canals;
- **Ministry of Planning:** Through its work in national development planning;
- **Ministry of Health and Environment:** Regulates food safety, biodiversity and climate change, among other topics;
- **Ministry of Higher Education and Scientific Research:** Responsible for schooling and vocational training;
- **Ministry of Industry and Minerals (MoIM);**
- **Ministry of Trade;**
- **Ministry of Industry and Trade,** Kurdistan Regional Government.

Public sector organizations such as the Agricultural Cooperative Bank are also directly involved in sector development. The private sector is largely represented through the Federation of Iraqi Chambers of Commerce, the Iraq Businessmen Association and the Chambers of Commerce and Industry in the Kurdistan Region of Iraq, and the Federation of Farmers Associations.

The policy framework directing opportunities in the agriculture and agrifood value chain generally and tomato sector in particular includes plans and strategies, legislation and regulation. Some of the particularly relevant recent elements of this framework include:

- **National Development Plan 2018–2022:** The plan seeks to 'establish the foundations of an effective development state with social responsibility' through objectives related to governance, economic reform and recovery, investment attraction, income growth, improved employment, human security and development, and decentralization and urban planning. Explicit targets regarding the agriculture sector include an increased contribution to gross domestic product (GDP) and a higher growth rate, sustainable food security and progress towards clean agriculture. Under the previous National Development Plan, investments were made in agriculture for modernization, employment generation, rural development, fostering private sector investment and enhancing competitiveness.
- **Strategic plan of the Ministry of Agriculture for the period 2009–2015:** The ministry's plan emphasized the need for rehabilitating essential infrastructure for land and water management and other areas relevant to the agricultural sector, and for improved extension services and the support of innovation in the sector. Identified priority agricultural products included wheat, date palms, potatoes, cattle and poultry, along with rice, vegetables and maize.
- **National Nutrition Strategy 2012–2021:** The strategy defines a comprehensive framework for improving health and nutrition. Strategic objectives relevant to the agriculture sector include those on intersectoral cooperation, a review of relevant national frameworks, the provision of food security to all, and planning for monitoring, evaluation, surveillance and response.



Value chain competitiveness diagnostic: stakeholder-identified priorities to be addressed

The performance of Iraq's tomato sector and its connections to domestic markets imply that there are constraints limiting inclusive and sustainable growth. Identifying and comprehensively addressing the highest priority of these constraints will be essential to developing a useful way forward for the sector.

Key constraints facing the tomato sector directly affect the competitiveness, productivity and sustainability in

farming, business environment and value chain development, and domestic and international market connections, with further implications for the sector to realize its potential as a driver of sustainable and inclusive growth (Table 1). These constraints, which are addressed through activities in the strategy's plan of action (PoA), are present at the three layers of farm- and firm-level capabilities, the immediate business environment and the national environment.

Table 1: Key competitiveness constraints in the tomato sector

	Key constraints	Relevant PoA operational objectives
Competitiveness, productivity, and sustainability in farming	<ul style="list-style-type: none"> • Low capital intensity in tomato production lowers output potential • Skill gaps and ineffective training programmes limit productivity growth 	<ul style="list-style-type: none"> • 1.1. Enhance farm productivity through adoption of good agricultural practices / climate smart agriculture
	<ul style="list-style-type: none"> • Few high-quality inputs used in tomato production 	<ul style="list-style-type: none"> • 1.2. Improved access to quality seeds, inputs, and necessary equipment in line with market requirements
	<ul style="list-style-type: none"> • Weak or absent coordination among farmers' and traders' associations undermines value chain integration 	<ul style="list-style-type: none"> • 1.3. Support producers' organization
	<ul style="list-style-type: none"> • Limited measures have been implemented on water resource management and climate change adaptation 	<ul style="list-style-type: none"> • 1.4. Strengthen capacities for managing climate risks
Business environment and value chain development	<ul style="list-style-type: none"> • Gaps and limitations in institutional support affect the delivery of effective interventions for sector development 	<ul style="list-style-type: none"> • 2.1. Support sector organization and cooperation • 2.2. Support strategy implementation management
	<ul style="list-style-type: none"> • Underdeveloped business and entrepreneurship skills limit business creation and sector growth 	<ul style="list-style-type: none"> • 2.3. Build awareness and skills on entrepreneurship in agrifood value chains, with a specific focus on youth.
	<ul style="list-style-type: none"> • Limited capacities for technology use prevent upgrades in sector operations 	<ul style="list-style-type: none"> • 2.4. Enhance business skills of micro, small and medium-sized enterprises (MSMEs) with a focus on digital technologies to boost connectivity and competitiveness.

	Key constraints	Relevant PoA operational objectives
Business environment and value chain development	<ul style="list-style-type: none"> • Unrealized opportunities for Iraqi women's employment and entrepreneurship hinder their contribution to the sector • Policy barriers to business operations discourage investment, limit innovation and reduce competitiveness • Limited access to financial services prevents upgrades in production and processing capacity and limits opportunities for adoption of climate-smart technologies 	<ul style="list-style-type: none"> • 2.5. Foster female entrepreneurship • 2.6. Address legal and regulatory barriers to value chain development • 2.7. Improve access to finance and investment
Domestic and international market connections	<ul style="list-style-type: none"> • Weak capacities hinder improvements in the quality of tomato products, including poor packaging • Poor packaging and limited or no branding capacity hinder promotion of Iraqi products. • Inefficient linkages across the tomato value chain hold back sector growth • Insufficient in-market support prevents Iraqi producers from creating links with buyers. 	<ul style="list-style-type: none"> • 3.1. Strengthen farm and firm capacities to reach high-potential market segments for fresh and processed tomatoes (new varieties, innovative marketing concept, packaging materials, branding of the fresh tomatoes /tomato products or the supply chain configuration itself) • 3.2. Develop farm and firm capacities for enhancing quality and food safety (e.g. harvest, post-harvest, packaging and storage), ensuring that it translates into remunerative price premiums. • 3.3. Improve the functioning of marketing channels to decrease product loss and transaction costs. • 3.4. Support improvements to trade policy to foster expanded exporting

Competitiveness, productivity and sustainability in farming

Constraints related to competitiveness, productivity and sustainability in tomato farming include capital intensity in production, gaps in technical skills, limits in the extent of sector organization and the little progress made on climate change adaptation. Together, these

limit opportunities for inclusive growth in the sector and hinder value chain actors from adapting to pressing environmental risks. These constraints are addressed in the first strategic objective in the plan of action.

LOW CAPITAL INTENSITY IN TOMATO PRODUCTION LOWERS OUTPUT POTENTIAL

- **Relevant layer:** Farm- and firm-level capabilities
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 1.1. Enhance farm productivity through adoption of good agricultural practices/climate-smart agriculture

Although greenhouse production of tomatoes is increasingly common, much of the agriculture in Iraq has a relatively low level of capital intensity, lowering potential output and labour productivity. In 2017, the most recent year for which data is available, the ratio of agricultural investment to value added in Iraq was 0.11 and the sector's net capital stock totalled just \$4.9

billion, among the lowest in the Middle East and North Africa. Across the country, it is estimated that only 20% of farmers had access to irrigation in 2018, and the irrigation network is in need of upgrading. Traditional methods of irrigation such as surface irrigation are still used most commonly, leading to the loss of considerable amounts of water to irrigation.

SKILL GAPS AND INEFFECTIVE TRAINING PROGRAMMES LIMIT PRODUCTIVITY GROWTH

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 1.1. Enhance farm productivity through adoption of good agricultural practices/climate-smart agriculture

Technical skill gaps depress farm and firm productivity in the tomato sector directly and prevent the adoption of productivity-enhancing practices. Traditional sources of knowledge and on-the-job training are common, but

may slow the adoption of new inputs, technologies and practices, as well as limiting the potential for growth and innovations in business practices. Where extension services are available, they tend to not be very useful as a means of sharing information with farmers on improved techniques and tool use. The new conditions and risks brought about by climate change further raise the importance of regularly updated training for farmers, covering topics such as pest and disease control, the use of improved seeds and the management of water resources.

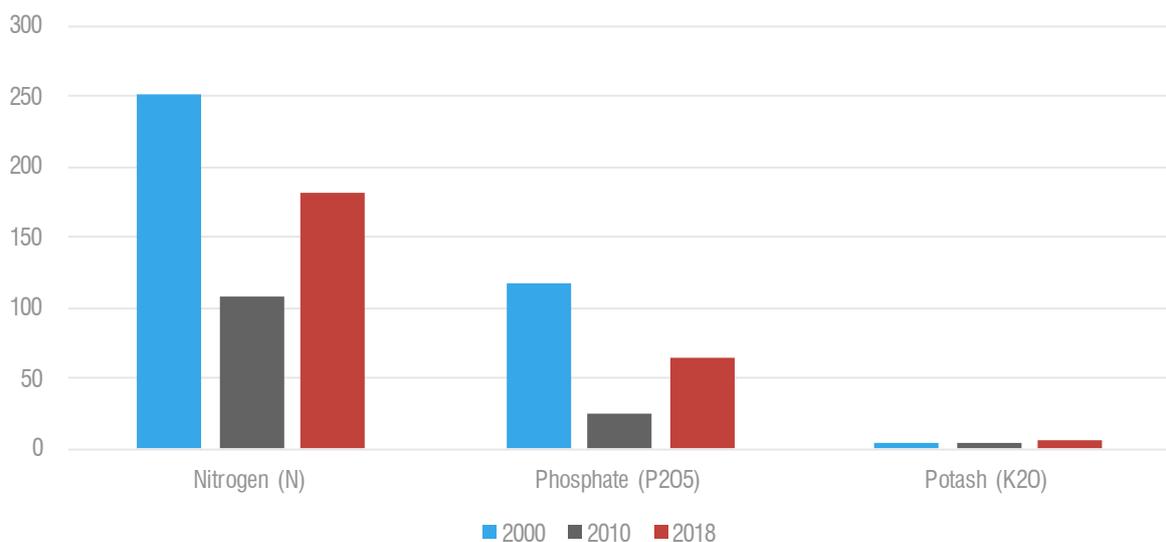
FEW HIGH-QUALITY INPUTS USED IN TOMATO PRODUCTION

- **Relevant layer:** Farm- and firm-level capabilities
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 1.2. Improved access to quality seeds, inputs and necessary equipment in line with market requirements

Relatively low levels of the inputs needed to improve on-farm productivity are used, in many cases because the costs of these inputs are prohibitive. Fertilizer consumption was just 35.8 kilograms per hectare of arable land in 2016, compared with an average of 187.1

kilograms across upper-middle-income countries and 94.8 kilograms across the Middle East and North Africa. Total use of nitrogen and phosphate fertilizers in agriculture in 2018 increased from levels used in 2010, but remained below levels of use from 2000 (Figure 15). Potash use remains low, but is increasing. Much of these inputs are not produced domestically; in 2018, imports represented 21.1% of nitrogen fertilizer used in agriculture, 86.1% of phosphate used and 126.6% of potash used.

Figure 15: Agricultural use of nitrogen, phosphate and potash fertilizer (thousand tons)



Source: FAO, FAOSTAT.

Improved, but outdated seed varieties – such as hybrid tomatoes – are used fairly widely in many regions. Vegetable seedlings, which are mainly grown in ground nurseries using traditional methods, show weak growth after planting and decreased survivability to weather extremes (drought, high temperature or strong winds) as opposed to those grown with modern methods, which are the minority. Similarly, high-producing seed varieties such as GS-12 tomatoes, which are popular among farmers, are outdated and could respond poorly to new climate stressors such as drought or water stress.

Laws on seed quality and testing have been criticized as being outdated, limiting the potential for innovation and the adoption of improved varieties, though Law No. 15 of 2013 concerning plant variety registration allows foreign seeds to enter the market. The destruction of the country's seed bank in Abu Ghraib following the 2003 invasion was particularly damaging to the supply of local seeds. Further work has helped to restore the supply

of native seed varieties, as well as helping to adapt to climate change and other challenges. The Horticulture Department of the Ministry of Agriculture announced in 2020 that it will prepare the necessary supplies for the production of special hybrid tomato seeds that can be planted in tunnels, thereby increasing yield.

