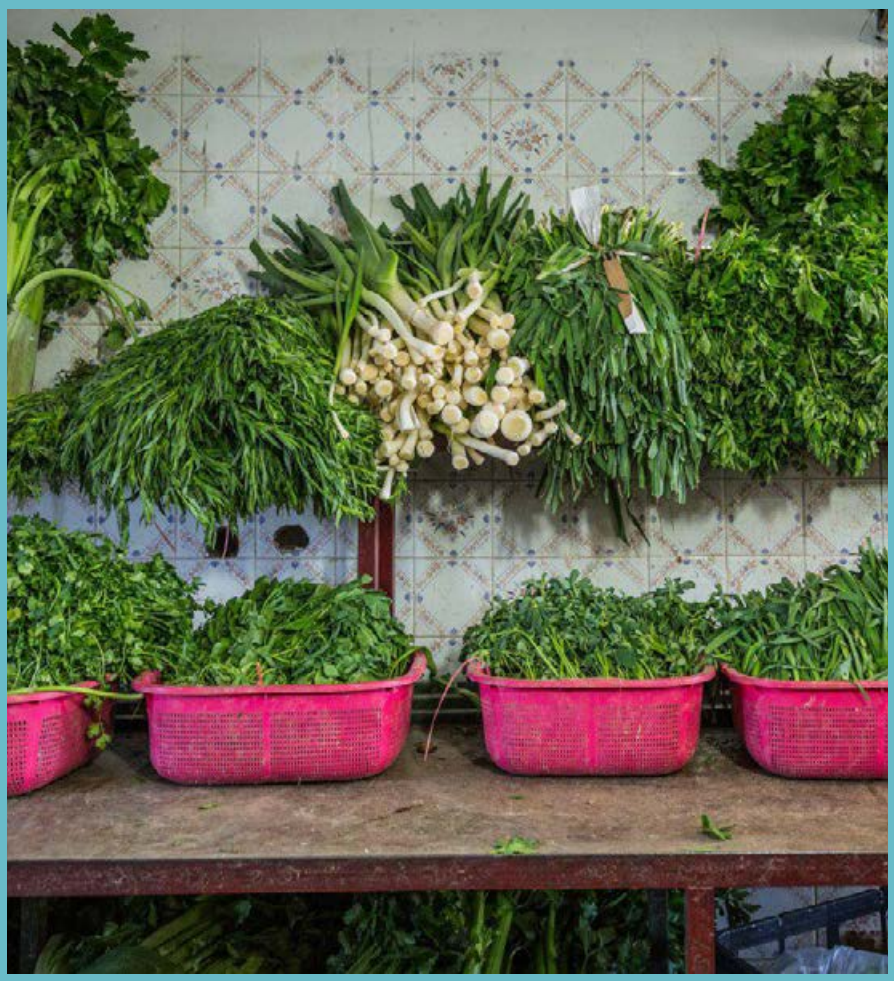
Islamic Republic of **Iran**

سازمان توسعه تجارت ایران
Trade Promotion Organization of Iran

National Export Strategy 2021-2025

Fruits and Vegetables Strategy

Exporting a fresh blend of taste, modernity and sustainability



This Fruits and Vegetables Strategy was developed as part of the National Export Strategy of Iran on the basis of the process, methodology and technical assistance of the International Trade Centre (ITC) within the framework of its Trade Development Strategy programme.

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FOREWORD
BY THE MINISTRY OF INDUSTRY, MINE, AND TRADE

Non-oil exports have become increasingly important to Iran in recent years. Increasing international trade is not only a means of boosting economic growth and the nation's welfare, but also contributes to strengthening international relations and the stabilization of economic and political affairs by paving the way for reinforcing friendly relations based on mutual interests with a wide range of trade partners. Trade is one of the most important forms of exchange between countries and fostering this will lead to connections such as foreign investments, scientific and technical exchanges, and cultural relations, all of which will contribute to the country's growth and prosperity in all respects. Hence, expanding trade would provide a basis for development in other areas of cooperation and is of great importance from this perspective. In addition to substantial investment to expand export potential, growing foreign trade requires strategic targeting as well as addressing constraints. In this context, Iran's Trade Promotion Organization developed a National Export Strategy (NES) with the support of the International Trade Center (ITC) that has similar experience in designing NES in more than 50 countries. The strategy is going to cover general trade-related factors such as ensuring export quality that is relevant to the export of all goods. It also addresses a number of sector-specific strategies in form of independent strategies. All activities in the framework of designing strategies have led to diagnosing sets of plans of actions in order to tackle issues and problems to facilitate export procedures.

The plan of actions indicated in the strategies will be implemented by I-TPO in close collaboration with national stakeholders during the next 5 years and I-TPO will enjoy ITC support during the implementation period.

I would like to thank each and every entity from the private sector, distinguished exporters as well as managers and exports from various ministries and institutions who have contributed to the development of the NES and sincerely appreciate their contributions. Also, the initiative would not be successful without supports from the European Union and the ITC. We hope all contributors to the designing of the NES would continue their support to the I-TPO during the course of implementation of the recommended actions so that we achieve the goals of this strategy in practice and we witness the export promotion of non-oil exports in our country.

Ministry of Industry, Mine, and Trade

FOREWORD
BY IRAN'S TRADE PROMOTION ORGANIZATION

The ITPO signed a Memorandum of Understanding with the International Trade Centre (ITC) in 2016 in order to benefit from its expertise in expanding non-oil exports. One of the most important clauses of this MOU concerned the development of the NES. Implementation of the memorandum materialized after the European Union (EU) made a fund available for the ITC to provide technical assistance to ITPO in 2018. The NES development process started at the beginning of the Iranian year 1398 (April 2019), enjoying the technical assistance of the ITC as well as the contribution of international experts. The result of the 1.5 years of cooperation is now being presented to you.

The following points as regards these documents are worth mentioning:

- The NES has been developed in collaboration with the public and private sectors, relying on the expertise of the ITC. In fact, public and private stakeholders in each sector were consulted by the experts of the ITC in the process of designing the NES and, therefore, the results are agreed upon by these entities. Reaching such a consensus on non-oil exports is unprecedented and thus the proposed plans of actions in the NES are of great importance.
- Around 500 key participants from the production and export sectors of the country have been consulted by the expert group of the ITPO and the ITC during the process of NES preparation.
- While proposed solutions envisaged in the document address Iran's specific problems, they also make use of worldwide experience and international expert's viewpoints.
- Independent International consultants have been consulted in addition to the ITC experts and their views have been reflected in the documents.
- International experts' field visits to production and export chains and sites played a key role in understanding the current situation and designing the NES.
- The implementation of planned activities of the NES will take several years and require the support of the ITC and international experts.
- Through the process of the NES development in each sector, a set of reviews, consultation with stakeholders, and also field visits were organized and strategic objectives were set in order to address problems and remove constraints at the first step; then, operational objectives were set under each strategic objective; after that, relevant activities were designed under each operational objective; and finally, a leading entity and its partners were listed for each activity. More than 350 actions have been designed in total. We expect that non-oil exports to be revolutionized as a result of the implementation of this plan of action. More information regarding the NES and expert recommendations are listed in the following table:

Sectors	Strategic Objectives	Operational Objectives	Activities
Fruits and Vegetables	3	11	47
Medicinal Herbs	3	13	40
Tourism	3	11	41
ICT	3	15	50
Auto parts	3	8	29
Petrochemicals	4	12	33
Trade information and Promotion	3	7	35
Quality Management	3	15	56
Entrepreneurship	3	10	28
Total	28	102	359

- The NES has been developed with the goals of:
  - » Fostering coherence and coordination between stakeholders at the sectoral and national levels;
  - » Elaborating a comprehensive approach to removing constraints and expanding exporting in priority sectors;
  - » Identifying and addressing exporters' needs for support services;
  - » Supporting the SMEs throughout the export process;
  - » Providing necessary training in priority sectors with the support of national and international experts;
  - » Developing export promotion and branding;
  - » Making effective use of ICT in export-oriented marketing; and
  - » Identifying and assigning appropriate entities for the implementation of the designed activities in the NES.

The design of the NES would not have been possible without the support of the ITC and its experts, who have experience in designing export strategies in more than 50 countries. The NES is also the result of cooperation between representatives of 17 national ministries and various organizations and stakeholders with mandates related to the promotion of non-oil exports. This collaboration benefitted the design of the NES. Also, the process enjoyed the network and sincere cooperation of Iran's Chamber of Commerce, Industry, Mine, and Agriculture in inviting the private sector to participate in consultation meetings and as a result, a large number of the private sector and associations' representatives and a variety of stakeholders were engaged. None of this would have taken place without the support of the EU and its work on "Trade for All" that is promoting economic and trade relations between countries as the best way to secure worldwide stability and peace.

Therefore, the ITPO, for its part, appreciates all entities and individuals who contributed to the designing of the NES. We hope to be privileged to have support from all actors in the implementation phase of the NES. Like the designing of the document that has resulted from the contribution of a wide range of national and foreign institutions and individuals, its implementation also could not happen without relying on all of those actors. Therefore, the ITPO, during the implementation phase, will seriously maintain and strengthen the established mechanisms and networks built during the course of the NES development. We hope that this move proves to be a big step towards the promotion of the non-oil export of the country and contributes to the improvement of the Iranian nation's living standards.

Iran's Trade Promotion Organization

FOREWORD
BY THE INTERNATIONAL TRADE CENTRE

Iran's place between east and west has long put it in a pivotal position in global trade. With natural resources, a rich tourism offer, high-quality agricultural products and a well-rooted manufacturing industry, the country is well positioned to take the next step toward greater trade-led growth.

The country has the potential to leverage its assets to become a centre of innovative digital solutions. With its highly-educated and productive labour force and investment attractiveness Iran could position itself to be a major exporter to markets across the region and around the world.

These strengths have been cultivated in a challenging external context. But there have also been clear domestic constraints which have contributed to impeding the realization of Iran's potential for growth. However, the need to build greater economic resilience, especially with the impact of global pandemics, has taken centre stage.

Against this backdrop, Iran has developed its new National Export Strategy (NES). The document reflects a growing consensus on the need to focus on trade-led growth to complement domestic resilience.

Trade-led success will require consistent and organized efforts. In developing the strategy, key actors have acknowledged the need to tackle the private sector's critical challenges. The NES proposes tailored solutions and leverages the country's strengths and competitive advantages.

During the consultations for this NES, all stakeholders recognized the need for further policy convergence and stronger coordination at the level of institutions if the country was to move forward. This coherence is at the core of the NES – joining forces toward a shared vision and making strategic choices that further develop the economy. The NES provides a framework for setting priorities, coordinating action and defining concrete steps. It was designed through analysis and consultation involving hundreds of voices from across the public and private sectors and input from international market experts.

The International Trade Centre (ITC) commends the leadership of the Ministry of Industry, Mine and Trade, the Iran Trade Promotion Organization and applauds the enthusiastic involvement of the private sector in the design of this strategy. ITC will continue to support Iran to ensure that the objectives of the NES are attained rapidly to support greater inclusive, sustainable, and resilient development.

Finally, ITC wishes to thank the European Union for its support to this initiative as part of its EU-Iran Trade Development project.