The dominance of state-owned enterprises (in particular, the Mesopotamian State Company for Seeds and the State Company for Agricultural Supplies) in the supply of agricultural inputs, many of which are imported, discourages competition and reduces efficiency, potentially pushing out disruptions in these supply chains that would reduce costs to farmers or improve their access to a broader range of products.

Inputs suppliers express concerns that farmers are reluctant to accept new inputs and farming methods. They also note that they are hesitant to offer loans to farmers who may pose a repayment risk.

WEAK OR ABSENT COORDINATION AMONG FARMERS' AND TRADERS' ASSOCIATIONS UNDERMINES THEIR VALUE CHAIN INTEGRATION

- **Relevant layer:** Immediate business environment
- **Severity:** ● ● ○
- **Relevant PoA operational objective:** 1.3. Support producers' organization

While sector organization plays a fundamental role in the development of competitive value chains by facilitating the transfer of information on regulatory requirements and markets, offering training and other services to farms and firms, and facilitating public–private dialogue to shape policy design, conflict and neglect have hindered effective cooperation and coordination in the

Iraqi tomato sector. Existing organizations, particularly those serving farmers, have limited capacities to represent their interests or engage in other forms of support. Similarly, among the associations representing private sector actors, weak or missing coordination mechanisms undermine cooperation on shared interests on policy and other areas, with implications for efficiency across the value chain. The consequences of weak organization have been exacerbated by the breakdown of social cohesion during prolonged periods of conflict and stability that have damaged traditional modes of cooperation and coordination.

LIMITED MEASURES HAVE BEEN IMPLEMENTED ON WATER RESOURCE MANAGEMENT AND CLIMATE CHANGE ADAPTATION

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment; national environment
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 1.4. Strengthen capacities for managing climate risks

Climate change has serious consequences for Iraq's tomato production sector. Iraq faces climate risks in the form of slow-onset events such as increasing temperatures, decreasing precipitation, desertification,

and the salinization of water and soils, as well as extreme weather events such as droughts, high temperatures, heatwaves, strong winds (and sand and dust storms) and erratic heavy rains. While its exposure to these events is low, its vulnerability remains high due to a lack of adequate adaptive measures in place. Consequences for productivity and crop yields are potentially considerable. The risk is further exacerbated by the obsolescence of the irrigation network, which has been degraded by years of insufficient maintenance of and limited investment in infrastructure.

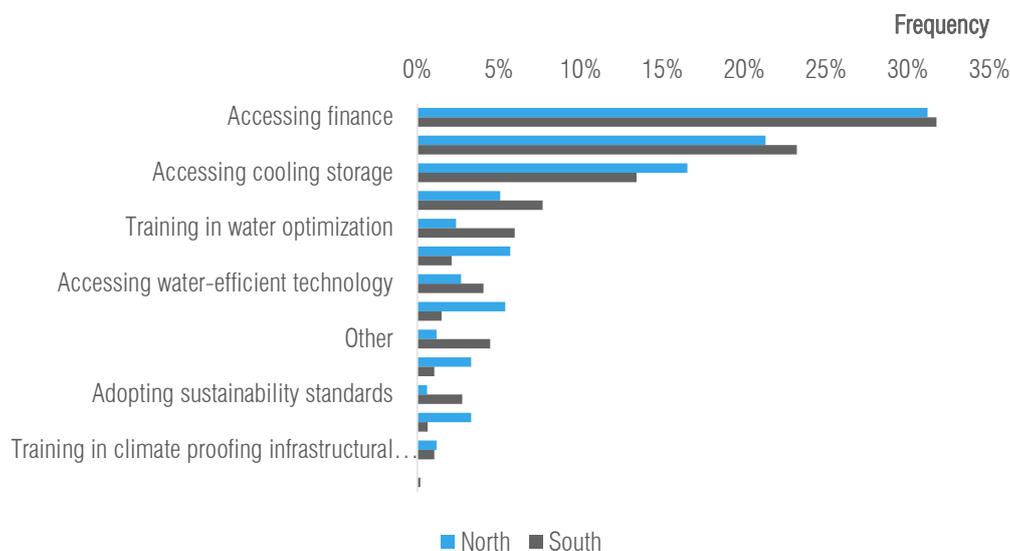
The availability of water in production areas of central and southern Iraq, which heavily depend on the Tigris–Euphrates river system, is also at risk due to the lack of international regulations for water pricing and use. In these regions, water availability is largely determined by precipitations in upstream countries, which have established their own river-fed irrigation systems. No international water use agreement has been signed by the three countries and Iraq could face increased water shortages as a consequence.

Farmers are suffering from degraded soil in the form of reduced moisture content and intrusion of salts from irrigation water. While arable land has not declined in surface area in the past 20 years, changes in the suitability of cropping areas have triggered local changes in the geography of production, causing, in the worse cases, displacements of entire communities. Crop

failures, including reduced yields and plant mortality, are recurrent in vegetable farming and are mainly linked to scarce or contaminated water. Downstream, the absence of cold chains in storage, transport and processing exposes tomatoes to high temperatures for long periods, especially in the summer months. This is a major threat to product safety and quality, and frequently results in post-harvest losses and waste.

The scarce availability of climate finance products is a particular challenge, limiting opportunities for investment in adaptation such as the use of water-efficient technologies and climate-resilient production infrastructure. Similarly, the lack of climate insurance tools hinders the management of financial risks. Surveyed agribusinesses identified access to finance and insurance as the greatest barriers to addressing environmental challenges (Figure 16).

Figure 16: Assistance needed by agrifood small and medium-sized enterprises (SMEs) to tackle environmental issues



Source: ITC Agribusiness Survey.

Business environment and value chain development

Constraints in the business environment and value chain development include insufficient institutional supports, minimal packaging, branding and related activities, underdeveloped business skills, limited capacities for technology use, the little progress made

on female entrepreneurship, and policy barriers to farm and firm operations. Together, these hold back sector dynamism and responsiveness. These constraints are addressed in the second strategic objective in the plan of action.

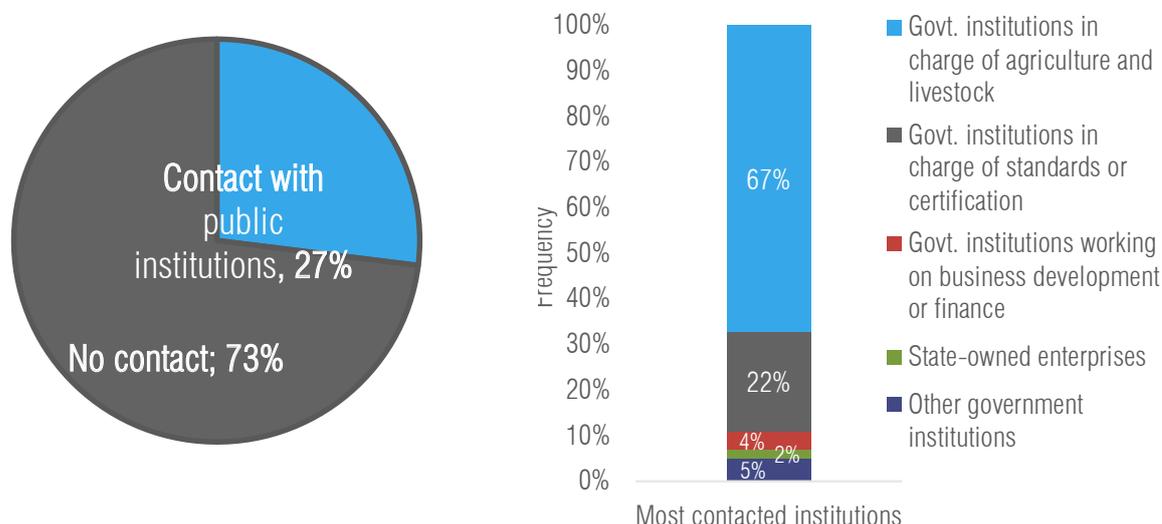
GAPS AND LIMITATIONS IN INSTITUTIONAL SUPPORT AFFECT THE DELIVERY OF EFFECTIVE INTERVENTIONS FOR SECTOR DEVELOPMENT

- **Relevant layer:** Immediate business environment; national environment
- **Severity:** ● ● ○

Relevant PoA operational objectives: 2.1. Support sector organization and cooperation; and 2.2. Support strategy implementation management

Public sector institutions play critical roles in supporting the development of the value chain through policy development and implementation, the provision of support services, and the fostering of coordination and cooperation. Constraints limiting the effectiveness of these institutions in carrying out their roles thus have sizeable impacts. Few of the agribusinesses surveyed in Iraq have had contact with public institutions (Figure 17).

Figure 17: Agribusiness SMEs in contact with public institutions



Source: ITC Agribusiness Survey.

Cuts to the Ministry of Agriculture's budget have constrained its capacities and forced scaling back of its offered services. Linkages between national and governorate and provincial strategies are not always clear, and cross-sectoral linkages in planning tend to be weak. The Ministry of Agriculture's limited capacities is a particularly important challenge for the efficient regulation of the sector, though other public sector institutions working on topics including research and training and extension are also in need of attention. Capacities for strengthening food safety, plant protection and quality management at all levels of the domestic value chain, and at international borders (e.g. plant quarantine stations) for plant and animal products will need to be further developed, as will clear policies on grading, quality, product tracing and certification across the value chain. Gaps in the collection of statistical information on agriculture and in economic activity along the value chain hinder the development of effective policy and implementation of targeted interventions.

Limited public investment in agricultural research is another important area where constraints in institutional capacities affect the sector's potential. While the shift to a multidisciplinary approach to research that considers the economic context of farming is among promising reforms that have been adopted, total spending on research and development in Iraq is quite low, slowing growth, the building of resilience and diversification. Insufficient investment in facilities, few and poorly-paid technicians, limited connections and collaboration with farmers and with other research capacities domestically and abroad. In agriculture, research includes a broad range of activities carried out by the public and private sectors. However, public research centres tend to play a leading role in the development of products such as seeds with higher yields, better adaptations to local conditions and drought tolerance, and improved nutritional value, or in research on animal vaccines, fertilizer use, and improvement of management and technology use in processing activities.

Business registration for the agribusiness sector can be unclear, with insufficient clarity on responsible bodies, and is cumbersome, as food companies need different

approval and registration processes, although efforts have been made to digitalize the process.

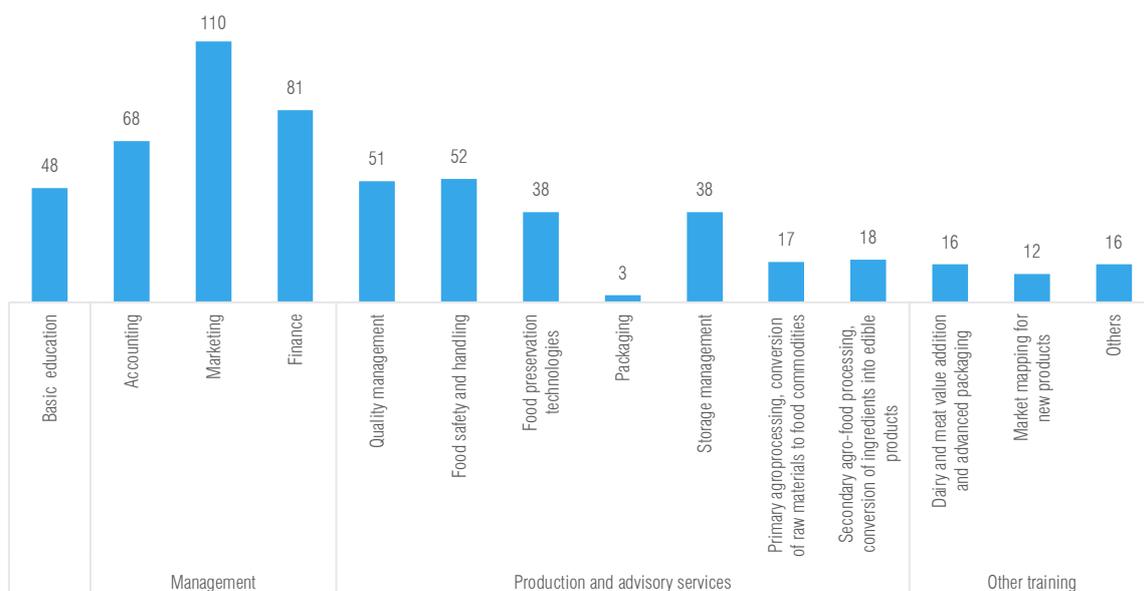
UNDERDEVELOPED BUSINESS AND ENTREPRENEURSHIP SKILLS LIMIT BUSINESS CREATION AND SECTOR GROWTH

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment
- **Severity:** ● ● ○
- **Relevant PoA operational objective:** 2.3. Build awareness and skills on entrepreneurship in agri-food value chains, with a specific focus on youth

enhance competitiveness, skills in business management and entrepreneurship are needed to grow existing and new enterprises across the value chain by identifying opportunities in domestic markets and means of enhancing competitiveness in production. Surveyed agribusinesses identify training on management skills as being the most useful type of training (Figure 18).