Pamela Coke-Hamilton
Executive Director of the International Trade Centre

ACKNOWLEDGMENTS

The Fruits and Vegetables Strategy forms an integral part of Iran's National Export Strategy (NES). It was developed under the aegis of the Islamic Republic of Iran and the leadership of the Ministry of Industry, Mine and Trade (MoIMT) and the Trade Promotion Organization of Iran (ITPO), in close collaboration with the Ministry of Agriculture Jihad (MoAJ). This strategy was elaborated thanks to the technical assistance of the International Trade Centre (ITC) and falls under the framework of the project "European Union (EU) – Iran Trade Development: Trade-Related Technical Assistance, capacity building, and value chain development for inclusive and sustainable trade-led growth in Iran".

The document benefited particularly from the inputs and guidance provided by the sector stakeholders that steered the formulation of the strategy, namely:

Institutions / Natural and Legal Persons
Ministry of Agriculture- Jihad
• Deputy of Horticulture
• Bureau of International Affairs
• Agricultural Planning, Economic and Rural Development Research Institute
• General Directorate of Forage and Summer Crops
• International Projects Office
• Green Houses Affairs- Deputy of Horticulture
• Department of Green House Vegetables and Summer Crops- Deputy of Horticulture
• International Department of Bureau for Export Development
• Agricultural Parks Company
Iranian Agricultural Extension and Education Association
Chamber of Cooperatives
National Union of Agricultural Cooperatives of Iran Orchard Owners
Iran Organic Association- Iran's National Apple Chain
Representatives of companies active in production and Exportation of Fruits and Vegetables
Union of Fruits and Vegetables Exporters
Institute For Trade Studies and Research
Trade Promotion Organization of IRAN

Technical support and guidance from ITC was rendered by the following people:

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• Mr. Mirhadi Seyedi	ITC representative in Iran	ITC
• Mr. Majid Bahrami Forouzan	ITC representative in Iran	ITC
• Mr. Mehdi Yaghoubi	Media support consultant	ITC

NOTE TO THE READER

The Iran NES was developed on the basis of a participatory approach, during which more than 400 Iranian 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 in Tehran and in some sector-specific regions, including Kerman, Yazd and Isfahan.

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

- Factory visits where 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 markets, etc.
- Interviews with domestic, regional and international buyers to guide the NES with 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.

The NES is aligned with existing national and sector-specific plans and policies and builds on ongoing initiatives in areas related to private sector development, regional integration, investment and economic empowerment of youth. Equally importantly, the NES 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.

The principal outputs of the Iran NES design initiative are endorsed, coherent and comprehensive export strategy documents with a five-year detailed plan of action (PoA) and implementation management framework. These documents include:

I. A main NES document, which contains trade support functional strategies, offering critical support across value chains and acting as enablers for sector development;
II. Individual NES priority sector strategies packaged as separate documents, but in alignment with the main NES findings and overarching strategic objectives.

NES Iran	Main NES document including trade support functional strategies: • Quality management • Trade information and promotion • Entrepreneurship
	Individual NES priority sector documents: • Fruits and vegetables • Medicinal herbs • Information and communication technology (ICT) • Tourism • Petrochemicals • Automobile parts

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ACRONYMS AND ABBREVIATIONS

APERDRI	Agricultural Planning, Economic and Rural Development Research Institute
AREEO	Agricultural Research, Education and Extension Organization
CAGR	Compound annual growth rate
F&V	Fruits and vegetables
GDP	Gross domestic product
INSO	Iranian National Standards Organization.
ITC	International Trade Centre
MoAJ	Ministry of Agriculture Jihad
MoIMT	Ministry of Industry, Mine and Trade
NES	National Export Strategy
ITPO	Trade Promotion Organization of Iran

EXECUTIVE SUMMARY

This fruits and vegetables export strategy looks at a broad scope of products both at the fresh and processed sides. However, it follows a market approach and specifies key potential products for each target market. The markets are divided into two categories: neighbouring convenience relations and new diversification challenges. These new diversification challenges represent important levers to secure a diversified export basked and a resilient fruits and vegetables sector.

To make up for off-season varieties, the volume of traded fresh and processed fruits and vegetables has more than tripled since 2001. Although developed countries dominate the current market, developing countries have increased their share of the demand. To compensate for this rise in demand, the number of suppliers and exporters of fruits and vegetables has also increased, which creates high competition in the sector.

The global value chain is also characterized by the importance of retail chains. The power of food retail chains has been increasing steadily since the early 1980s and, in Western Europe, more than 50% of all fruits and vegetables purchases are made by consumers shopping in supermarkets.

A number of success factors became required to succeed on the international market:

- A strong production capacity through excellent farming practices and increase in smallholder famers' cooperation;
- Improved internal production chain through the integration of marketing channels, transparent supply systems and logistics throughout the chain;
- Spread of certifications such as Good Agricultural Practices (GAP), through establishment of the right conditions of traceability and compliance;
- Coping with climate change risks through research on resilient varieties (especially droughts in the case of Iran), as well as clear policy directives;
- Differentiation of national production and branding, especially for the high-quality production in Iran;

- Capturing consumption trend such as healthy, ethical and ecologically clean consumption (i.e. the rise of the organic niche market).

Iran's fruits and vegetables sector is a treasure trove. With its large variety of products, their rich taste and strong local varieties, it has the potential to meet the growing regional and international demand, in terms of quality, quantity and a very competitive price. This trove is yet to be discovered by new potential buyers beyond the regional, and sometimes, convenience trade relationships. The lack of knowledge and visibility of Iranian products, in part due to the current geopolitical situation, has led to the creation of a variety of obscure marketing channels that currently constrain the value chain's development. In addition, the prevalence of smallholder farmers limits productivity and creates an important logistical challenge, which, combined with the non-transparent marketing, makes it very difficult to reach international markets. A final layer of complexity is the use of water resources – products

need to be selected in a way that limits the depletion of the country's precious water.

These challenges call for a strategic, market-led and sustainable response. The approach is structured in three main directions. The first is to streamline a conducive environment for the sector to formalize and thrive, in particular increasing competition at the level of marketing and reducing the amount of middlemen in the process. The second direction is to focus on productivity and value addition, through modernization, but also through alignment of skills with the needs of the sector. Finally, to restore visibility of Iranian fruits and vegetables products on international markets, branding and trust-building through traditional and non-traditional networks is foreseen.

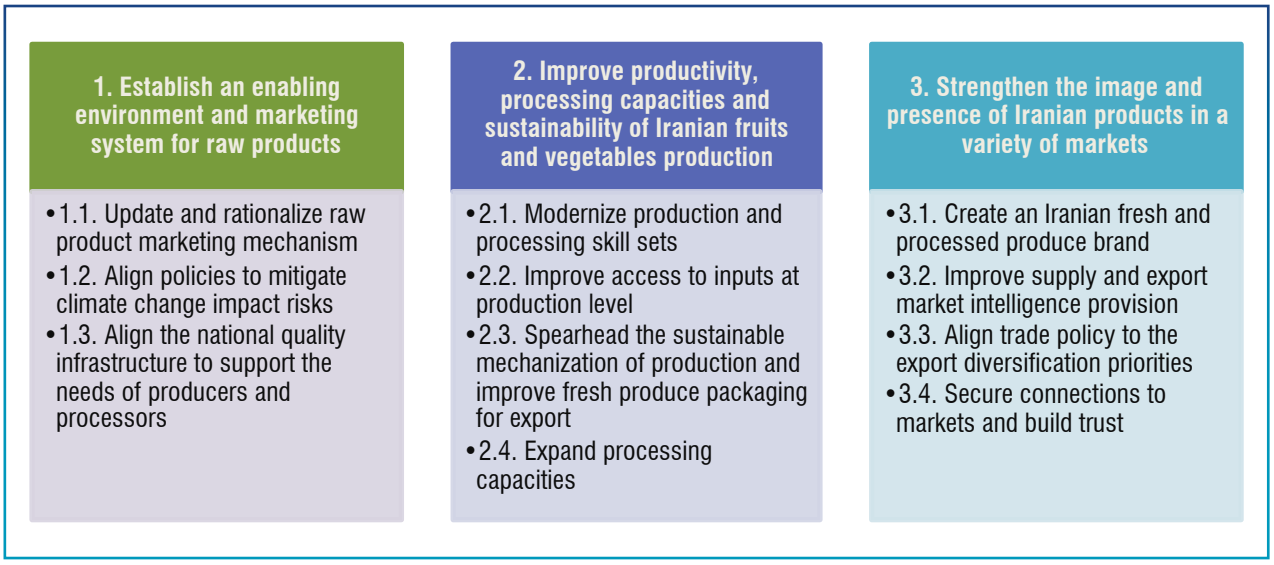
The implementation of this strategy will thus lead to increased exporting through reduced uncertainty and improved connections with high-potential markets, expanded downstream activities for increased domestic value added, and export diversification. It will also increase the efficiency and sustainability in natural resource usage and a sustainable income secured for rural populations. Finally, it will strengthen Iran's positive national image through the development of a national horticulture brand.

Vision and strategic objectives

In line with the strategic approach presented above, the following is a delineation of the proposed vision. The vision statement was discussed and agreed with all stakeholders in the fruits and vegetables sector.

"Exporting a fresh blend of taste, modernity and sustainability"

The strategy's plan of action will respond to this vision by addressing constraints and leveraging opportunities in a comprehensive and strategic manner. To this end, particular efforts will be made to realize the following three strategic and operational objectives.



Strategic Objective 1: Establish an enabling environment and marketing system for raw products

The first strategic objective focuses on the internal value chain efficiency and the enabling environment it requires. It is structured around three main goals, which have been identified as priorities to streamline the sector within the strategy's diagnostic. The first of them is to bring further transparency and coherence in the raw product marketing mechanism through measures such as a national e-marketplace and expansion of agricultural commodities exchanges to horticultural products. The second goal is to capture sustainability national policies in order to have a clear understanding of the impacts of various crops on water resources and on minimizing risks of climate change on Iranian production. The last objective is to support the quality management infrastructure to enable easy certification for exports.