In addition to the development of skills directly related to production and the use of relevant technologies to

Figure 18: Types of training most useful for agribusiness SMEs



Source: ITC Agribusiness Survey.

Entrepreneurship and the creation of small businesses also has the potential to create economic opportunities alongside job growth, and is a particularly promising means of leveraging underemployed human capital among Iraq's young population. A lack of opportunities in rural areas motivates migration to urban areas among youth. There is the potential to develop the value chain with growth that creates jobs for youth and fosters youth entrepreneurship, including improving awareness of starting businesses, accessing financing and

developing strategies for growth, along with developing ventures that would have a social element, such as better job conditions or the use of green technologies. The expansion of agribusiness education and training, mentorship programmes, and support from incubators and accelerators would help to foster additional entrepreneurship in the sector, while voicing to policymakers issues such as company registration (that can take up to one year according to young entrepreneurs who participated in focus group discussions) or access to finance.

LIMITED CAPACITIES FOR TECHNOLOGY USE PREVENT UPGRADES IN SECTOR OPERATIONS

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment
- **Severity:** ● ● ○
- **Relevant PoA operational objective:** 2.4. Enhance business skills of micro, small and medium-sized enterprises (MSMEs) with a focus on digital technologies to boost connectivity and competitiveness

Low levels of technological absorption capacities among farms and firms have slowed productivity growth. While internal factors, including skills, management and organization, are responsible for much of this, broader factors from outside the value chain are also important. Sanctions and international isolation have slowed technological and knowledge transfer in many fields, including agriculture and agrifood.

Among other technologies, digital technologies have the potential to transform the agriculture and agrifood value chain by significantly lowering the costs of collecting and sharing data on soil and crop health, managing supply chains and product traceability, conducting training and disseminating information on improving production, finding current information on markets, improving access to finance and other aspects of business operations. Gaps remain in the use of these tools, however. In 2018, 25% of Iraq's population did not make use of the internet. While business-to-consumer (B2C) and business-to-business (B2B) e-commerce have the potential to create new opportunities across the value chain, key barriers such as poor access and slow connectivity, the lack of a legislative and regulatory framework, limited skills and lack of user trust hold back the use of online transactions.

UNREALIZED OPPORTUNITIES FOR IRAQI WOMEN'S EMPLOYMENT AND ENTREPRENEURSHIP HINDER THEIR CONTRIBUTION TO THE SECTOR

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment; national environment
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 2.5. Foster female entrepreneurship

Women in Iraq tend to work in traditional activities, including farming, but tend to be involved in higher-value-added aspects of the value chain to a more limited extent. Indeed, Iraq's female labour force participation rate is generally quite low. An estimated 11.6% of women aged 15 and older were in the labour force in 2019, below the averages for the Middle East and North Africa region (20.2%) and for upper-middle-income countries (54.5%).

Additional hindrances may exist in the agriculture sector due to common perceptions of what work is appropriate for women. While many women are active on family farms and make important contributions to household food supply and income, negative community views on women working outside the home and breaking gender norms may discourage them from seeking employment or starting businesses. Stereotypes may also discourage women from developing skills in business and entrepreneurship or undervalue their competencies in these areas. A small household survey conducted for



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the Danish Refugee Council, for example, found that only 7% of respondents considered work in farming to be acceptable for women, and many held negative views on women as business leaders. Furthermore, women may face additional barriers in accessing finance and have less access to start-up capital.

POLICY BARRIERS TO BUSINESS OPERATIONS DISCOURAGE INVESTMENT, LIMIT INNOVATION AND REDUCE COMPETITIVENESS

- **Relevant layer:** Immediate business environment; national environment
- **Severity:** ● ● ○
- **Relevant PoA operational objective:** 2.6. Address legal and regulatory barriers to value chain development

Regulatory and administrative burdens on businesses can be quite high. For example, the time and financial costs of registering a new business are considerable. These factors add to the challenges to investing in the sector in new firms or the expansion of existing firms. Rules on investment licences and other areas directly relevant to investment may need to be reviewed as well, and further consistency on other laws and regulations is needed to attract additional and more beneficial investment. All of these make Iraq less attractive for foreign trade and foreign direct investment (FDI) and hinder its accession process.

These costs and limited enforcement capacities may also further encourage informality in a country where the displacement of millions of people during conflict has contributed to the growth of the informal sector and many formal jobs in Iraq are to be found in the public sector. Informality is relatively more common among

smaller firms, so efforts to foster the development of formal SMEs in the agriculture and agrifood sector would need to find an appropriate balance between achieving policy goals and limiting costs to firms.

In addition, within agriculture, complicated and insufficient land tenure systems – including landholding through owner–operator, sharecropper and leaseholder arrangements – have been made further challenging by dispute over the rights of refugees and internally displaced persons to return to lands and properties, though a national committee was formed to help manage these disputes. Constraints related to land tenure discourage or inhibit investment in improving land and indirectly contribute to land degradation and poor resource management.

Relatedly, state-owned enterprises are highly involved in many aspects of the value chain. In particular, the Mesopotamian State Company for Seeds and the State Company for Agricultural Supplies are involved in the supply and distribution of grain seeds and agricultural machinery and equipment. Their dominant positions discourage investment, limit innovation and reduce competitiveness.

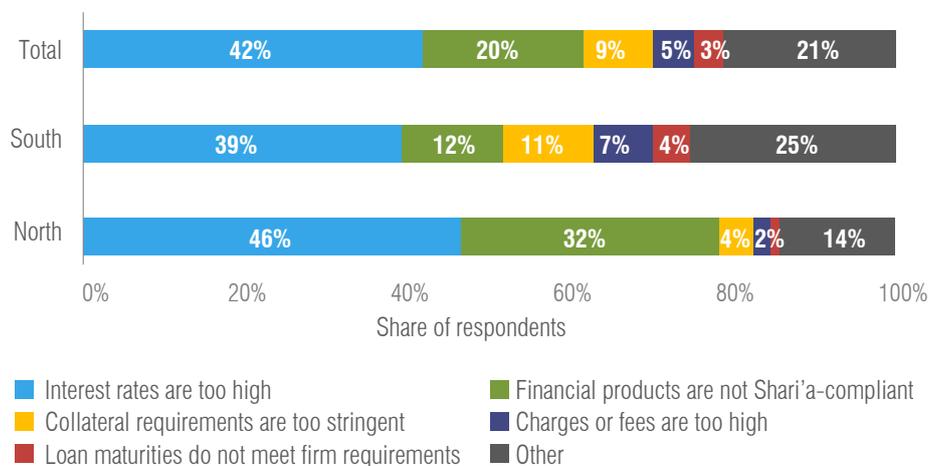
LIMITED ACCESS TO FINANCIAL SERVICES PREVENTS UPGRADES IN PRODUCTION AND PROCESSING CAPACITY AND LIMITS OPPORTUNITIES FOR ADOPTION OF CLIMATE-SMART TECHNOLOGIES

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment; national environment
- **Severity:** ● ● ●
- **Relevant PoA operational objective:** 2.7. Improve access to finance and investment

Access to finance remains a constraint for many farmers and smaller firms across all sectors in Iraq. Unsubsidized credit programmes in Iraq are offered to farmers on an unsystematic basis, but institutional credit is often not available to farmers, raising the costs of borrowing and discouraging investment. Generally, financial services are less developed in rural areas, which have low population densities and weaker infrastructure. In Iraq, regulatory factors and the low-risk preferences of private and state-owned banks has further discouraged their involvement in the agricultural

sector. Although some support is provided through the activities of the Agricultural Cooperative Bank, its operations are fairly inefficient and it regularly faces liquidity shortages. Surveyed agribusinesses report that high interest rates are the greatest barriers preventing their borrowing and one out of three surveyed agribusinesses said that the lack of access to finance was a grave obstacle to their operations (Figure 19).

Among the main barriers in accessing finance reported by farms and firms are the complexity and cost of opening bank accounts, high interest rates and short terms available to borrowers, and lack of information on grants and other supports. Many interviewed farmers and business leaders active in agriculture and agrifood value chains expressed concerns about the lack of Sharia-compliant finance options available to them.

Figure 19: Barriers preventing firms from borrowing

Source: ITC Agribusiness Survey.

At the same time, financial services are needed by farmers and those active in related activities to help manage risk, considerable seasonal and annual variations in cash flow, long gestation periods and investments in lumpy assets. Securing improved access across the value chain can, therefore, increase on-farm productivity, improve post-harvest practices and access to markets, enable investments in enhanced

sustainability and climate change adaptation, and ensure more predictable cash flows for households.

The scarce availability of climate finance products is a particular challenge, limiting opportunities for investment in adaptation, such as the use of water-efficient technologies and climate-resilient production infrastructure.

Domestic and international market connections

Domestic and international market connection constraints include weak linkages across the value chain, underdeveloped market linkages, quality management shortcomings, lack of efficient export and investment promotion strategies and limited access to finance by

farms and small firms. Together, these reduce the potential of farmers and firms to benefit from investment in enhanced capacities and productivity improvements. These constraints are addressed in the third strategic objective in the plan of action.

WEAK CAPACITIES HINDER IMPROVEMENTS IN THE QUALITY AND FOOD SAFETY ASSURANCE OF TOMATO PRODUCTS

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment; national environment
- **Severity:** ● ● ○
- **Relevant PoA operational objectives:** 3.1. Strengthen farm and firm capacities to reach high-potential market segments for fresh and processed tomatoes, and 3.2. Develop farm and firm capacities for enhancing quality and food safety (e.g. harvest, post-harvest, packaging and storage), ensuring that it translates into remunerative price premiums

Quality management is a central component of competitiveness, affecting the reach of products and their ultimate market values. Barriers to improving quality and recognizing the quality of tomato products hinder the sector's development. Improvements to quality management in the Iraqi tomato sector are needed in the supply of inputs and both raw and processed outputs. These improvements will need to be supported through upgraded capacities at the farm and firm level, as well as among the institutions responsible for standards and certification, such as the Central Organization

for Standardization and Quality Control (COSQC). As mentioned under *Business environment and value chain development*, there is also a need to increase the knowledge and capacities of value chains stakeholders on food safety, particularly on HACCP (Hazard Analysis and Critical Control Points).

In addition to the relevance for market performance, there is evidence that the adoption of Good Agricultural Practices (GAP) and the use of higher-quality inputs may help to strengthen resilience to climate-based shocks in agriculture. In particular, Iraqi tomato farmers could benefit from the adoption of improved procedures for pest control and the use of better-adapted seed varieties.

In reaching out to international markets, it will be increasingly important for quality management systems in the sector to take international requirements and buyer expectations into consideration in order to move into new markets and increase the value of Iraqi tomato products.