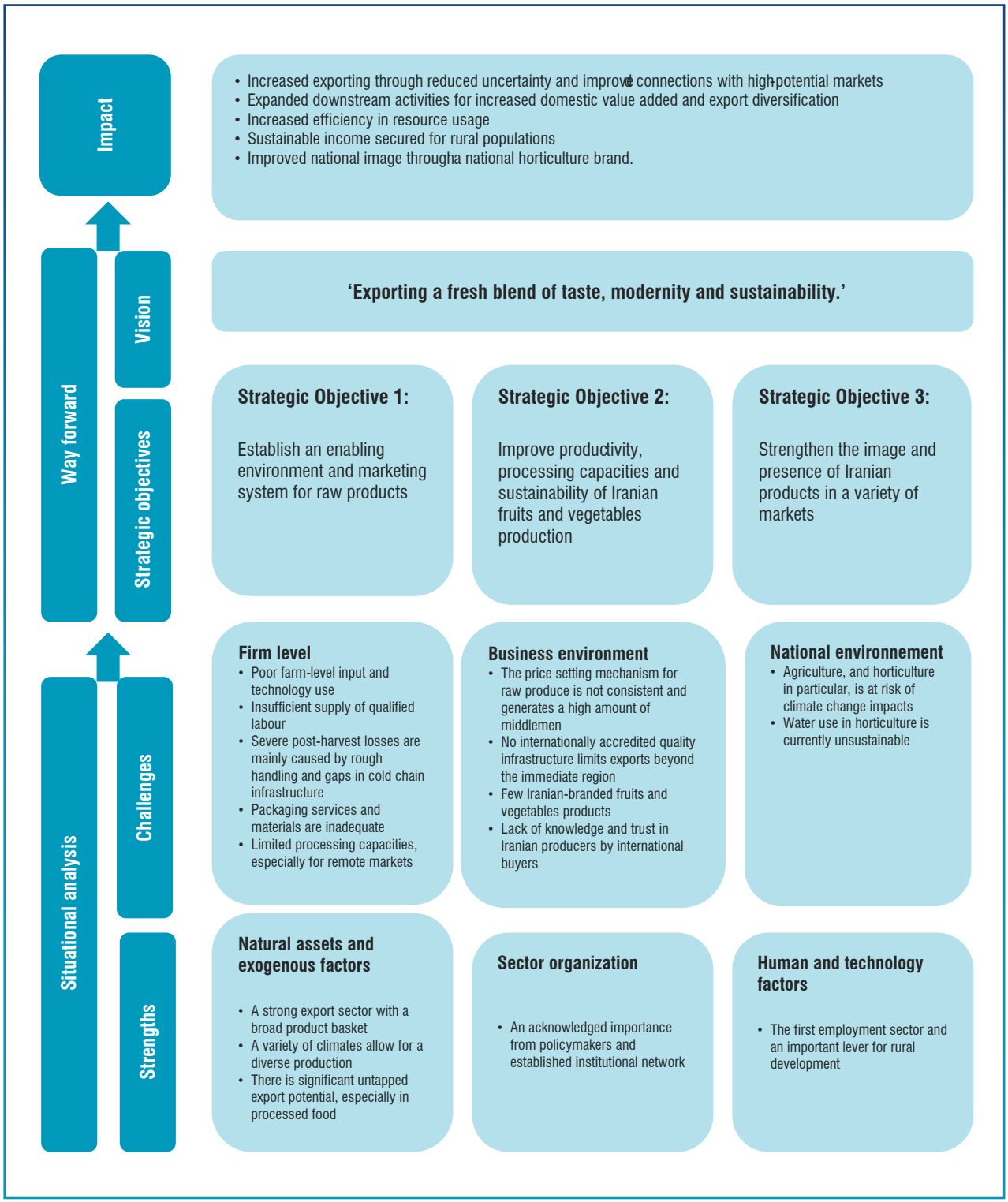
Strategic Objective 2: Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production

The second strategic objective focuses on the farm and private sector level in order to increase yields and productivity. It firstly concentrates on meeting sector skills requirement, since the sector tends to face difficulties to attract qualified professionals. Among others, this is done through setting up private sector-led skills platforms, following international best practice. The second objective is to improve the access of inputs for production, namely establishing contract farming pilots and to improve access to seeds. The third objective concentrates on mechanization of production and its packaging with retail in mind, instead of bulk sales. Finally, the last objective aims to attract more investment into the fruits and vegetables processing industries, as they hold great potential and do not have shelf life limitations for exports.

Strategic Objective 3: Strengthen the image and presence of Iranian products in a variety of markets

The third strategic objective is about increased visibility and presence of Iranian products abroad. Firstly, it will be done through the establishment of a common brand of fruits and vegetables from Iran, focusing on the taste and quality of the produce. The provision of market intelligence directly to producers is the second goal under the objective and will enable them to connect with foreign markets directly. The establishment of preferential trade agreements with specific countries such as the Russian Federation will help increase competitiveness of Iranian products. It is advised that trade policy negotiations be conducted with markets in good relations with Iran and holding high potential for export diversification. Finally, export diversification cannot happen without building of solid networks abroad and trust in target markets. This is the last goal under this strategic objective and will be achieved by leveraging both traditional and non-traditional networks in target markets.

Figure 1: Fruits and Vegetables Strategy's theory of change



A GROWING, BUT INCREASINGLY DEMANDING GLOBAL MARKET

Analysts are unanimous in saying that increasing demand for fresh produce will lead to strong growth overall and this growth will come from outside Western markets. The emergence of new markets and changes in consumer demand, combined with technological drivers, urge supply chain actors towards greater efficiency and transparency with a particular focus on sustainability. Similarly, the processed and packaged food industry is forecasted to experience rapid expansion characterized by regional and "authentic" produce, as consumers move away from standard mass-produced products. However, some of Iran's immediate/neighbouring markets, such as the Islamic Republic of Afghanistan and the Republic of Iraq, evolve outside global tendencies and disclose unique features that call for different tactics.

This section to provide strategic insights to define which market opportunities Iran should go after – the ones to which the country's current and potential set-up is best suited – and then to focus on what this challenge entails, positioning fruits and vegetables supply correctly to meet customer demands, while acquiring the requisite technology, skills and capabilities.

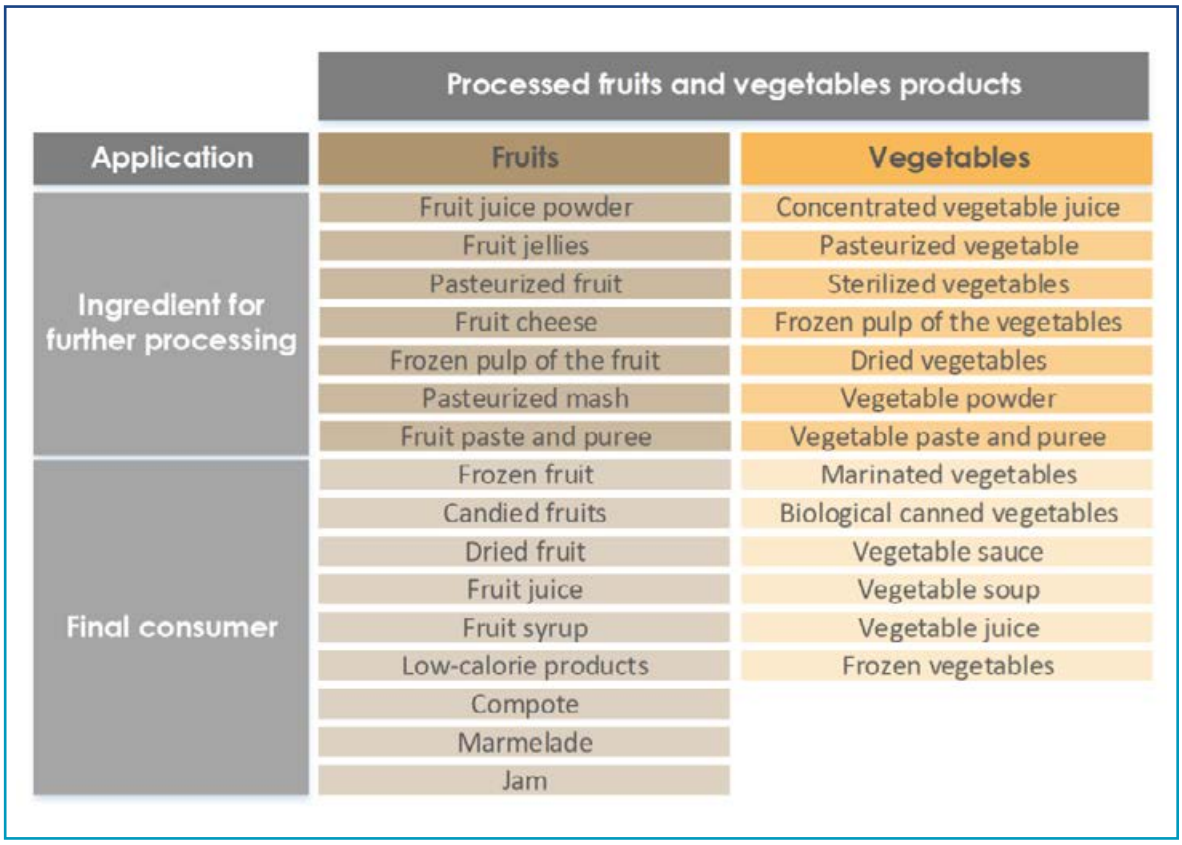
A BROAD PRODUCT BASKET

Iran's fruits and vegetables export strategy looks at a very broad scope of products both at the fresh and processed sides. The subject of this strategy is thus a very broad industry, covering both agricultural and manufactured products, subject to a countless variety of world climates and consumption trends.

Within the fresh produce industry, fruits and vegetables are sold to consumers in an unprocessed, raw form, without having undergone any thermal processing or preservation. In some cases, minimal value addition is undertaken in the form of peeling, halving, wedging, slicing and trimming.

The processed food industry encompasses all businesses that alter fresh fruits and vegetables to create a value-added food product for consumption. These products tend to have significantly longer shelf lives than fruits and vegetables in fresh form. Primary product categories in this industry include canned fruits and vegetables, pastes, powders, juices, jams, and frozen fruits and vegetables. An indicative list of products and their applications are presented in Figure 2.

Figure 2: Types of processed fruits and vegetables products



Source: Compiled by ITC based on Euromonitor data.

In both segments, the strategy will identify the most relevant products and markets for Iran to focus on, as well as all required adjustments and certifications required to ensure high product competitiveness in those markets.

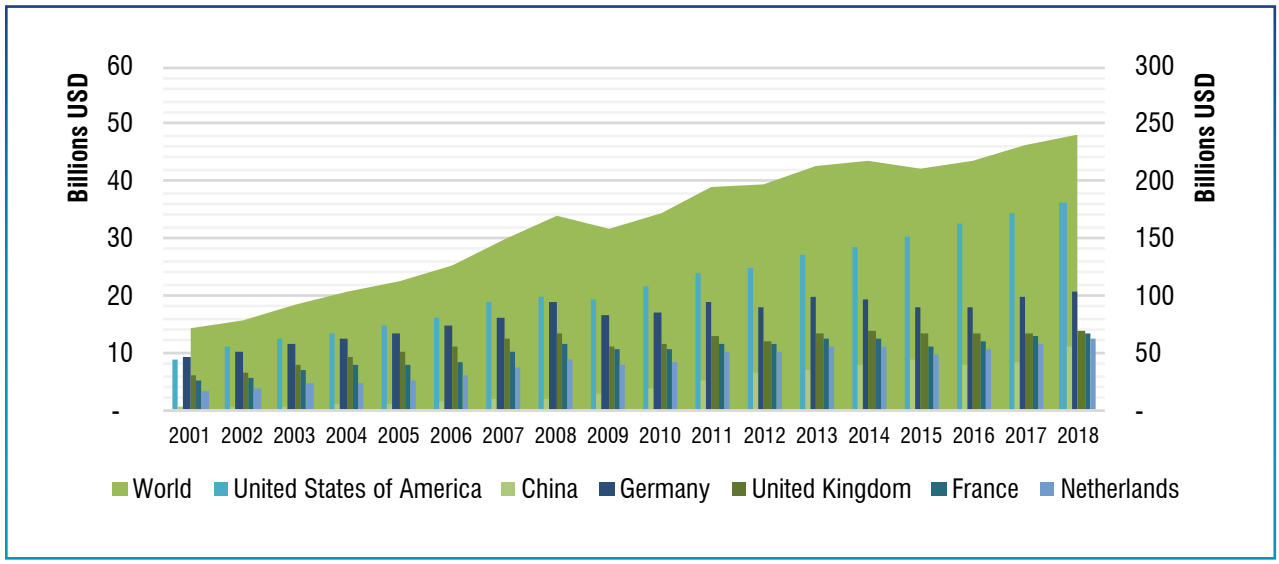
HEALTHY WORLD DEMAND FOR FRUITS AND VEGETABLES

Fruits and vegetables are products consumed globally. Thus, trade patterns for these crops are determined by local production in importing countries and by production in exporting countries, both of which are affected by weather conditions, management of plagues, packaging technologies, logistical costs, trade policies and many other factors.

- The volume of traded fresh and processed fruits and vegetables has more than tripled since 2001, from roughly $70 billion to $240 billion. In the last decade, fruits and vegetables (F&V) imports have increased at a compound annual growth rate (CAGR) of approximately 4.7%. On the supply side, such trends can be explained by increased yields and a surge in cultivated areas. Global production of fruits and vegetables has experienced sustained growth in the past few years. According to the Food and Agriculture Organization (FAO) of the United Nations, worldwide production of fruits stood at roughly 865 million tons in 2017, while production of vegetables totalled approximately 1.09 billion tons in the same year.[1] Production growth is largely driven by increases in cultivated land in Asia, particularly the People's Republic of China, the world's largest producer of fresh fruits and vegetables. On the demand side, these trends are explained by increasing world population, increased consumption of certain varieties in developed countries and a greater global awareness about the importance of the nutritional value that F&V provide. In recent years, the rate of growth has slowed and episodes of null or negative growth rates started to occur (see Figure 3).

1.– Statista 2020.

Figure 3: World imports of fresh and processed fruits and vegetables



Source: ITC calculations based on UN Comtrade statistics.

Although developed countries dominate the current market, developing countries have increased their share in the demand of F&V. Developed countries continue to demand new varieties of F&V, contributing to the increase in trade volume of fresh produce between developing countries.[2] Exports of F&V from developing countries are now more than double the exports for tropical beverages, triple those of grain and livestock products, five times higher than sugar and seven times greater than textile fibres.[3] As income disparity decreases in developing countries and world demand for food increases, developing countries will likely increase their trade volumes and trade flows.[4] In the near future, Asia is expected to demand a majority, particularly China and the Republic of India, because increased urbanization rates and a growing middle class will increase F&V consumption.[5] This is already emerging and is seen with China. In 2001, China was the 22nd largest importer of fruits and vegetables products, but rose to become the 6th largest importer in 2018. Its compound annual growth rate in the last decade has been 16.4%, by far the most important among the top 20 world importers.

Increased competition to supply the growing demand

To compensate for the rise in demand, the number of suppliers and exporters of F&V has increased in the last five years. The number of countries with export values in edible fruits of more than $1 million went from 130 in 2005 to 139 in 2010 and reached 150 in 2018. Vegetables saw similar growth: the number of countries with export values of more than $1 million went from 124 in 2005 to 133 in 2010 and reached 138 in 2018.

Table 1 provides further details about current world-leading exporters in fresh F&V. Among the two leading exporters of fruit, the United States of America has recently slowed down exports, while the Kingdom of Spain increased its exports almost every year. China, the Kingdom of the Netherlands and Spain lead exports of vegetables. China's exports have slowed down during the past year, whereas the Netherlands and Spain have picked up exports from a decline phase in 2014–15. China only became one of the three leading exporters of vegetables in 2006 and the leading one in 2010.

2.– Barbosa-Cánovas, Gustavo V. and others (2016). *Handling and Preservation of Fruits and Vegetables by Combined Methods for Rural Areas*. Technical Manual, FAO Agricultural Services Bulletin 149 – Chapter 1: Fruits and vegetables: an overview on socio-economical and technical issues. Available from http://www.fao.org/docrep/005/y4358E/y4358e04.htm.

3.– Diop, Ndiame and Jaffee, Steven M. (2005). Fruits and vegetables: global trade and competition in fresh and processed product markets. In *Global Agricultural Trade and Developing Countries,* M. Ataman Aksoy and John C. Beghin, eds. Washington D.C.: World Bank. Available from http://siteresources.worldbank.org/INTPROSPECTS/Resources/GATChapter13.pdf.

4.– Barbosa-Cánovas, Gustavo V. and others, *op. cit*.

5.– Ibid.

Table 1: Global exports of fruits and vegetables (2018)

Fruits	Exports 2018 (USD thousands)	Share (%)	Annual growth 2014–18 (%)	Annual growth 2017–18 (%)	Vegetables	Exports 2018 (USD thousands)	Share (%)	Annual growth 2014–18 (%)	Annual growth 2017–18 (%)
World	**125 065 587**	**-**	**5**	**3**	**World**	**74 665 048**	**-**	**2**	**-2**
United States of America	14 694 470	11.7	0	-1	China	10 518 061	14.1	7	-6
Spain	9 978 741	8	2	7	Netherlands	7 847 468	10.5	1	4
Netherlands	7 030 731	5.6	7	12	Spain	7 170 220	9.6	4	5
Mexico	6 389 328	5.1	13	-4	Mexico	7 060 172	9.5	7	6
Chile	6 341 177	5.1	3	12	United States of America	4 504 136	6	1	-6

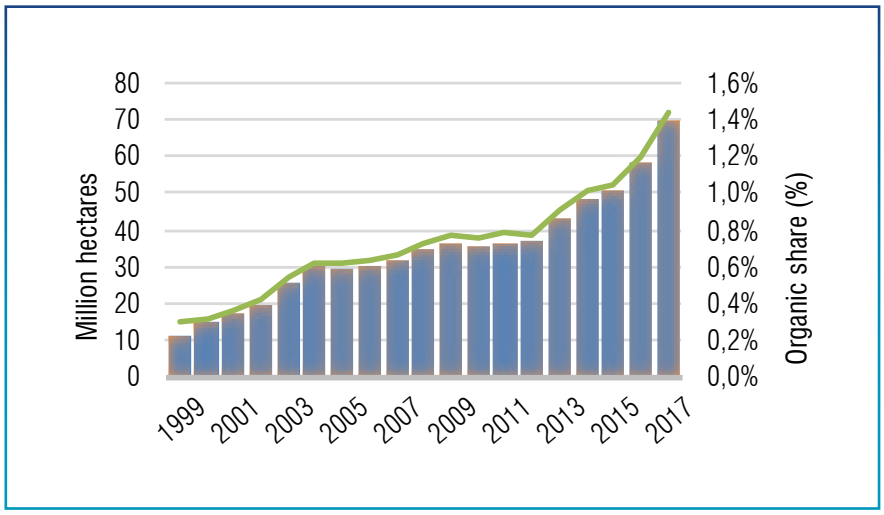
Source: ITC Trade Map.

The increasing share of organic in Western markets

Organic farming offers the possibility of win-win solutions for challenges and problems faced by farmers all around the world. Organic agriculture, by building synergies, can increase food production and food and nutrition security while restoring the ecosystem services and biodiversity that are essential for sustainable agricultural production. Furthermore, as many policy-makers, like former Food and Agriculture Organization Secretary General da Siva, believe (2014),[6] approaches like agroecology and organic farming can play an important role in building resilience and adapting to climate change.

Globally, approximately 70 million hectares of organic land, including in-conversion areas, were recorded. Asia has 6.1 million hectares (9%) organic agricultural lands. Almost a quarter of the world's organic agricultural land (16.8 million hectares) and more than 87% (2.4 million) of the producers are now in developing countries and emerging markets. Approximately 1.4% of the farmland is organic.

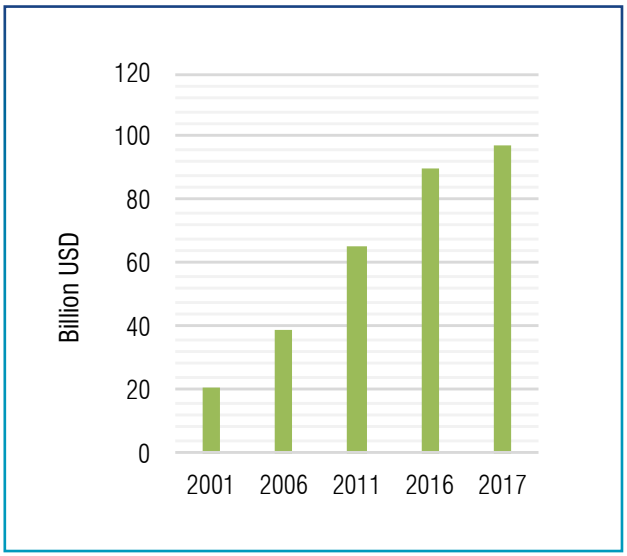
Figure 4: Growth of the organic agricultural land and organic share (1999–2017)



Source: Ecovia Intelligence 2019.

6.– Agroecology for Food Security and Nutrition. 2014. Food and Agriculture Organization (FAO) International Symposium, 18–19 September 2014, Rome, Italy.

Figure 5: Organic food and drinks sales (2001–17)



Source: Ecovia Intelligence 2019.

In 14 countries, led by the Principality of Liechtenstein: 37.9%), 10% or more of the agricultural land is organic. Apart from the organic agricultural land, there is organic land dedicated to other activities, most of which are areas for wild collection and beekeeping. Other areas include aquaculture, forests, and grazing areas on non-agricultural land, which constitute more than 42.4 million hectares.

The market of organic food and drink reached $97 billion in 2017. Although organic food sales are growing steadily, there are still persistent challenges. These include rising number of standards, demand concentration (approximately 90% of sales are in North America and Europe), supply shortfalls and competing eco-labels.[7] In 2017, the countries with the largest organic markets were the United States (€40 billion), the Federal Republic of Germany (€10 billion), and the French Republic (€7.9 billion). The largest single market was the United States (47% of the global market), followed by the European Union (€34.3 billion, 37%) and China (€7.6 billion, 8%). The highest per capita consumption in 2017, with almost €300, was found in the Swiss Confederation and the Kingdom of Denmark. The highest market shares were reached in Denmark (13.3%), the first country with an organic market share of more than 10%, the Kingdom of Sweden (9.1%) and Switzerland (9%). The general picture of the global organic market is shown in Figure 5.

Main market channel: importance of understanding retailers

The power of food retail chains has been increasing steadily since the early 1980s and, in Western Europe, more than 50% of all F&V purchases are made by consumers shopping in supermarkets. This is an irrevocable trend, and all over the world city people look for convenience and time-saving measures. Shopping in a supermarket offers this convenience.

Food retailers are becoming increasingly global (e.g. Carrefour operates in 30 countries, Spar in 35 and Lidl in 28; even the South African Shoprite is present in 15 African countries). In order to compete successfully, retail chains have to be closer to their consumers. They monitor purchase behaviour by linking ticket information with purchase moments and customers' socio-geographic data.

Setting price points is one of the key instruments for keeping customers loyal. Price points are primarily based on willingness to pay and on competition, not on costs. If a certain price point does not offer the retailer's target margins, they will pressure their suppliers to reduce their price, who will subsequently pass this price pressure onto the producers. In this sense, retailers' bargaining power has become very strong.

For this reason, it is important for producers to understand food retailers' business strategies. Food retailers want to have year-round supply of F&V and reduce their supply risks as much as possible. F&V products are categorized from low risk (ample supply and low perishability) to high risk (restricted supply and highly perishable). At the same time, F&V products are categorized from low contribution (small volumes sold, low margins) to high contribution (high turnover, high margins). All F&V products are divided into four groups:

1. Non-critical items – low risk, low contribution: Examples are beans, cabbages, plums and pears. They are easy to procure, because there is ample supply; they are not very perishable and have low food safety risks; the volumes sold are relatively small; and these products do not contribute much to profitability.
2. Leverage items – low risk, high contribution: Examples are apples, bananas, tomatoes and cucumbers. They are also easy to procure and with low food safety risk, but they are sold in big quantities, albeit at low margins. Consumers really want to buy these products and come especially to the supermarket to buy these. In the process, they (hopefully) also buy products that offer better margins.