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POOR PACKAGING AND LIMITED OR NO BRANDING CAPACITY HINDER PROMOTION OF IRAQI PRODUCTS

- **Relevant layer:** Immediate business environment; national environment
- **Severity:** ● ● ○
- **Relevant PoA operational objective:** 3.2. Develop farm and firm capacities for enhancing quality and food safety (e.g. harvest, post-harvest, packaging and storage), ensuring that it translates into remunerative price premiums

In addition to increasing appeal to customers and sharing information on the product, packaging can help to maintain quality and facilitate storage and

transportation. Especially in comparison with imported tomato products, the packaging and branding of domestically produced alternatives is often less elaborated. The proximate causes of this are rooted in the limited technical capacities at the farm and firm level, including the results of underinvestment in machinery and limited skills. At a deeper level, poor connections and flows of information across the value chain and with markets hinders progress being made by increasing uncertainty and making the benefits of investment in packaging and branding less clear to farmers and firms.

INEFFICIENT LINKAGES ACROSS THE TOMATO VALUE CHAIN HOLD BACK SECTOR GROWTH

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment
- **Severity:** ● ● ●

Relevant PoA operational objectives: 3.3. Improve the functioning of marketing channels to decrease product loss and transaction costs; and 3.4. Support improvements to trade policy to foster expanded exporting

The sector's challenges do not end at the farm, and many of the most important issues to overcome are related to transactions taking place between farms and firms before final markets are reached. In particular, insufficient or unreliable capacities for key value-added activities such as packaging, transportation and cold storage hold back growth. The lack of technical skills in handling products often further complicates these challenges. Inefficiencies in the tomato value



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chain also reduce competitiveness and contribute to post-harvest losses, further depressing incomes and profits. According to FAO data, losses in tomato and tomato products totalled approximately 77,000 tons in 2018, representing 7.5% of domestic supply quantity.

Strengthening the value chain as a whole will require targeted interventions and improved coordination more generally through enhanced flows of information and effective sector organization.

INSUFFICIENT IN-MARKET SUPPORT PREVENTS IRAQI PRODUCERS FROM CREATING LINKS WITH BUYERS

- **Relevant layer:** Farm- and firm-level capabilities; immediate business environment
- **Severity:** ● ● ●

Relevant PoA operational objectives: 3.3. Improve the functioning of marketing channels to decrease product loss and transaction costs; and 3.4. Support improvements to trade policy to foster expanded exporting

Access to information on market conditions, prices, logistics services and supply is critical for efficient markets and for all value chain actors to maximize their earnings. However, access to limited markets,

uncompetitive trade and the high costs of obtaining market information in the Iraqi tomato sector are all common. Constraints in information flows between value chain actors reduce efficiency and can lead to both higher prices for consumers and lower revenues for producers. As with many other constraints facing the sector, this is partly the result of institutional factors. Insufficient in-market support prevents Iraqi producers from creating links with buyers. Access to the WTO system can also allow Iraqi companies to benefit from non-discriminatory treatment and further market access opportunities.

The way forward: a path to a strong, inclusive, and resilient sector

This strategy aims to have the following impact:

- Improve Iraq's tomato sector performance in the domestic market.
- Enhance competitiveness at the farm and firm levels, leading to higher profitability.
- Increase value addition by improving processing capacities.
- Promote an effective market system.
- Enhance resilience to climate threats and manage environmental impacts of sector expansion.
- Contribute to enhancing Iraq's market access through WTO accession and other regional, plurilateral and bilateral trade agreements.

Addressing the root of the key constraints holding back the tomato sector's development requires the setting of a common vision and goal for the future, supported by a comprehensive and actionable plan for moving towards these. The way forward outlines the direction and steps that will need to be taken.

While the contributions from these activities to gross domestic product (GDP) have been limited, they represent a potential area of rapid growth in the non-oil sector. As such, the increase of the value chain's economic contribution plays a role in diversification that supports stronger and more stable income growth. Furthermore, spillovers in related activities, including logistics and

other service providers, would also contribute to private sector development. Another direct benefit would be through employment generation, including for women and youth. A more competitive value chain would create opportunities for the growth of existing entities and the creation of new businesses. Rural areas stand to benefit from this particularly, driving economic transformation, reductions in rural–urban inequalities (and thus moderating urbanization) and declines in rural poverty rates.

Building on sector strengths and improving the performance of tomato products in domestic markets has the potential to transform the Iraqi tomato sector. This strategy's way forward provides an overview of how this can take place. Reviewing consumers' behaviour and preferences, as well as proceeding steps along the value chain involving agents, traders and others, highlights the current and potential markets for tomato products. Structural value options and the future value chain identify some of the key aspects that would be present in a transformed sector. The vision and strategic objectives outline sector priorities for realizing the benefits of a more resilient and competitive sector. With effective implementation management of the strategy, it can provide a clear path for future progress.

Strengthening the prospects of the Iraqi tomato sector to drive growth, create jobs and economic opportunities, expand the private sector and enhance food security will require enhancing competitiveness at the farm and firm level and across the value chain, improving products' positioning in domestic markets, and raising the value of sector products by enhancing quality and adding value. In order to realize the full benefits of these

changes, sector development will need to be sustainable and inclusive. Sustainability includes both managing the environmental impacts of expanded production and enhancing resilience in the face of climate threats. Inclusive growth of the tomato sector will require fostering opportunities in job creation and entrepreneurship for women and youth by improving training and skill development, implementing reforms to the business environment and strengthening the capacities of supportive institutions.

Leveraging market and product opportunities in the domestic market

In the short and medium term, the core of the national tomato industry's efforts can fundamentally be focused on supplying the vast Iraqi market.

Despite a huge current and potential domestic demand for fresh and prepared tomatoes, the national tomato industry is lagging behind in the face of fierce competition from neighbouring countries, currently serving most of the domestic market. Nevertheless, Iraqi consumers would prefer to buy local products over cheaper imports if they meet their expectations.

Consumer decisions when purchasing fresh tomatoes are influenced by flavour, colour and local production. Further, their willingness to pay somewhat more for local tomatoes is subject to improvements in flavour, colour, size and ripeness. Addressing these issues, which



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are related to enhancing quality of production, sorting and grading, as well as packaging, among others, would lead to better prices and higher appreciation in the domestic market.

Another missed opportunity is in the area of processed tomato products, which are scarcely available from local producers. The local demand for these products is substantial and expected to continue to grow. However, they are currently being imported from neighbouring countries. Manufacturing tomato sauces, ketchup and tomato paste requires relatively low investment and minimal processing. Thus, a crucial opportunity for import substitution lies in developing and scaling up the current small production of processed tomatoes in Iraq to satisfy domestic demand.

STRUCTURAL VALUE OPTIONS AND FUTURE VALUE CHAIN

Strengthening the Iraqi tomato sector's prospects to drive growth, create jobs and economic opportunities, expand the private sector and enhance food security will require improving competitiveness at the farm and firm level and across the value chain, improving products' positioning in domestic markets, and raising the value of sector products by enhancing quality and adding value. In order to realize the full benefits of these changes, as outlined in the future value chains, sector development will need to be sustainable and inclusive. Sustainability includes both managing the environmental impacts of expanded production and enhancing resilience in the face of climate threats. Inclusive growth

of the tomato sector will require fostering opportunities in job creation and entrepreneurship for women and youth by improving training and skill development, implementing reforms to the business environment and strengthening the capacities of supportive institutions.

Thus, unlocking the potential for Iraq's tomato sector will require upgrading production and processing capacities, improving quality and packaging activities and increased access to affordable inputs. These adjustments will allow the sector to compete on price and quality. To this end, the following value chain adjustments have been identified.

Table 2: Structural adjustments in the tomato value chain

Value retention: Retain greater value locally		Plan of action linkages
Value option	How to implement	
Increase availability of raw materials	<ul style="list-style-type: none"> Expand research in seed varieties, supporting the establishment of seed nurseries. Facilitate partnerships between farmers and input dealers. Enhance water management by facilitating access to relevant material. Identify and facilitate the use of commercially viable low-cost inputs. 	Activities 1.2.1 to 1.2.5
Value acquisition: Acquire greater value by improving efficiency		Plan of action linkages
Value option	How to implement	
Facilitate technology upgrading	<ul style="list-style-type: none"> Use of digital technology to improve production, agroprocessing and transactions. 	Activity 2.4.2
Facilitate commercial linkages to decrease transaction costs	<ul style="list-style-type: none"> Establish agribusiness service centres and storage, among others. Support producers' organization and creation of commercial alliances with buyers; develop buyer-led models. 	Activities 1.3.1 to 1.3.3; 3.3.1 to 3.3.3
Value addition: Add value to existing products		Plan of action linkages
Value option	How to implement	
Enhance quality of products and branding	<ul style="list-style-type: none"> Enhance technical know-how and best practices among key value chain actors, implement Good Agricultural Practices (GAP) and develop branding linked to quality products. 	Activities 3.2.1, 3.2.3 and 3.2.4
Improve packaging	<ul style="list-style-type: none"> Adoption of improved packaging solutions. 	Activity 3.2.2
Encourage processing of fresh tomatoes	<ul style="list-style-type: none"> Support private investment to establish new processing centres, and rehabilitate and upgrade existing ones. 	Activities 3.1.1 and 3.1.2
Improve promotion and visibility in target markets	<ul style="list-style-type: none"> Improve access to market information through dissemination and training. Promote local consumption of domestically produced tomato through national campaign linked to Iraqi cuisine. 	Activities 3.1.2 to 3.1.5; 3.2.4 and 3.2.5
Value creation: Develop new products and expand production by creating value within the industry		Plan of action linkages
Value option	How to implement	
Achieve certifications and food safety compliance	<ul style="list-style-type: none"> Implement food safety management and obtain voluntary standard certification, and develop capacity to support processors to manage and control quality. 	Activity 3.2.2
Value distribution: Maximize the economic and social development impact		Plan of action linkages
Value option	How to implement	
Integrate women in value chain activities	<ul style="list-style-type: none"> Establish female mentorship programmes and revise regulations and policy framework to enable their engagement in value chain activities. 	Activities 2.5.1 and 2.5.2
Use of environmentally friendly technology	<ul style="list-style-type: none"> Facilitate and incentivize the investment in climate change mitigation and adaptation, including use of alternative energy. Capacitate farmers on sustainability and climate change mitigation practices. 	Activities 1.4.2 and 1.4.4

Vision and strategic objectives

The Iraqi tomato sector stakeholders developed the following [vision](#):

“ Iraqi tomatoes we treasure, from Iraqi producers who care ”

In line with the sector’s vision this strategy aims to realize the goal of:

“ Growing a profitable, inclusive, and sustainable national tomato sector with the capacity to provide healthy products to Iraqi consumers, at an affordable price ”

This goal highlights the tomato sector’s potential to contribute to Iraq’s growth and development by fostering economic diversification that generates good livelihoods and contributes to environmental resilience. The goal is to be supported through [three strategic](#)

[objectives](#) that are respectively concerned with enhancing competitiveness at the farm level, improving the efficiency of the national market system, and embracing innovation to explore remunerative market opportunities for all.

STRATEGIC OBJECTIVE 1: ENHANCE COMPETITIVENESS AND PROFITABILITY IN TOMATO FARMING WHILE ENSURING SUSTAINABLE PRACTICES

The first strategic objective aims to enhance competitiveness in tomato farming, leading to higher profitability, through improved yield and lower production costs, thus driving the expansion of sector output and employment (Figure 20). It aims to address constraints regarding low capital intensity in production, gaps in technical skills, little use of high-quality inputs, limited sector organization and the lack of progress on climate change adaptation.

On the inputs side, the limited availability of affordable good-quality inputs results in low yields and higher production costs and, hence, less competitiveness for Iraqi products in the domestic market compared to regional competitors. To address this weakness, the strategy will support the domestic production of critical inputs, strengthen linkages with input dealers and foster the identification of commercially viable low-cost input solutions.