7.– For more information, see Sahota (Page 146 at Willer and Lernoud, 2019).

3. Strategic items – high risk, high contribution: Examples are fresh-cut F&V and berries. These products are rather difficult to source year-round; they are very perishable and need cold chains. Nevertheless, they are sold in quite large volumes with very attractive margins. Retailers can differentiate themselves from competitors with products in this category.
4. Bottleneck items – high risk, low contribution: Examples are organic products, fresh herbs, bean sprouts and certain exotics. These products are (very) difficult to source year-round, are highly perishable, the sold volumes are small and they contribute little to profitability. Supermarkets need to have them, but they cause trouble all the time.

Implications for Iran:

In the medium term, the global F&V trade will be characterized by the following trends:

- Sustained growth of the fresh and processed product categories;
- Increase in the share of retail trade and pressures on the producers' prices and supply chains;
- More trade to make up for off-season F&V;
- New trading partners in African, South-East Asian and Central Asian markets.

CONDITIONS FOR PRODUCERS TO CAPTURE OPPORTUNITIES FROM POSITIVE GLOBAL TRENDS

Fresh fruits and vegetables

Like for most sectors, globalization forces and innovative technologies continue to transform the way fruits and vegetables are being produced, commercialized and consumed. Yet, many other influences, ranging from rapid urbanization to the collective focus on health and authenticity, as well as the impact of climate change, are determining not just what is consumed, but how and where it is consumed.

To be successful as a supplier of F&V products, entrepreneurs need to consider the parameters described below.

Excellent farming

'The true factory is the orchard, not the processing plant.' In the F&V business, this Uzbek proverb is very true: without a steady supply of good quality, competitively priced raw materials delivered in a timely manner, all processors and pack houses will suffer. Excellent farming means: i) controlled production (water, nutrients, pest control, light and labour); ii) controlled costs; and iii) a controlled harvest graded, cleaned and packed to client specifications. Normal gross margins in farming are approximately 60%–80%. This is relatively high, but is necessary, because adverse weather and market conditions will invariably occur.

In order to survive, growers must increase yields and cut costs. The three most critical production bottlenecks for growers are: lack of affordable yet qualified labour, lack of water, and lack of adequate and knowledgeable managers. To be able to afford labour-saving techniques, farms must grow in size and specialize, because most agricultural equipment is very crop-specific. Water-saving technologies like drip irrigation are increasingly popular, especially in vegetables and increasingly so in orchards. For gravitation irrigation, land levelling and drainage are required. Again, this is only feasible for large-scale farms. For small-scale farming, notably in greenhouses, hydroponics offers

a good solution. The biggest bottleneck, however, is lack of dedicated, adequately skilled and remunerated managers in the field, in the pack houses and in logistics. Here again, scale matters: the larger the farm, the easier it is to afford well-paid employees.

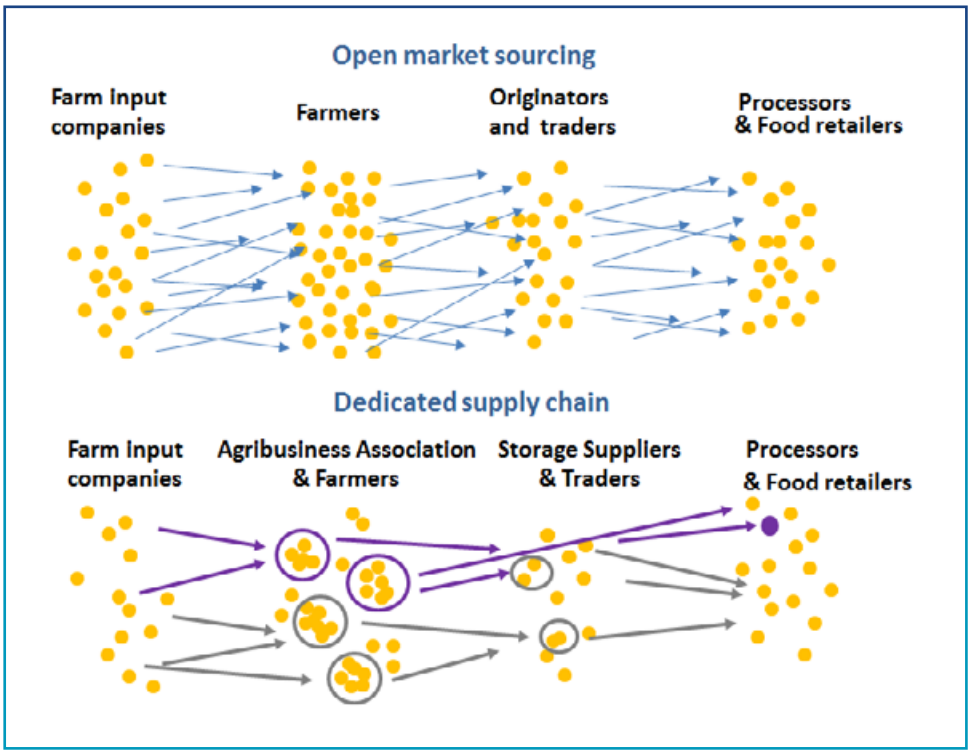
Cooperation

The only way that small growers can survive is by cooperation. This does not refer to joint ownership of farms, but to joint ownership of the services that support farming: from input supply to hiring of specialized agricultural equipment, knowledge sharing (e.g. in case of an outbreak of pests), sharing of specialized harvest teams and, last but not least, joint selling to a common buyer to supply large orders.

Channel integration

In order to reduce risks, in some cases, supermarkets acquire entire farms to secure supply. More often, farmers, pack houses, distributors and retailers cooperate and coordinate their activities. This is not done very often with "non-critical items" or with "leverage items", because the supply risks are limited. However, sourcing from dedicated, integrated supply chains is increasingly common for "bottleneck items" and "strategic items". The best integrated supply chains start from the input suppliers and go all the way to the retailers and food service companies. Farmers who cooperate and combine their harvests for dedicated traders, who in turn work exclusively for processors or retailers, will survive.

Figure 6: Shifting from open market sourcing to dedicated supply chains



Source: Adapted from Rabobank.

Transparent procurement systems

For cooperation to occur, trust must be built. One of the most important conditions for building trust is transparency, particularly in pricing. The more open and transparent procurement systems are and the better information is made available regarding volumes supplied and demanded, the easier it is to cooperate and build economies of scale.

Logistics throughout the chain

In logistics, economies of scale dictate profit. The lack of scale will lead to loss. Standardization is the key condition for economies of scale with regards to grades as well as packaging material: identical sizes of crates and pallets help with fast loading and offloading and with full truckloads. In most fresh F&V channels, a cold chain is required to control temperature, moisture

and atmosphere (O2, CO2 and N2). Ultra-low oxygen storage cells are particularly suitable, because they can flexibly handle between 20 tons and 250 tons of produce.

Compliance and traceability

Certification of any kind starts with traceability: knowing from where and when which volumes came. The key to traceability is batch coding: every batch has its own unique number that remains with the (processed) product until it reaches the consumer. Bar coding, and more recently radio frequency identification chips, greatly facilitate traceability and, hence, certification.

Certification

Certification in Good Agricultural Practices (GAP) through GLOBALG.A.P. is mandatory for fresh F&V producers interested in supplying Western food retailers. As food retailers compete heavily between themselves, differentiation is possible by offering consumers not just a quality product at a low price, but also by offering "feelings". A very successful feeling is "fair trade": you buy a product and feel good about it, because the grower was paid a fair price. New certifications include those for sustainable farming (e.g. LEAF Marque), ethical trading (Ethical Trading Initiative, Fairtrade, and GLOBALG.A.P. Risk Assessment on Social Practice), or biodefence (Walmart Farm Security) and many others that are product-specific.

Differentiation and branding

It is relatively expensive and time-consuming for an individual grower to brand his/her own products, even more when the grower has limited marketing knowledge. Collective branding is the answer. Collective branding uses a specific region of origin as an unalienable attribute. Unless the produce comes from that specific region, competitors cannot make the region of origin claim. Collective branding, regional or national, is an excellent domain for the public sector to cooperate with the private one. Public–private partnership trade promotion bureaux for collective branding are very popular in Europe. Exporters pay a fixed percentage of the sales to the trade promotion bureau, which uses the funds to sponsor trade fair participation, communication campaigns and other forms of media work.

In order to increase bargaining power and obtain better prices, F&V producer associations can brand their products with a real brand name or with a patented produce variety that offers an exclusive taste experience. Branding has little impact on "non-critical items", but offers good possibilities for "strategic items". Some farmers also try to brand "leverage items".

Capturing consumption trends

On the demand side, income growth and urbanization have led to higher rates of fruit and vegetable consumption, which indicates a positive future for the sector as cities grow and incomes rise in many highly populated developing countries. The top trends that have influenced and will continue to influence the sector globally are presented in Table 2.

Table 2: Key global trends in fresh fruits and vegetables

Trend	Expected implications	Historic significance	Forecast significance
Healthy living	Healthy lifestyle habits are becoming an increasing focus, particularly in developed markets. Concerns over obesity, food sensitivity and disease have resulted in an increased focus in general well-being, encompassing physical health as well as spiritual and mental health. **Takeaway:** Positive consumption trend for organic fresh fruits and vegetables, since emphasis is given to increase organic and chemical-free production. Increasing this segment will allow capturing that segment in Western markets in particular.	◔	●
Ethical living	Consumers and businesses are becoming increasingly concerned about the environment and sustainability. Food waste, responsible sourcing and fair trade are increasingly taken into consideration when making decisions. **Takeaway:** This will require the improvement of traceability and decrease of waste production at all stages of the value chain.	◑	◕
Climate change	Erratic weather patterns can make it difficult to plan and grow fresh produce effectively. Poor crop yield due to adverse weather can result in produce shortages, turning to imports to fill the shortfall and subsequent price increases. Poor weather also impacts animal feed production, resulting in shortages and subsequent increases in meat prices. **Takeaway**: Risk analysis and research on resilient varieties (especially droughts in the case of Iran) will be required, as well as clear policy directives.	◑	●
Changing demographics	Changing demographics in developed markets such as the rise of urbanization, duel income households and single person households change consumers' purchasing patterns. Consumers may purchase a smaller quantity of fresh food in favour of more convenient pre-washed and pre-chopped fresh food, paying more for the convenience. **Takeaway:** The quality of packaging and product presentation will be a decisive factor when selling to developing/developed markets.	◕	◕
Premiumization	Premium positioning and higher prices are increasingly present as retailers aim to drive sales. Consumers seeking quality and indulgence are prepared to pay a premium for convenience such as pre-chopped and pre-washed fresh food. **Takeaway:** Producers may want to consider developing separate "high-quality" lines of production for a higher price targeting the premium market.	◔	◑
Shifting market frontiers	As certain areas become saturated in terms of being over-farmed and over-populated, there is room to shift into emerging economies. The unexplored potential in these developing markets can contribute to growth. **Takeaway:** Iran has the potential to position itself as a new high-quality market for large importers such as the Russian Federation, for instance.	◔	◑
Shopping reinvented	Shifting values and access to the internet are changing the way consumers shop in developed markets. Internet retailing and new concepts such as meal kits broaden the reach of retailers. However, this is still niche and traditional retail channels will still dominate. **Takeaway:** The small individual packaging will be increasingly required as retailers shift to e-commerce sales. Producers are encouraged to strengthen their packaging proposition.	◔	◑

Source: The world market for fresh food, Euromonitor, April 2019.

Processed fruits and vegetables

The processed food sector is one of the world's largest industries and manufactures a wide range of food and drinks to cater to the growing needs of the global population. The total size of the processed food and beverages sector worldwide is difficult to estimate due to the variety of products. Since food can be a commodity, an ingredient and a meal, its value can be measured in different ways at every stage along that chain. There are multiple methodologies, some of which may involve double-counting added value. As a result, the estimated size of the processed food and beverages sector varies from $2.2 trillion[8] to $4.8 trillion.[9] The International Mergers and Acquisitions Partners (IMAP) global report cited a valuation of $7 trillion in 2014.

The top trends that have influenced and will continue to influence the sector globally are presented in Table 3.

Table 3: Key global trends in processed fruits and vegetables

Trend	Expected implications	Historic significance	Forecast significance
Population growth	The major driver in the processed food sector globally is population growth. From an estimated 7 billion people today, the United Nations predicts that the world population will reach 9 billion by 2050; food security thus takes on unprecedented importance. Demand for processed food and beverage products tends to increase in line with growth in the world population, as these products are considered staples throughout much of the world and are becoming increasing popular with the growing global urban population. **Takeaway:** Investment in processed fruits and vegetables industries hold important potential and an assured growing market if retailers' and consumer preferences are taken into account.	●	◕
Urbanization	Another important factor pushing the international demand for processed food is the progressive changes in food consumption patterns, particularly lifestyle changes brought about by urbanization. Urban populations, which are often located far away from farming communities, consume much higher quantities of processed foods than rural populations do. As a result, global urban population growth increases demand for processed food and beverage products. **Takeaway:** The fast evolving consumer preferences in urban areas need to be carefully studied and taken into account to ensure product relevance.	◑	◕
Per capita income	Also driving the global demand for processed food and beverages is the global growth in per capita income. As incomes grow, consumers demand larger quantities of more diverse and higher-quality food. This explains the growing demand from emerging and developing markets, as higher income usually translates into an increased consumption of processed food and beverages relative to less expensive, locally sourced food. **Takeaway:** Developing a large variety of processed fruits and vegetable products, emphasizing he high quality, should be a key consideration in exporters' marketing strategies.	◕	◕
Consumer preferences	Finally, consumer preferences are increasingly the major demand determinants. The growing health consciousness of consumers has driven and reshaped demand for processed food and beverages from Asia, the European Union and the United States. Highlights on these trends will be provided further. **Takeaway:** Consumer preferences, their likely evolution and their impact on retailers' requirements should be at the centre of any fruit and vegetable processor thinking of shaping the exportable offer.	◑	●

Source: IBISWorld (October 2017).

8.– Roland Moreau (2016). As Packaged Food Growth Engines Falter, what are the Next Growth Drivers? 17 October 2016. *Passport*, Euromonitor.com.

9.– Sarah Murray (2016). The World's Biggest Industry. Forbes, 15 November 2016. Available from https://www.forbes.com/2007/11/11/growth-agriculture-business-forbeslife-food07-cx_sm_1113bigfood.html.

Capturing consumption trends

In the past 10 years, operators in the food processing industry had to address a number of emerging consumer trends that took on increasing importance when attempting to capture market share. Consumer trends are shifting to healthier and more sustainable options, which are currently reshaping the entire industry. As emphasized by Euromonitor's trends for 2017, "health is no longer just a buzzword but a genuine strategic priority". Emerging demand determinants include, but are not limited to, the following trends:[10]

- The need to reflect tradition through processed food products and creating comfort through modernized updates of age-old formulations;
- A boom in the popularity of plant-based food and a preference for natural diets, which will drive further expansion of vegetarian, vegan and other plant-focused formulations;
- The importance of food and packaging waste reduction with the aim of sustainability zeros;
- Time-saving preparation processes (not to be confused with "fast food") and the elimination of lengthy preparation for consumers, since the time investments required for products and meals will become as influential in purchasing choices as nutrition or ingredient claims;
- Democratization and increased affordability of healthy food products, as healthy food and drink stop being "luxuries";
- The use of e-commerce sites like Alibaba and WeChat in Asia is rising and multinationals report that sales through e-commerce are progressively becoming more profitable than traditional retail. The growing purchase power of Generation Z will reinforce this trend.

Competition in the industry means smaller regional companies compete with the large multinational corporations for market share across a variety of regional markets. Industry competition has increased in the past five years, with more aggressive promotional and branding activity taking place. Competition for supply contracts with large wholesalers and supermarkets is particularly intense, given that these downstream buyers are the most important link to mass consumer markets.[11]

10.– Mintel (2017). *Global Food & Drink Trends 2017*. New York. Available from www.mintel.com.

11.– IBISWorld (October 2017). *IBISWorld Industry Report, Global Fruit & Vegetables Processing*, P. 22. New York. Available from https://www.ibisworld.com/global/market-research-reports/global-fruit-vegetable-processing-industry/.

Implications for Iran:

In addition to the shifting market trends, Iranian producers will need to integrate a number of success factors in their operations.

At the production level:

- A strong production capacity through excellent farming practices and increased smallholder famer cooperation;
- Improved internal production chain through the integration of marketing channels, transparent supply systems and logistics throughout the chain;
- Spread of certifications such as Good Agricultural Practices (GAP), through establishment of the right conditions of traceability and compliance;
- Coping with climate change risks through research on resilient varieties (especially droughts in the case of Iran), as well as clear policy directives;
- Differentiation of national production and branding, especially for the high-quality production in Iran;
- Capturing consumption trends such as:
  - Positive consumption trend for organic fresh fruits and vegetables, since emphasis is given to increase organic and chemical-free production;
  - The quality of packaging and product presentation will be a decisive factor when selling to developing/developed markets, thus the need to transition from bulk packaging;
  - Producers may want to consider developing separate “high-quality” lines of production for a higher price targeting the premium market;
  - The small individual packaging will be increasingly required as retailers shift to e-commerce sales. Producers are encouraged to strengthen their individual packaging proposition.

At the processing level:

- Due to the end consumer use of most processed products, consumer preferences, their likely evolution and their impact on retailers’ requirements should be at the centre of any fruit and vegetable processor thinking of shaping the exportable offer. Among those, the following should be considered:

  - The need to reflect tradition through processed food products and create comfort through modernized updates of age-old formulations;
  - A boom in the popularity of plant-based food and a preference for natural diets, which will drive further expansion of vegetarian products (affects Western markets);
  - The importance of food and packaging waste reduction (globally);
  - Packaging for e-commerce sails (rise of Alibaba or WeChat).

A UNIQUE AND COMPETITIVE PRODUCTION BASE

Iran's fruits and vegetables sector is an important direct and indirect contributor to growth and exporting. Its wide variety of products, both on the production and processing sides, is supported by a combination of natural assets and established export connections, sector organization factors and human factors. These strengths support the sector's potential to contribute to export growth, development and job creation, particularly in rural areas.

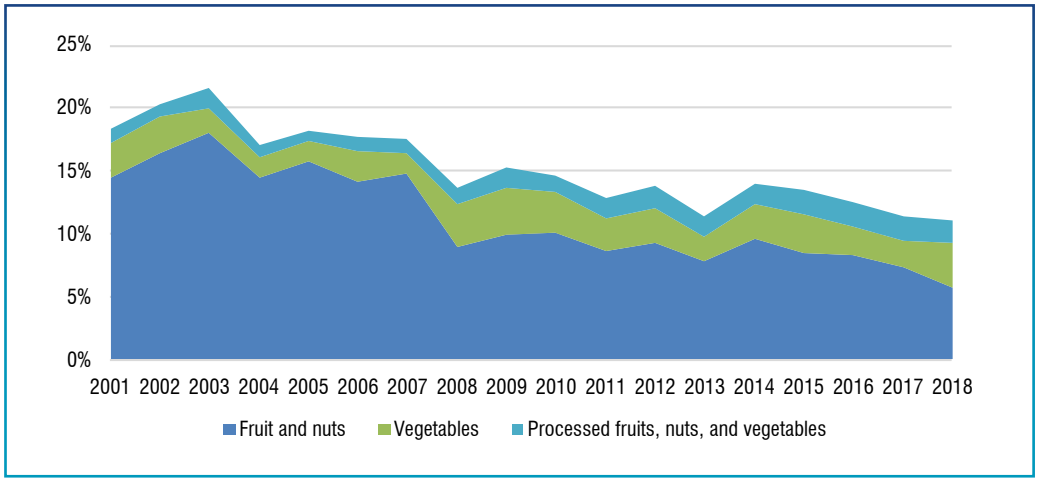
A traditionally strong export sector

A strong export sector with a broad product basket

> 'We have been exporting for many years and acquired an in-depth understanding of our markets and clients' needs.'

Together, exports of fruits, nuts and vegetables (including prepared products) were worth $3.3 billion in 2018. Although the importance of these products has been declining in much of the past two decades, they still represent 11% of total non-fuel exports (Figure 7).

Figure 7: Fruits, vegetables and nuts exports (2001–18)

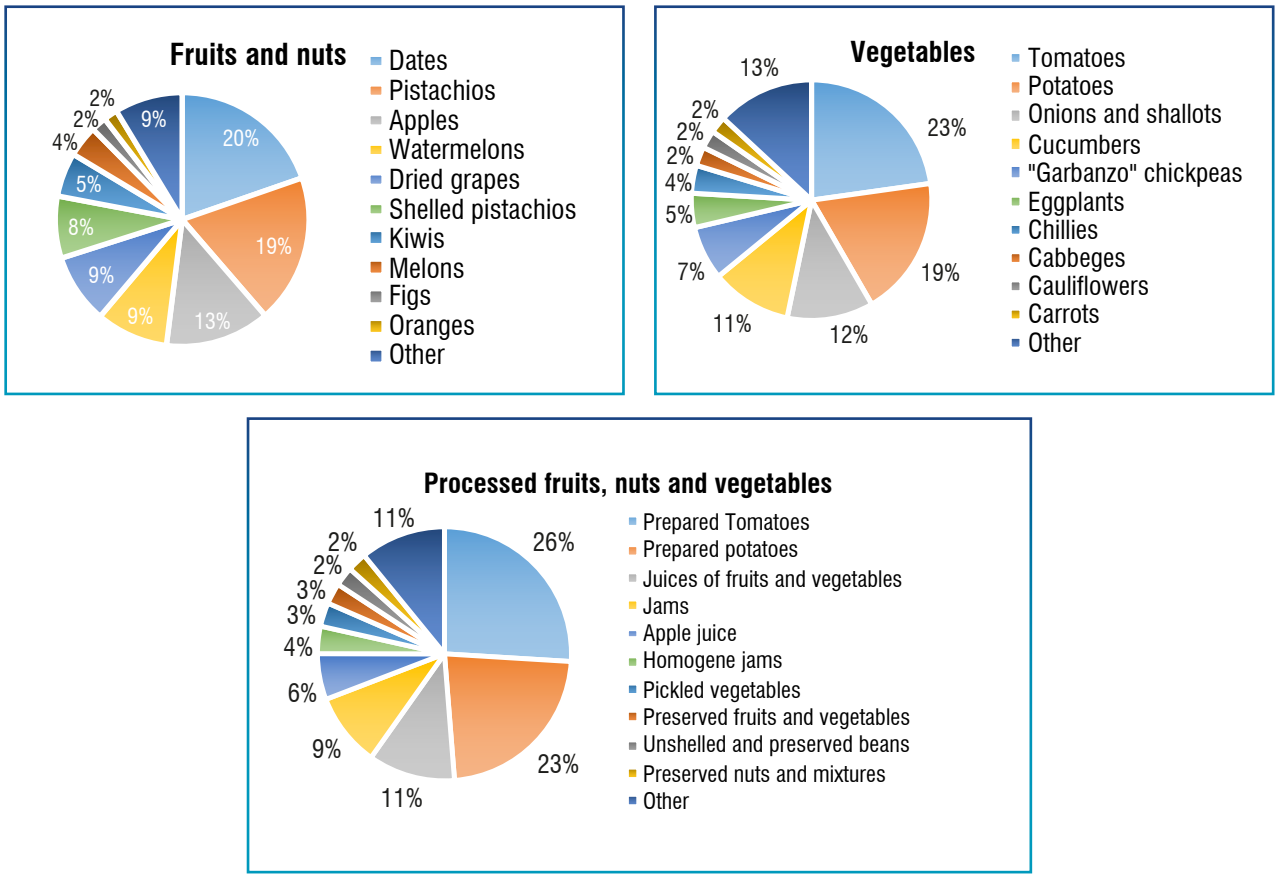


Note: Export values calculated as a percent of total non-fuel (HS 27) exports.
Source: ITC Trade Map.