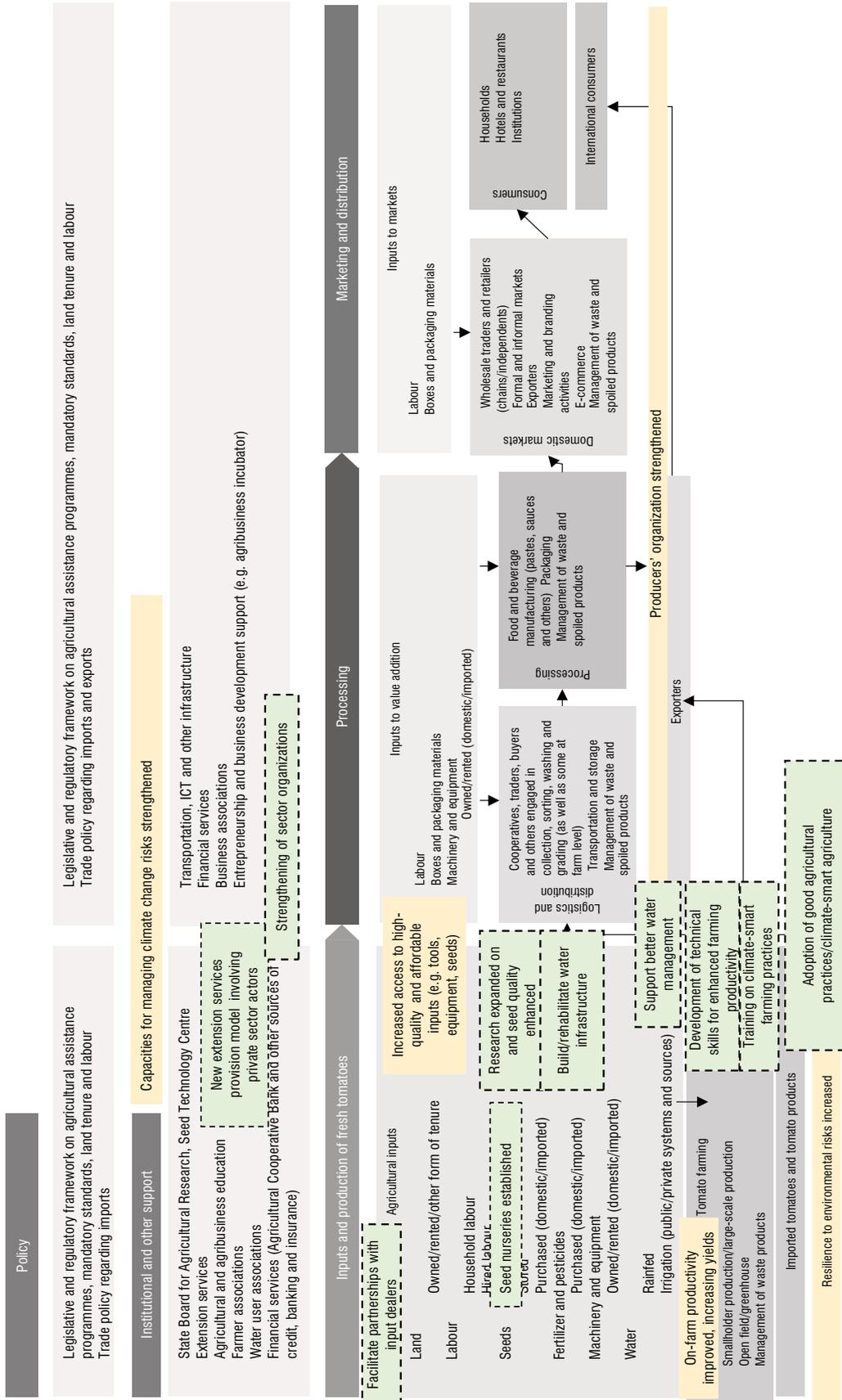
Adopting climate-smart agriculture practices will be crucial for producers to attain higher yields in a sustainable manner, while building resilience to climate

change risks. Activities supporting this objective focus on enhancing farm productivity and resilience through targeted training programmes that promote the adoption of climate-smart agricultural practices. This will be achieved by using existing systems and supporting the emergence of a new extension services model that assists private sector stakeholders to overcome limitations related to reach and access from existing services.

Capacities for managing climate change risks will be strengthened by a combination of interventions, including strengthening the capacity of institutions delivering assistance on environmentally sustainable practices, implementing specific trainings on sustainability and risk mitigation of climate change, and developing incentives for investment in clean technologies, among others.

Enhanced linkages among farmers and farmers’ groups can facilitate their integration in the value chain and help realize economies of scale. This strategic objective will also encompass activities aimed at strengthening the capacities of tomato farmers associations and cooperatives.

Figure 20: Tomato sector future value chain under Strategic Objective 1



Note: Activities are highlighted in green and intended impacts are highlighted in yellow.



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STRATEGIC OBJECTIVE 2: INCREASE EFFECTIVENESS OF THE BUSINESS ENVIRONMENT, ENSURING BETTER SERVICES FOR ALL STAKEHOLDERS AT THE DIFFERENT LEVELS OF THE VALUE CHAIN

The second strategic objective is focused on the promotion of an effective market system coupled with a supportive business environment for farms and firms that will decrease transaction costs, thus ensuring a higher income for all stakeholders at the different levels of the value chain (Figure 21).

Enhancing coordination by establishing a working group or coordination mechanism for the sector will enable relevant public and private sector stakeholders to have a platform to discuss, advocate and plan for the sector's development. This platform's mandates and responsibilities would include leading and supervising the tomato strategy's implementation.

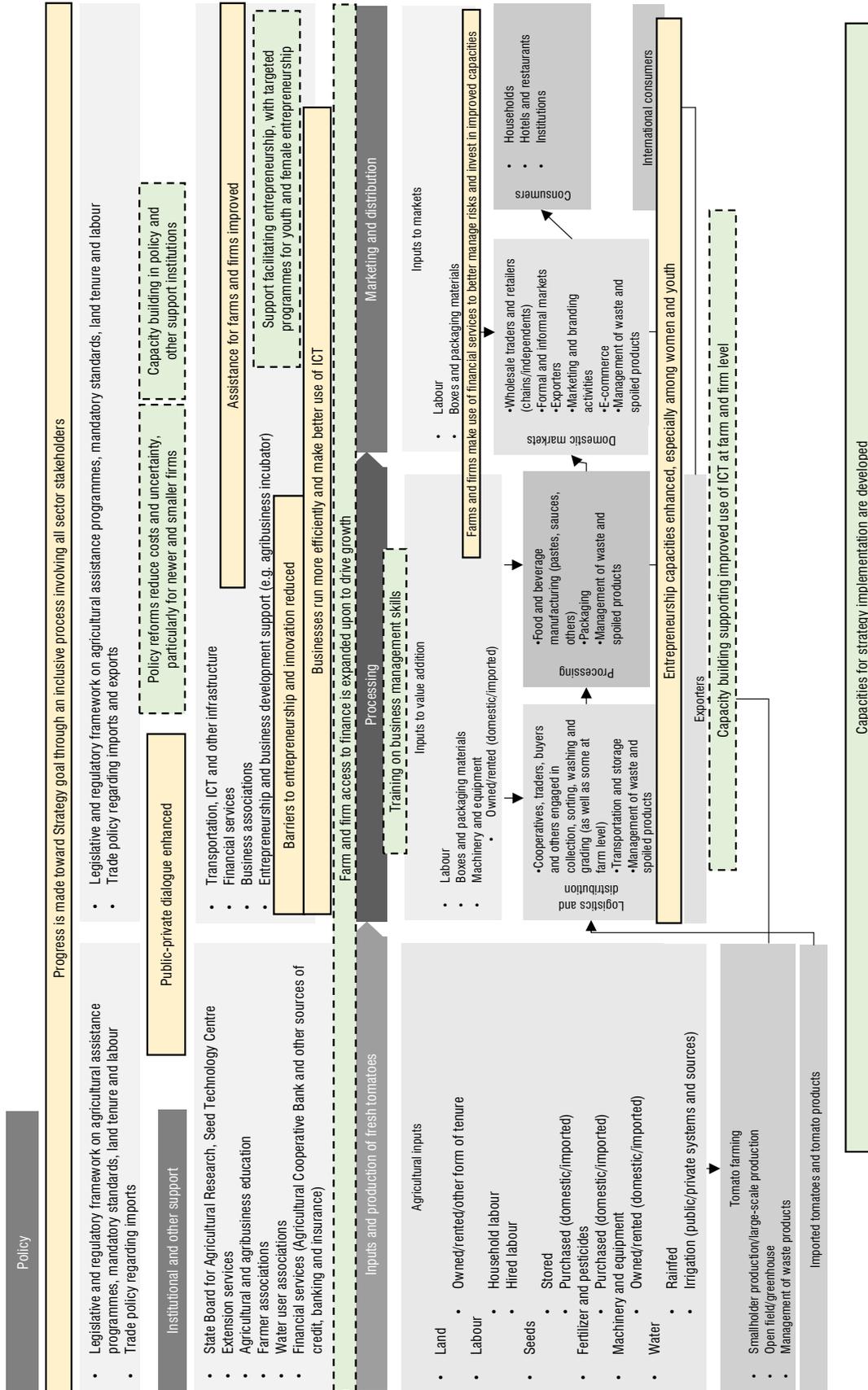
Another key component is focused on building awareness and skills on entrepreneurship, with a specific focus on young people. This will be done through the establishment of platforms to identify concerns and needs among young entrepreneurs, reinforcing business education programmes and courses and strengthening linkages in the technical and vocational education and training (TVET) system. Institutional strengthening support will be provided to enhance

collaboration of services of youth networks. Activities under this component will also enhance MSMEs' business skills, with a focus on digital technologies to boost connectivity and competitiveness. They also aim to support further women's engagement in value chain activities, with an emphasis on entrepreneurship.

A critical area of improvements is Iraq's legal and regulatory framework. This strategy objective will tackle main legal and regulatory barriers that contribute to current high transaction costs. Interventions include revision of land tenure systems in consultation with farmers, as well as of competition policies, taxation and trade policies regarding agricultural imports, among others.

Facilitating investment and access to finance in the sector will be essential to upgrade processing capacities. Efforts will be placed to support MSMEs in accessing financial solutions, e.g. through mini grants, assisting them on financial literacy, as well as on the development of bankable investment projects, among others. Investment opportunities in the sector will be promoted through the deployment of incentive packages to attract investors.

Figure 21: Tomato sector future value chain under Strategic Objective 2



Note: Activities are highlighted in green and intended impacts are highlighted in yellow.

STRATEGIC OBJECTIVE 3: EMBRACE INNOVATION TO EXPLORE NEW MARKET OPPORTUNITIES BOTH DOMESTICALLY AND INTERNATIONALLY

In-country value addition will be critical to better position Iraqi tomatoes in the domestic market. Thus, the third strategic objective is focused on strengthening value chain actors' capacities to seize remunerative domestic market opportunities through value addition, quality improvement and innovation. Types of value addition to be prioritized include packaging and food processing. This objective also aims to strengthen the sector's capacity to reinforce its positioning in local markets and explore new market opportunities (Figure 22).

The sector's capacity to reach identified high-potential market segments for fresh and processed tomatoes through new varieties, innovative marketing concepts, packaging and branding, among others, needs to be fostered. To achieve this strategic objective, farm and firms' capacities will be developed through targeted training covering, among others, product-market opportunities, options for business models and market routes, along with use of market information and use of digital technologies. Moreover, the creation of commercial alliances with local buyers will be sought, and customized business and profitability models will be developed.

In order for the sector to improve food safety compliance and quality at all stages of the value chain, targeted trainings assisting farms and firms will be developed and implemented. Moreover, the adoption of improved packaging solutions will be fostered along

with branding linked to quality standards to ensure that upgrades translate into remunerative price premiums. Quality management institutions will be strengthened to promote and facilitate the use of standards and conducting conformity assessments to MSMEs.

Product losses and transaction costs are chief challenges affecting producers' earnings and overall competitiveness. These issues will be tackled by improving the functioning of various marketing channels. This will be achieved by strengthening local market operators' capacity in management and transparency, while also upgrading local vegetable markets. Moreover, buyer-led models will be fostered to increase the efficiency and connections across the tomato value chain. Agribusiness service centres will be established with the aim of improving production planning and commercialization, and providing extension services, among others.