The three major subsectors present different dynamics, although all having comparable product concentration levels (see Figure 8). Fruits represents more than half of the sector exports in 2018, followed by vegetables (32%) and processed products (16%).

The fruits and nuts export sector has been dominated by dates, pistachios and apples, which represented more than 50% of the fresh fruits' exports in 2018. The overall decline in exports of fresh fruits has been mostly due to the declining share of exports to the United Arab Emirates with a 16% CAGR drop in the past five years. This is in major part due to country relations, and the subsequent requirement from Emirati businesses to give a written declaration to their bank that they will not, directly or indirectly, have any business dealing with Iran. The other markets have all registered positive results. This is particularly the case for the Russian and Indian markets, both showing a positive CAGR of 16.7% and 13.3% respectively in the past five years (see Figure 9 for more detail).

Figure 8: Export basket of fruit and vegetables (2018)

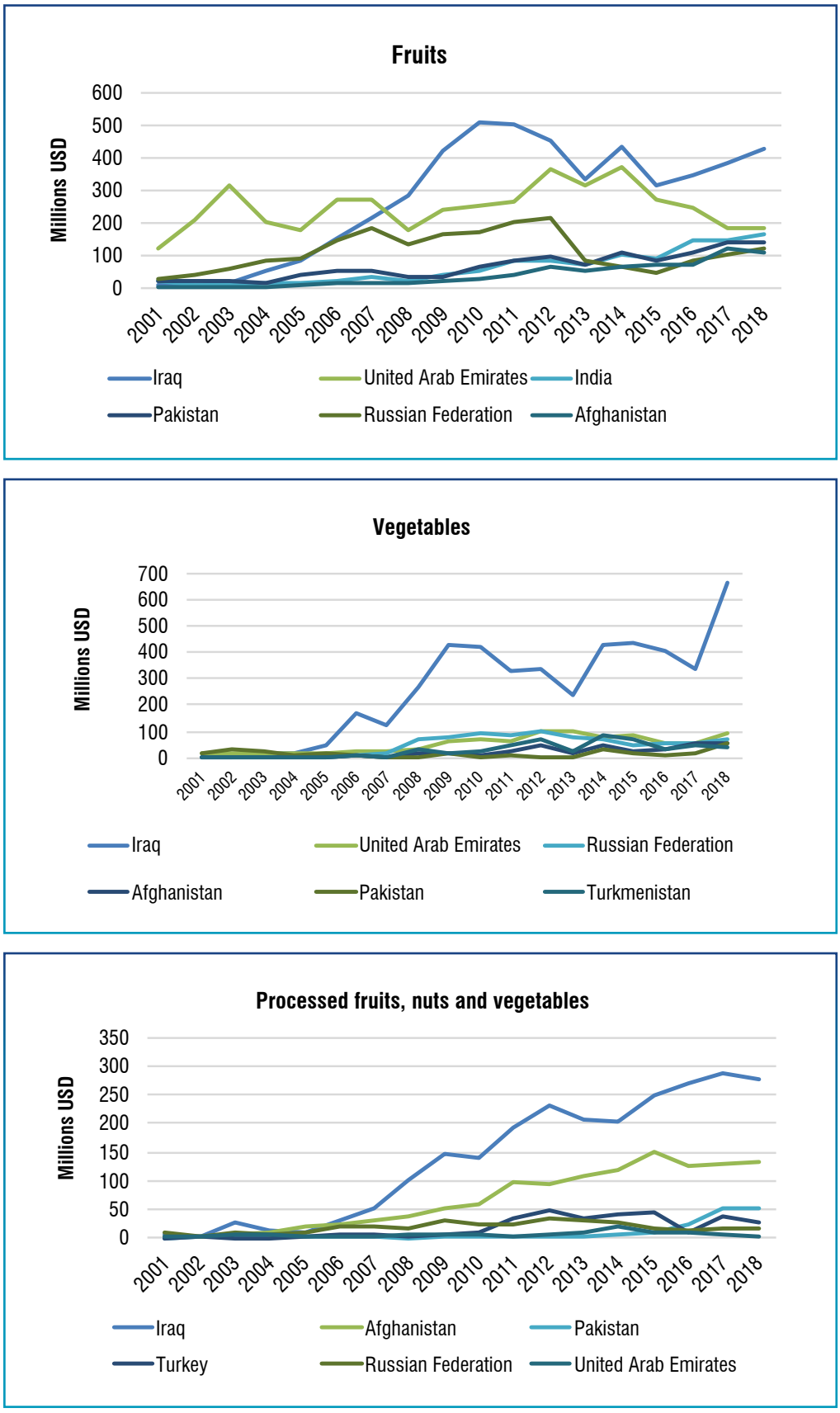


Source: ITC Trade Map.

The vegetables subsector has shown the most promising results, with a steady positive CAGR of 5% in the last decade and a particular expansion in the past year (annual growth since 2017 of almost 70%). This quick expansion can be attributed to the growth of the Iraqi market, which has traditionally been the main importer of Iranian vegetables, reaching almost 70% of the total exports. Tomatoes, potatoes and shallots are the top three fresh products sold by Iran.

The processed fruits and vegetables is a relatively new export sector, but that has been steadily growing in the past decade. The main products are tomatoes-based pastes, juices, sauces and powders, as well as chips and frozen fries. Much like the other two segments, the Iraqi market is the main destination for Iranian exports (51% in 2018). However, the Pakistani market has grown in importance and became the 3rd export market. The economic growth and increase in per capita income of the Pakistani population has spurred the development of a strong retail chain and ready-made product consumption. The increased exports to Pakistan (65.3% CAGR in the past five years) illustrates that Iranian exporters understood the potential of their neighbouring market.

Figure 9: Fruits, vegetables and nuts export markets (2017)



Source: ITC Trade Map.

Natural strengths and institutional enablers

A variety of climates allow for a diverse production

‘Our country is endowed with climates ranging from arid to Mediterranean to humid and even cold. We are so lucky that we can grow any type of produce.’

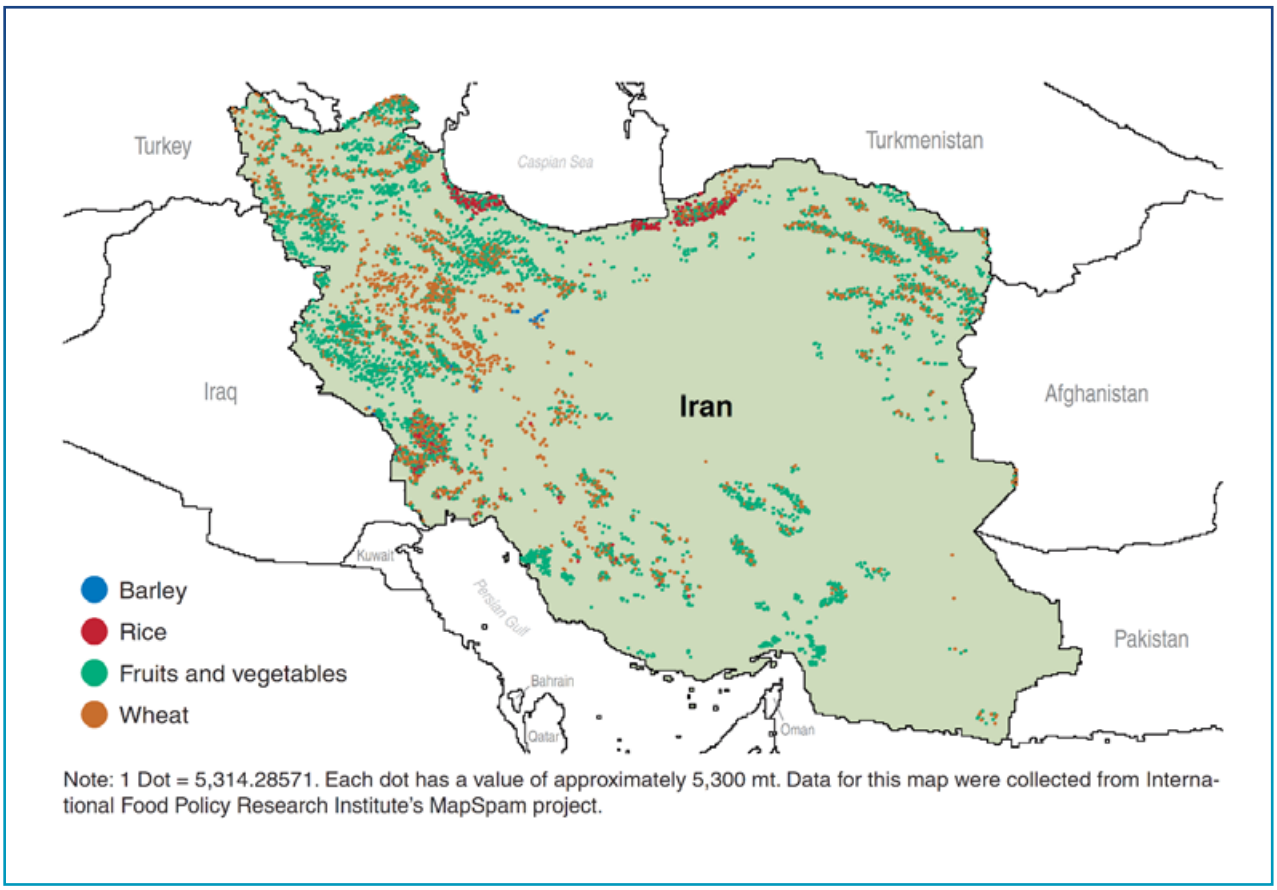
Iran has more than 50 million hectares of land that is suitable for agriculture, with low prices achieved through the existence of industrial-scale farming and currency depreciation.

Iran’s temperate climate is generally well suited to the production of fruits and vegetables, and various microclimates around the country are suited to the needs of particular products, resulting in high-value and a strong export orientation. The country produces tropical fruits like mango and at the same time it is a producer of apricot.