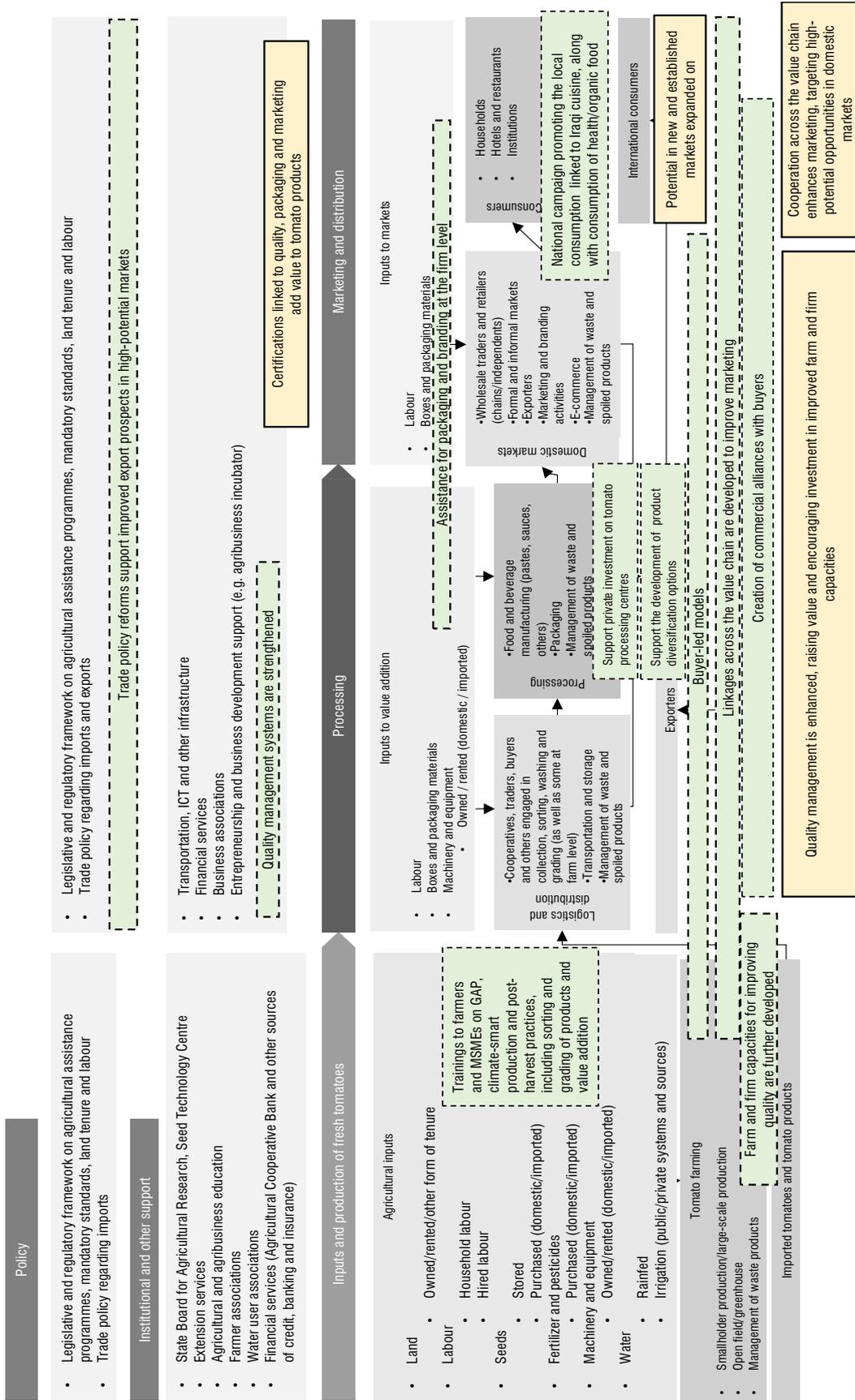
Finally, activities supporting improvements to trade policy to foster expansion to international markets will be implemented. Measures include assistance for enhanced capacity in negotiating positions for the WTO accession process, targeted trainings to increase understanding of the WTO accession process and legal framework, as well as strengthening national institutional capacities for sanitary and phytosanitary (SPS), technical barriers to trade (TBT) and trade facilitation compliance in line with WTO obligations, among others.

What is the WTO and how can accession to the WTO help Iraq's tomato sector?

The WTO is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to ensure that trade flows are as smooth, predictable and free as possible. This means that all members of the WTO have to comply with certain rules, regulations and standards while trading in goods and services.

When Iraq becomes a member of the WTO, it will need to undertake certain reforms, which will ensure that products and services exported by Iraq are as per global trading standards. This automatically improves competitiveness of the local product, conveying to international markets that the product is of recognized quality. In turn, WTO accession will provide market access to Iraq's tomatoes to all of WTO's current 164 member countries, further integrating into the global value chain.

Figure 22: Tomato sector future value chain under Strategic Objective 3



Note: Activities are highlighted in green and intended impacts are highlighted in yellow.

Managing strategy implementation

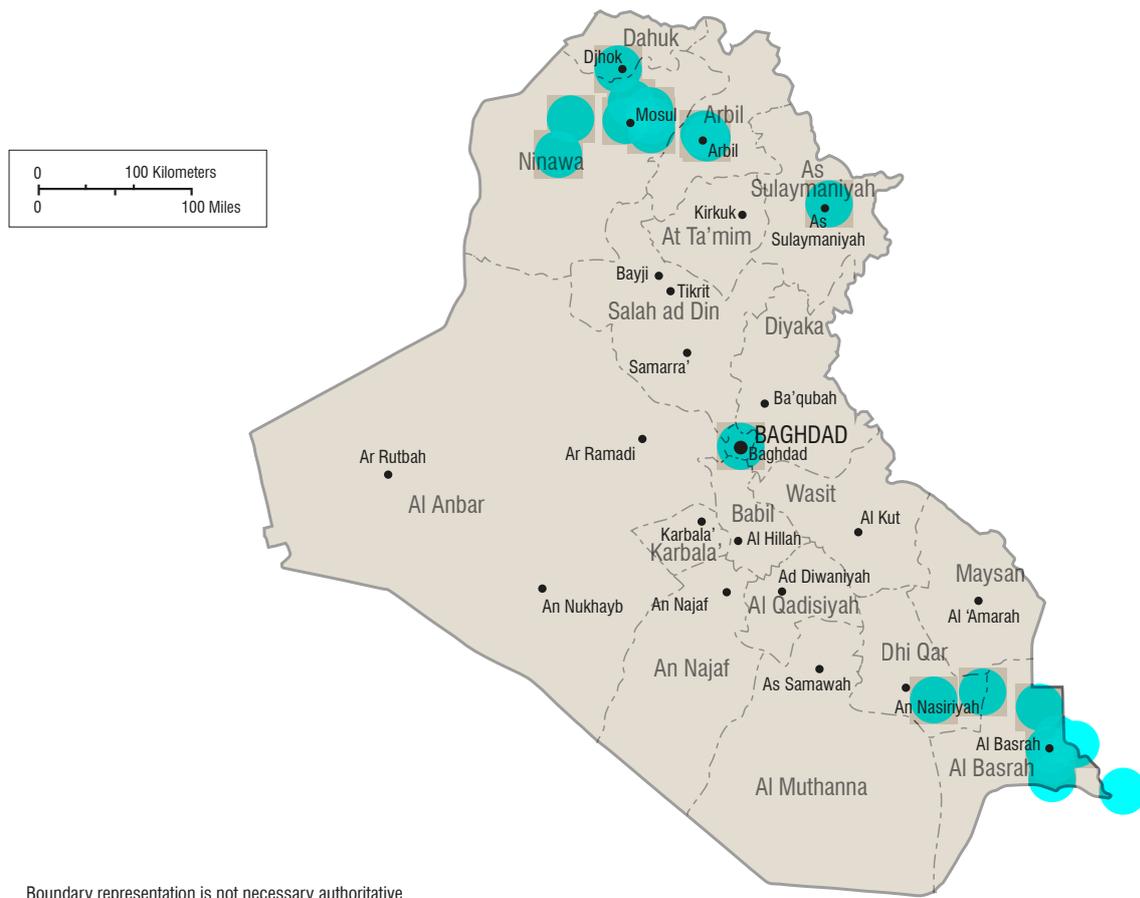
The development and implementation of this five-year strategy relies on a consultative process between Iraqi public and private sector stakeholders involved in the tomato sector (Box 2). Achieving the strategic

objectives and realizing the potential depend heavily on sector stakeholders' ability to start implementing and coordinating the activities defined in the strategy's PoA.

Box 2: Inclusive and consultative strategy design

The strategy design process has been highly inclusive and participatory, based on Iraqi priorities and data, with the support of international expertise. In 2021, a broad group of Iraqi private and public stakeholders worked on a participatory analysis of the tomato value chain under the leadership of the Ministry of Agriculture and the Ministry of Planning. This joint research effort relied on existing government data (including the MoA, MoP and Central Statistical Organization) as well as primary data collection in the various regions of Iraq, with more than 3,000 interviews conducted (consumers, farmers, processors, agents, retailers, transporters, input suppliers and advisory service providers), market assessments and store checks. Information was reviewed and analysed through a series of 21 multi-stakeholder consultations ranging from district, governorate and national level (Figure 23).

Figure 23: Stakeholder consultations in strategy development



Such a process of intersubjective corroboration allows a certain degree of confidence with regards to the data and information presented in this strategy document. However, it should be noted that, in the context of Iraq, marked by limited availability of quantitative data, omissions and errors are possible.

The strategy alone will not suffice to ensure the sector's sustainable development. Such development will require the coordination of various activities. While the execution of these activities will allow for the strategy's targets to be achieved, success will depend on stakeholders' ability to plan and coordinate actions in a tactical manner. Apparently unrelated activities must be synchronized across the public sector, private sector, non-governmental organizations and local communities in order to create sustainable results.

To ensure the strategy's success, it is necessary to foster an adequate environment and create an appropriate framework for implementation. This can be effectively supported through the establishment of a sector steering committee and an executive secretariat. Both the steering committee and its secretariat will work hand in hand with existing entities established to streamline government operations and enhance donor operations. The secretariat may be accommodated as part of an existing entity with an extended mandate and resources allocated to it.

SECTOR STEERING COMMITTEE

A key success criterion for the strategy is the ability to coordinate activities, monitor progress and mobilize resources for implementation. It is recommended that a steering committee comprised of key public and private sector entities be formed or supported. This will be a platform with balanced representation of all major sector stakeholders to share information in open communication.

It is proposed that the steering committee be responsible for the following responsibilities related to strategy implementation:

- Coordinate and monitor the implementation of the strategy by the government, private sector, institutions or international organizations to ensure that implementation is on track;
- Identify and recommend allocation of resources necessary for the strategy's implementation;
- Assess the strategy's effectiveness and impact;
- Ensure consistency with the government's existing policies, plans and strategies, and align institutions' and agencies' internal plans and interventions with the strategy's PoA;

and agencies' internal plans and interventions with the strategy's PoA;

- Elaborate and recommend revisions and enhancements to the strategy so that it continues to best respond to the needs and long-term interests of farms and firms;
- Propose key policy changes to be undertaken based on strategy priorities and promote these policy changes among national decision makers;
- Guide the sector secretariat for the monitoring, coordination, resource mobilization, and policy advocacy and communication functions to enable effective implementation of the strategy;
- Provide the sector secretariat with the mandate and the necessary resources to fulfil its functions effectively.

It is recommended that the steering committee be comprised of key entities involved in the sector, with special focus on ensuring balanced involvement of both public and private sectors.

EXECUTIVE SECRETARIAT

A secretariat will assist the steering committee by acting as an operational body responsible for the daily coordination, monitoring and mobilization of resources for implementing the PoA. It is proposed that it takes on this role with technical support from key ministries and technical agencies. The secretariat will be composed of 1–2 technical operators.

The sector secretariat's core responsibilities should be to:

- Support the functioning of the steering committee;
- Collect and manage data to monitor progress and the impact of strategy implementation;
- Liaise with and coordinate development partners for strategy implementation;
- Elaborate project proposals and build partnerships to mobilize resources to implement the strategy;
- Follow up on policy advocacy recommendations from the steering committee;
- Ensure effective communication and networking for successful strategy implementation.



Plan of action

The following plan of action outlines specific activities and targets to achieve the strategy's vision and strategic objectives. For each activity, the plan of action specifies the priority (with 1 being the lowest and 3 the highest), desired start and end dates for the activity, measurable targets to facilitate the monitoring of activities from the implementation stage to completion, lead implementing partners and supporting implementing partners. Activities common to the plans of action of both sectors, which address challenges beyond the tomato sector, are highlighted in blue.

Strategic Objective 1: ENHANCE COMPETITIVENESS AND PROFITABILITY IN TOMATO FARMING WHILE ENSURING SUSTAINABLE PRACTICES												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
1.1. Enhance farm productivity through adoption of good agricultural practices/ climate-smart agriculture	1.1.1. Conduct a participatory identification of locally adapted good agricultural practices (climate smart) and development of clear recommendations. Based on the above, design and implement training programmes for the tomato sector (in collaboration with MoA and FAO, etc.).	1	2022					Project	Availability of updated extensions guidelines for tomato and associated training modules	MoA	Ministry of Finance (MoF) MoP Farmers' associations International organizations Non-governmental organizations (NGOs) Private sector	FAO, Government of The Netherlands World Food Programme (WFP) NGOs (e.g. NRC)
			2023									
	2024											
	2025											
1.2. Improved access to quality seeds, inputs and necessary equipment in line with market requirements	1.1.2. Support the emergence of new extension services provision model involving the private sector (e.g. buyers and input suppliers), MoA and relevant support organizations. New ways of delivery may include use of mobile applications, Facebook groups to provide advice and/or mobile units for hard-to-reach areas.	2	2022					Project	New model of extension/training service to include the private sector as service provider	MoA MoHESR	Farmers' associations International organizations NGOs Private sector	FAO Government of The Netherlands NGOs (e.g. NRC)
	1.1.3. Implement targeted training on farm productivity in tomato production through strengthened extension services (as a result of 1.1.1 and 1.1.2).	2	2023					Project	Training programme delivered	MoA MoHESR	Farmers' associations International organizations NGOs	FAO Government of The Netherlands WFP NGOs (e.g. NRC)
1.2. Improved access to quality seeds, inputs and necessary equipment in line with market requirements	1.1.4. Explore and promote practices related to recycling and reuse of food waste (including water) by the tomato sector. Provide financial incentives, e.g. mini grants, to promote the adoption of these practices by MSMEs in the sector.	2	2024					Project	Financial incentives available	MoA		
	1.2.1. Expand research on seed varieties and link research outputs to commercial activities through demonstration sites and trainings (cultivars) through the design and development of a national programme. National programme to recommend existing produce of specific varieties combining required properties (yield, resistance and adaptation to climate change) as well as commercial qualities (taste, colour, size and shape).	2	2025					Project	National programme designed and implemented	MoA Ministry of Higher Education and Scientific Research	Agronomic research centres International organizations NGOs Private sector	FAO Government of The Netherlands Universities

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Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
1.2. Improved access to quality seeds, inputs and necessary equipment in line with market requirements	1.2.2. Support the establishment of seeds nurseries selling selected cultivars at affordable prices. Conduct a preliminary assessment to understand the number of seeds that nurseries require.	2						Project	Preliminary assessment conducted Seed nurseries established	MoA	Agronomic research centres Agricultural colleges International organizations NGOs Private sector	FAO Government of The Netherlands Universities
	1.2.3. Improve farmers' access to certified inputs (e.g. fertilizers, pesticide and fungicide), including equipment and tools at a fair price by facilitating partnerships with inputs dealers. This activity can also include the revision of relevant regulations and conducting awareness-raising workshops and networking events to ensure sale of certified inputs at fair prices, as well as interventions to lower the cost of inputs at stores/dealers.	1						Reform	At least 1,000 farmers benefit from partnerships	MoA	International organizations NGOs Iraqi Parliament Private sector	
	1.2.4. Support enhanced water management through access to relevant equipment (greenhouses, solar-powered water pumps and irrigation or dripping system). This activity can include the development of technical guidelines and recommended equipment, as well as the provision of access to financial services.	2						Project	Technical guidelines and recommended equipment disseminated Access to finance for necessary investment provided	Ministry of Water Resources MoA	Agronomic research centres Agricultural colleges International organizations NGOs Private sector Financial institutions	FAO IOM (Enterprise Development Fund) ITC
	1.2.5. Develop and implement a model to support the rehabilitation/construction of public and private irrigation infrastructure.	1					Project	Model developed and implemented	MoA	Ministry of Water Resources (MoWR)		
	1.2.6. Identify commercially viable low-cost solutions as inputs, including equipment and tools for production and agroprocessing, to enhance resilience and productivity, including the use of organic fertilizers and quality plastic covers for tomato farming, etc.	2					Project	Inputs identified and facilitated	MoA	Private sector Farmers' associations Agronomic research centres Agricultural colleges International organizations NGOs	FAO IOM (Enterprise Development Fund) ITC	

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			2022	2023	2024	2025	2026					
1.3. Strengthen producers' organization	1.3.1. Organize a national dialogue and advocate for clarification on the role and status of producers' organizations. This will allow to build consensus on legal status, roles and responsibilities.	2					Project	Multi-stakeholder dialogue organized	MoA	Ministry of Labour and Social Affairs (MOLSA) Private sector Farmers' associations Development partners	GIZ ITC International Labour Organization	
	1.3.2. Provide technical support (e.g. benchmarking and capacity building) to selected tomato farmers' associations and cooperatives in order to strengthen their capacities and improve their governance.	2					Project	Functioning models of strong associations providing valuable services to members	MOLSA	MoA Private sector Farmers' associations	FAO GIZ ITC International Labour Organization	
1.4. Strengthen capacities for managing climate risks	1.4.1. Through training of trainer programmes, support the capacities of institutions active in the value chain to deliver assistance on environmentally sustainable practices. Training can be targeted to staff of the extension departments, universities and private sector on climate change assessment	2					Project	Training of trainer programme implemented	MoA	Ministry of Health (Directorate of Environment) Agronomic research centres Agricultural colleges International organizations NGOs	FAO WFP ITC Government of The Netherlands NGOs (e.g. NRC) UNESCO	
	1.4.2. Develop and implement trainings on sustainability and the mitigation of risks associated with climate change for farmers and SMEs in the value chain.	3					Project	Trainings conducted with farmers and MSMEs on climate-smart agriculture	MoA	Ministry of Health (Directorate of Environment) Agronomic research centres Agricultural colleges International organizations NGOs	FAO WFP ITC Government of The Netherlands NGOs (e.g. NRC)	
	1.4.3. Conduct a review of climate risks in the agriculture and agrifood value chain, by region and area of economic activity. Consultative exercise with Irrigation and Agriculture Department on climate risk in the agriculture sector.	2					Project	Climate risks assessed through an assessment and clear recommendations issued	MoA	Agronomic research centres Agricultural colleges International organizations NGOs	WFP ITC Government of The Netherlands NGOs (e.g. NRC)	

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Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
1.4. Strengthen capacities for managing climate risks	1.4.4. Develop incentives for investment in climate change mitigation and adaptation on farms and in SMEs, including for irrigation, greenhouses, cold storage and the use of alternative energy such as solar panels to run farms.	2						Incentives developed and offered	MoA	Ministry of Health (Directorate of Environment) International organizations NGOs Financial institutions	FAO WFP ITC IOM (Enterprise Development Fund) KIW Entwicklungsbank (KfW Development Bank) GIZ UNESCO	
	1.4.5. Establish early warning system and structures at local level to monitor environmental challenges and information sharing.	1					Project	Early warning system established	MoA	Ministry of Health (Directorate of Environment)	FAO WFP	

Strategic Objective 2. Increase effectiveness of the business environment, ensuring better services for all stakeholders at the different levels of the value chain												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
2.1. Support sector organization and cooperation	2.1.1. Review key support organizations and conduct an ecosystem mapping to identify relevant associations, cooperative unions/federations and other institutions with a bearing in the sector in the country.	2					Project	Ecosystem mapping conducted	MoP	MoA	ITC (SAAVI) GIZ	
	2.1.2. Build the leadership and governance capacity of relevant organizations through training, peer-to-peer sessions, workshops and coaching.	3					Project	At least 10 organizations receive support	MoA	Businessmen Farmers' associations	ITC (SAAVI)	
2.2. Support strategy implementation management	2.2.1. Support the establishment of strategy design and implementation management structure or platform. Guide and support the mechanisms to be operational.	1					Project	Coordination structure established	MoA	MoP	ITC (SAAVI)	
	2.2.2. Support partners through capacity-building trainings, direct support and tools on strategy implementation planning, management techniques and resource mobilization.	1					Project	Training, tools and orientation of partners in strategy design and implementation and management provided	MoA	MoP	ITC (SAAVI)	
2.3. Build awareness and skills on entrepreneurship in agrifood value chains, with a specific focus on youth	2.3.1. Establish a platform targeting young people, e.g. Youth Barometer, to regularly identify concerns and needs of young entrepreneurs along the value chain and set up dialogue platforms and develop policy recommendations based on the Youth Barometer results, building on and collaborating with existing entrepreneurial youth networks (such as those established by the United Nations Children's Fund and the United Nations Institute for Training and Research, KAPITA and other active key support institutions such as the Iraq Response Innovation Lab).	2					Project	Platform developed	Ministry of Youth and Sports (MoYS)	MoA MoHESR MOLSA Key support organizations' networks and/or chambers	ITC (SAAVI) FAO	
	2.3.2. Raise awareness on entrepreneurship opportunities for youth in agriculture and agrifood value chains.	3					Project	At least 10,000 youth and young entrepreneurs are beneficiaries	MoYS	MoA Private sector Ministry of Higher Education and Scientific Research Key support organizations	ITC (SAAVI) FAO	

Strategic Objective 2. Increase effectiveness of the business environment, ensuring better services for all stakeholders at the different levels of the value chain												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
2.3. Build awareness and skills on entrepreneurship in agrifood value chains, with a specific focus on youth	2.3.3. Review and reform higher education business education programmes and courses to better suit market needs in the agriculture and agrifood value chain, including through consultation with the private sector and the establishment of work experience programmes.	2						Project	Business education programmes revised Revisions proposed and implemented to better serve the market	MoHESR	MoA MOLSA	UNESCO FAO
	2.3.4. Establish a technical and vocational education and training (TVET) steering committee responsible for coordinating TVET interventions by implementing partners and propose partnerships, twinning arrangements and improved collaboration among TVET institutions (national and international), universities, international organizations and prospective employers.	3						Project	TVET steering committee established	MoHESR	MoT MoA MOLSA UNESCO	ITC (SAAVI) UNESCO FAO
	2.3.5. Set up a platform in collaboration with a lead youth business association to receive institutional strengthening support, building on and collaborating with existing entrepreneurial youth networks (such as those established by the United Nations Children's Fund and the United Nations Institute for Training and Research), e.g. YEI Chapters.	2						Project	Platform established	MoYS	MoA	ITC (SAAVI) FAO
	2.3.6. Provide training on entrepreneurship, business skills and accessing national, regional and international markets through the platform of young entrepreneurs (e.g. YEI Community) and local business development services providers. This is directly linked to Activity 2.3.4.	3						Project	4,000 youth and young entrepreneurs are beneficiaries	MoYS	MoA	ITC (SAAVI) UNESCO GIZ FAO
	2.3.7. Conduct a labour force needs assessment covering agriculture and agrifood value chains.	3					Project	Assessment completed and report published	MOLSA	MoA MoHESR	International Labour Organization UNESCO FAO	

Strategic Objective 2. Increase effectiveness of the business environment, ensuring better services for all stakeholders at the different levels of the value chain											
Operational objective	Activity	Priority	Implementation period				Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025					
2.4. Enhance business skills of MSMEs with a focus on digital technologies to boost connectivity and competitiveness	2.4.1. Provide management training to enhance MSME capacities, including inter alia on marketing, finance, quality management and food safety.	2					Project	1,500 MSMEs are beneficiaries	MoA	MoP Businessmen association	ITC (SAAVI) GIZ FAO
	2.4.2. Develop targeted capacity-building supports for MSMEs in making use of digital and other technologies to improve production, agroprocessing and transactions.	3					Project	Capacity-building developed 1,000 MSMEs benefit	MoA	MoA	MoHESR MoYS
2.5. Foster female entrepreneurship	2.5.1. Establish a mentorship programme for female entrepreneurs establishing firms in the agriculture and the agrifood value chain. Identification and selections of agrifood value chain experts to mentor female entrepreneurs. Link female entrepreneurs with agribusiness incubators for motivational mentorship.	3					Project	Mentorship programmed developed 500 female entrepreneurs benefit	MoA	Prime Minister's Office MoHESR MoYS	FAO
	2.5.2. Conduct a review of the participation and effects of the legislative and regulatory context on women's participation in the agriculture and agrifood value chain, with a particular focus on female entrepreneurship.	2					Reform	Revision conducted and corrective measures implemented	MoA	Prime Minister's Office MoHESR MoYS	
2.6. Address legal and regulatory barriers to value chain development	2.6.1. Review land tenure systems in consultation with farmers. In collaboration with the Ministry of Agriculture, review and revisit the existing land tenure system and propose revisions.	2					Reform	Land tenure system revised and revisions are drafted and implemented	MoA	Farmers' associations	GIZ FAO
	2.6.2. Review competition policies in consultation with value chain actors. Design and draft competition policies and quality benchmarks in consultation with value chain actors.	2					Reform	Competition policies revised	MoIM	MoA	GIZ FAO
	2.6.3. Activate the Law on Contracts and Ownership. Advocacy and coordination with the Ministry of Trade and Ministry of Agriculture to revoke law on contracts and ownership.	2					Reform	Law on Contracts and Ownership revised and amended as required	MoT	MoA	GIZ FAO
	2.6.4. Review trade policy regarding agricultural imports. In collaboration with MoA and MoT, review Agriculture Trade Policy and propose revisions.	1					Reform	Trade policy on agricultural imports revised and revisions proposed	MoT	MoA Private sector representatives	GIZ FAO

Strategic Objective 2. Increase effectiveness of the business environment, ensuring better services for all stakeholders at the different levels of the value chain												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
2.6. Address legal and regulatory barriers to value chain development	2.6.5. Review value-added taxes on agricultural products to limit costs and distortions in transactions across the value chain.	2					Reform	Value-added taxes revised	MoT	MoA Private sector representatives	GIZ FAO	
	2.6.6. Continue streamlining the process to register businesses in Iraq, with specific attention to agriculture and agrifood companies.	2					Reform	Simplified business registration process available for agriculture and agrifood companies	Iraqi Council of Ministers	Ministry of Trade Federation of Iraqi Chambers of Commerce Baghdad Chamber of Commerce		
2.7. Improve access to finance and investment	2.7.1. Support MSMEs in accessing financial solutions through the provision of mini-grants to facilitate the acquisition of equipment, materials, licences and other business-critical inputs and assets for grassroots entrepreneurs.	3					Project	Signed agreements with at least 100 identified MSMEs for mini-grants	MoA	Private sector Businessmen association Banks International non-governmental organizations, NGOs and related	ITC (SAAVI) FAO IOM	
	2.7.2. In consultation with farmers and the financial sector, design insurance and risk management tools for farmers to manage short-term risks. Develop specific tools to manage climate change risks and Sharia-compliant financial instruments.	1					Project	Insurance and risk management tools designed and available	MoA	Insurance directorate International non-governmental organizations, NGOs and related		
	2.7.3. Support MSMEs in improving financial literacy, accessing information on available financial assistance programmes and the development of bankable investment projects, as well as improving and setting up of financial intermediation mechanisms.	3					Project	At least 500 MSMEs trained in financial literacy and oriented on bankable investments	MoIM	MoA Ministry of Finance Businessmen association	FAO IOM	
	2.7.4. Assist MSMEs, with an emphasis on young entrepreneurs, accessing commercial bank products and in working with angel investors to strengthen the entrepreneurship ecosystem, promote professional deal sourcing and screening, and link companies to investments.	3					Project	Awareness-raising and at least two networking events organized per year	MoIM	MoA Ministry of Finance Businessmen association	ITC (SAAVI) IOM	
	2.7.5. Develop financial tools targeting the needs of farms and firms in the agriculture and agrifood value chain to be used by sector associations and other support organizations.	1					Project	Financial tools developed	MoIM	MoA Ministry of Finance Businessmen association	FAO IOM	

Strategic Objective 2. Increase effectiveness of the business environment, ensuring better services for all stakeholders at the different levels of the value chain											
Operational objective	Activity	Priority	Implementation period				Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025					
2.7. Improve access to finance and investment	2.7.6. Develop an investment promotion plan for high-potential areas of the agriculture and agrifood value chain, prioritizing promising products such as tomatoes.	2					Reform	Investment promotion plan is developed	MoT	MoP MoT Iraqi Businessmen Union	

Strategic Objective 3. Embrace innovation to explore new market opportunities both domestically and internationally											
Operational objective	Activity	Priority	Implementation period				Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025					
3.1. Strengthen farm and firm capacities to reach high-potential market segments for fresh and processed tomatoes	3.1.1. Develop a scheme to support private investment to establish new tomato-processing centres, and rehabilitate and upgrade existing ones in areas with potential.	1					Project	Scheme developed	MoA	MoT MoP Iraqi Businessmen Union Other private sector representatives	IOM
	3.1.2. Support the development of product diversification options through processing (e.g. tomato paste and ketchup) based on sound market assessments. <ul style="list-style-type: none"> Establish a competitive grant scheme to promote increasing the level of processing and value addition in the sector, leading to reduced wastage. Scheme to cover setting up of new units and modernization/expansion of existing units. <ul style="list-style-type: none"> An indicative list of activities that may be undertaken by processing units is given below: <ul style="list-style-type: none"> Sorting, grading, washing, waxing, peeling, cutting and sizing; Drying and colour sorting; Packaging facilities. Provide support to sector associations and firms to submit applications through workshops.	2					Project	15 firms supported through grant schemes	MoA	MoT MoP Iraqi Businessmen Union Other private sector representatives	FAO
	3.1.3. Training and capacity building targeting farms and SMEs, covering the following topics, inter alia: <ul style="list-style-type: none"> Tomato processing practices; Contract negotiations and building relationships; Product-market opportunities, including organic farming and certification; Associated business models and market routes. The above will make use of available information on markets.	3					Project	At least 500 MSMEs are beneficiaries	MoA	MoT MoP Iraqi Businessmen Union Other private sector representatives	ITC (SAAVI)
	3.1.4. Development of customized business and profitability models for specific stakeholders that prioritize opportunities and identification of lead firms for partnerships in the context of value chains and cluster alliances.	2						Project	Lead firms identified and business and profitability models are developed	MoA	MoT MoP Iraqi Businessmen Union Other private sector representatives

Strategic Objective 3. Embrace innovation to explore new market opportunities both domestically and internationally											
Operational objective	Activity	Priority	Implementation period				Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025					
3.1. Strengthen farm and firm capacities to reach high-potential market segments for fresh and processed tomatoes	3.1.5. Development of resources for farms and SMEs on high-potential product-market combinations, with details on market requirements and drivers of success. Disseminate information through several channels, including workshops.	3					Project	Information, communication and education materials are developed Awareness-raising events organized	MoA	MoT MoP Iraqi Businessmen Union Other private sector representatives	ITC (SAAVI)
	3.1.6. Conduct an awareness-raising campaign to promote the benefits of organic farming, targeting farmers and MSMEs.	3					Project	Awareness-raising campaign conducted	MoA	Private sector representatives	
	3.2.1. Develop short trainings to assist farms and SMEs in improving product quality, compliance with required and relevant voluntary standards (including organic production), and pursuing diversification or value addition, as well as GAP, HACCP, climate-smart production, and postharvest practices, including sorting and grading of products.	2					Project	Curricula designed and trainings implemented	MoA	MoP Central Organization for Standardization and Quality Control (COSQC)	ITC (SAAVI) GIZ FAO
	3.2.2 Support adoption of improved packaging solutions adapted to market needs and local transportation systems.	1					Project	A minimum of 50 MSMEs supported	MoIM MoA		
3.2.3. Identify key institutions (e.g., testing laboratories, certification bodies, inspection bodies) in the field of quality management and support them in promoting the use of standards and conformity assessment to MSMEs of the selected sectors for market access.	3.2.3. Identify key institutions (e.g., testing laboratories, certification bodies, inspection bodies) in the field of quality management and support them in promoting the use of standards and conformity assessment to MSMEs of the selected sectors for market access.	2					Project	At least 10 institutions in the field identified and supported, promoting quality management standards, e.g. Hazard Analysis Critical Control Point (HACCP) and International Organization for Standardization (ISO), etc.	Central Organization for Standardization and Quality Control (COSQC)		ITC (SAAVI)
	3.2.4. Provide assistance on establishing branding linked to quality standards and on marketing Iraqi tomato products to domestic consumers.	2					Project	A minimum of 50 MSMEs equipped in branding and quality certification	MoIM	MoA	IOM FAO

Strategic Objective 3. Embrace innovation to explore new market opportunities both domestically and internationally												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
3.3. Improve the functioning of marketing channels to decrease product loss and transaction costs	3.2.5. Develop a national campaign promoting the local consumption of domestically produced tomatoes to support local producers competing against imported produce. A national campaign could be put in place with a brand proposition linking local products with Iraqi cuisine using international branding experts and regional examples. Further, the campaign could promote consumption of healthier and organic options paired with reduction of food losses and waste, along with promoting household nutrition.	2						Project	Campaign and branding strategy developed	MoP Central Organization for Standardization and Quality Control (COSQC)	MoA MoT	
	3.3.1. Capacity strengthening of local vegetable market operators in terms of management and transparency (municipalities) while upgrading local vegetable markets (infrastructure and equipment).	2						Project	Improved functioning of local vegetable markets in line with market requirements (quality and cold storage)	MoA		ITC (SAAVI) FAO
	3.3.2. Develop efficient connections across the tomato value chain through buyer-led models (e.g. retailers and processors) and direct farms sale contracts.	3						Project	Increased share of direct contracts and profitable models established	MoA		ITC (SAAVI)
	3.3.3. Foster the creation of commercial alliances with buyers locally. This activity is linked to Activity 3.1.4.	2						Project	Alliances networks created	MoA MoT	Private sector Agricultural colleges International organizations NGOs	ITC (SAAVI) Government of The Netherlands FAO
	3.3.4. Assess the potential for and promote agribusiness service centres that bulk demand and supply, commercialize, provide extension services, and are able to plan production and ensure improved quality and consistency.	2						Project	At least 10 pilot agribusiness service centres established	MoA		ITC (SAAVI) FAO
3.3.5. Establish accessible and regularly updated information sources on market conditions in the tomato sector.		1					Project	Market information system available	MoA		FAO ITC (SAAVI)	

Strategic Objective 3. Embrace innovation to explore new market opportunities both domestically and internationally												
Operational objective	Activity	Priority	Implementation period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners	Existing programmes or potential support
			2022	2023	2024	2025	2026					
3.4 Support improvements to trade policy to foster expanded exporting	3.4.1. Provide assistance for the informed drafting of the documentations/negotiating positions required for the WTO accession process.	1						Project	Technical assistance provided	MoT		ITC (SAAVI)
	3.4.2. Enhance capacities for the development of specific sectoral laws and regulations to align Iraq's national trade policy with the requirements for WTO membership.	2						Project	Sectoral laws and regulations aligned with WTO requirements	MoT		ITC (SAAVI)
	3.4.3. Offer trainings and other support to increase policymakers' understanding of the WTO accession process and legal framework.	1						Project	Training provided	MoT		ITC (SAAVI)
	3.4.4. Strengthen national institutional capacities for sanitary and phytosanitary (SPS), technical barriers to trade (TBT) and trade facilitation compliance in line with WTO obligations.	2						Project	Technical assistance provided and national institutional capacities strengthened	MoT	Private sector associations	ITC (SAAVI)
	3.4.5. Enhance awareness of stakeholders, including women's associations, about WTO accession.	2						Project	Workshops including women and women associations held	MoT	Private sector associations	ITC (SAAVI)

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