Even if the interior deserts receive less than 50 mm of water per year and the western and north-western areas around 500 mm, areas along its Caspian Sea coast enjoy a more plentiful 1,000 mm. In addition to rainfall, Iran relies on surface and groundwater sources to irrigate nearly 9 million hectares of its cultivated area. The fruits and vegetables production is logically concentrated in the most humid areas of the country (see Figure 10).

However, Iran has comparatively limited water resources. The country uses 92% of its renewable freshwater, while international norms recommend a 40% limit. The strategy should, therefore, look into reinforcing and broadening current water use policies and securing their implementation. Investment into technology tackling water shortage issues would be among the directions of this strategy.

Figure 10: Agricultural production in Iran (2005)



Note: 1 Dot = 5,314.28571. Each dot has a value of approximately 5,300 mt. Data for this map were collected from International Food Policy Research Institute’s MapSpam project.

Source: FAOSTAT, Developments in Iran’s Agriculture Sector and Prospects for U.S. Trade, United States Department of Agriculture (USDA), 2017.

The first employment sector and an important lever for rural development

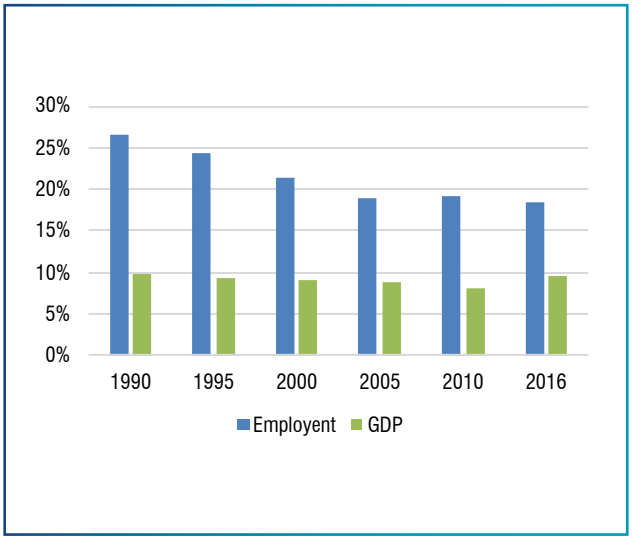
‘Our country has modernized: we have e-government, a strong ICT sector. But our producers still work in the same way they used to 50 years ago. We need the technology to trickle down to our agriculture.’

The agricultural sector has accounted for a steady share of gross domestic product (GDP) and total employment in Iran. Agriculture is still the first employment sector and has employed approximately 18.4% of the total employed population (approximately 4.2 million people in 2017). It also accounts for 9.7% of the GDP in 2017 (Figure 11). Approximately 27% of Iran’s population is rural and, as in many other developing economies, this number has been steadily declining due to rapid urbanization and industrialization. However, agriculture remains the main employer in these rural areas. Expanded exporting and improved productivity from agriculture thus have the potential to raise rural incomes, narrowing urban–rural disparities.

GDP per worker in agricultural sectors in Iran is moderately high when compared with other Asian economies (Figure 12). Labour productivity is lower than most other sectors in Iran (except for construction). However, productivity growth averaged 3.4% per year in 2010–16, faster than other sectors except transport, storage and communications (3.6%).

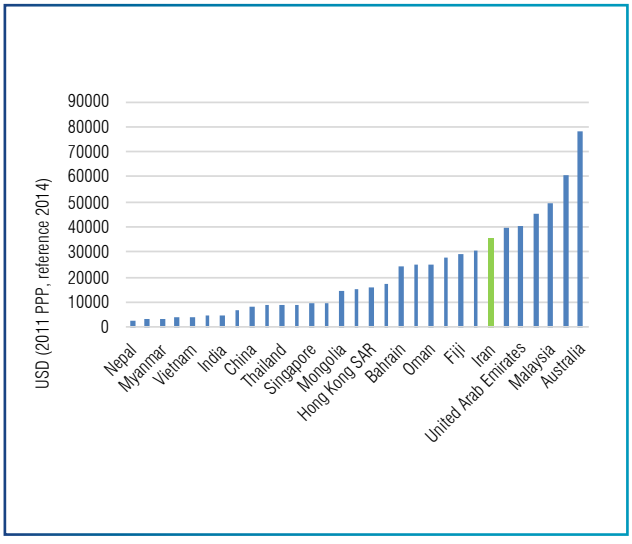
The strategy should address issues related to low productivity while enabling an inclusive and efficient agricultural system. Coordination of small-scale producers and investment into technology are among key measures this strategy will focus on.

Figure 11: GDP and employment shares for agriculture, livestock, food and beverage (2016)



Source: World Development Indicators (WDI), World Bank.

Figure 12: GDP per worker in agriculture, hunting, forestry and fishing (2014)



Source: Asian Productivity Organization, APO Productivity Database 2018.

An acknowledged importance from policymakers and established institutional network

‘Although our country is gradually transitioning to the secondary and tertiary sectors, we should not neglect our farmers. That is why our plans for modernization should also affect traditional sectors.’

The importance of agricultural development is highlighted in most of the Iranian Government’s plans and policies, including the 20 Year National Vision and Sixth National Development Plan. These instruments set a number of economic and social goals for agriculture and the food sector in Iran. Targets relevant to export competitiveness include enhanced economic contribution and productivity, commercialization, and sustainable use of natural resources.

- Sewage and Irrigation Network Expansion Plan: The plan foresees the construction of sewage and irrigation networks for 2 million hectares of land. Irrigation and sewage networks have been constructed for 85 thousand hectares in 2014/15, showing 12.5% growth compared to the 40,000 hectares of land in 2013/14.
- Expansion of new irrigation systems: The Ministry of Agricultural Jihad plans an expansion of irrigation systems. This plan will be implemented during a period of 10 years. According to the plan, in 2016/17, approximately 250 thousand hectares should be covered by new irrigation systems. In 2013/14, only 46 thousand hectares were covered by new irrigation systems. This number rose to 125 thousand hectares in 2015/16.
- Mechanization: To facilitate mechanization and equipment import, the Centre for the Development of Mechanized Agriculture in Iran and the Iranian National Standards Organization inspect and issue permits for the imported agriculture machinery.

Governmental support has also translated into a strong institutional network at the service of agricultural production. This network is centralized in Tehran and spread over the different municipalities. Key players from the government include:

- The Ministry of Agriculture Jihad
- The Ministry of Health and Medical Education
- Agricultural Planning, Economic and Rural Development Research Institute (APERDRI)
- Plant Protection Organization
- Iran Food and Drug Administration
- Department of Environment
- Agricultural Research, Education and Extension Organization (AREEO)
- Seed and Plant Certification and Registration Institute (SPCRI)
- Seed and Plant Improvement Institute (SPII)
- National Salinity Research Center
- The Iran Chamber of Commerce, Industries Mines, and Agriculture
- Federation of Iranian Food Associations
- Iran Dried Fruit Exporters Association
- Iranian National Standards Organization (INSO)

On the regional/rural side, there are 1,076 horticulture offices and 1,370 agricultural cooperatives in 3,332 villages covering approximately 1.147 million people. Government-owned multipurpose warehouses are spread all over the country to facilitate weighing, cleaning, grading and sorting of products.

The fruits and vegetables sector has the potential to contribute to exporting growth

There is significant untapped export potential, especially in processed food

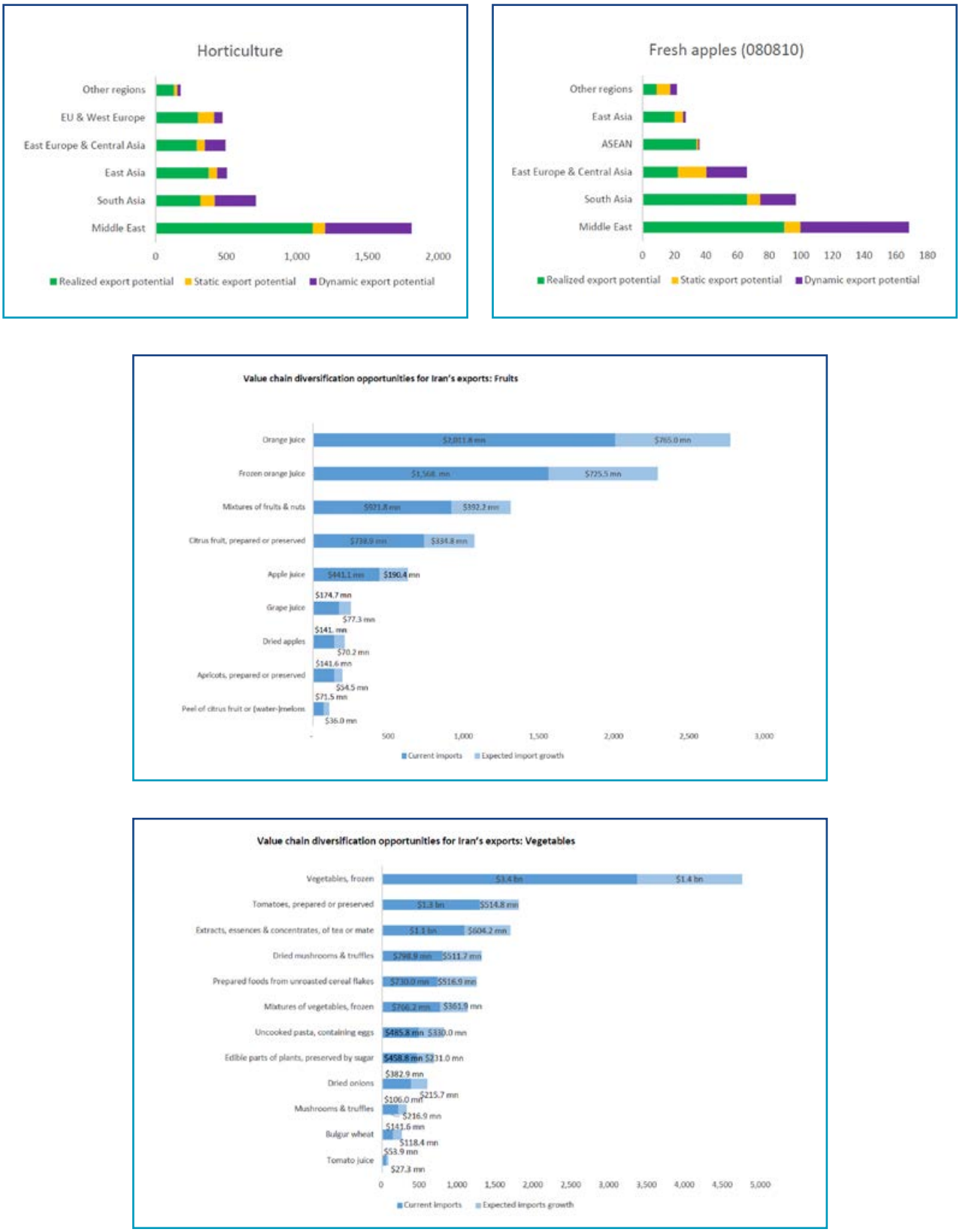
A significant untapped export potential exists in current fruits and vegetables exports. There are particular opportunities in the development of new export sectors and upgrading of existing ones, including through increased domestic value added.

According to ITC's calculations, the total export potential in the horticulture sector is estimated at $4.2 billion. The largest untapped export potential for fruit and vegetable horticulture lies in the Middle East, followed by East Asia. In both regions, a large share of this untapped potential is driven by expected growth in demand (87% and 75% respectively). Realizing this untapped potential in fruit exports could create another 47,000 jobs.

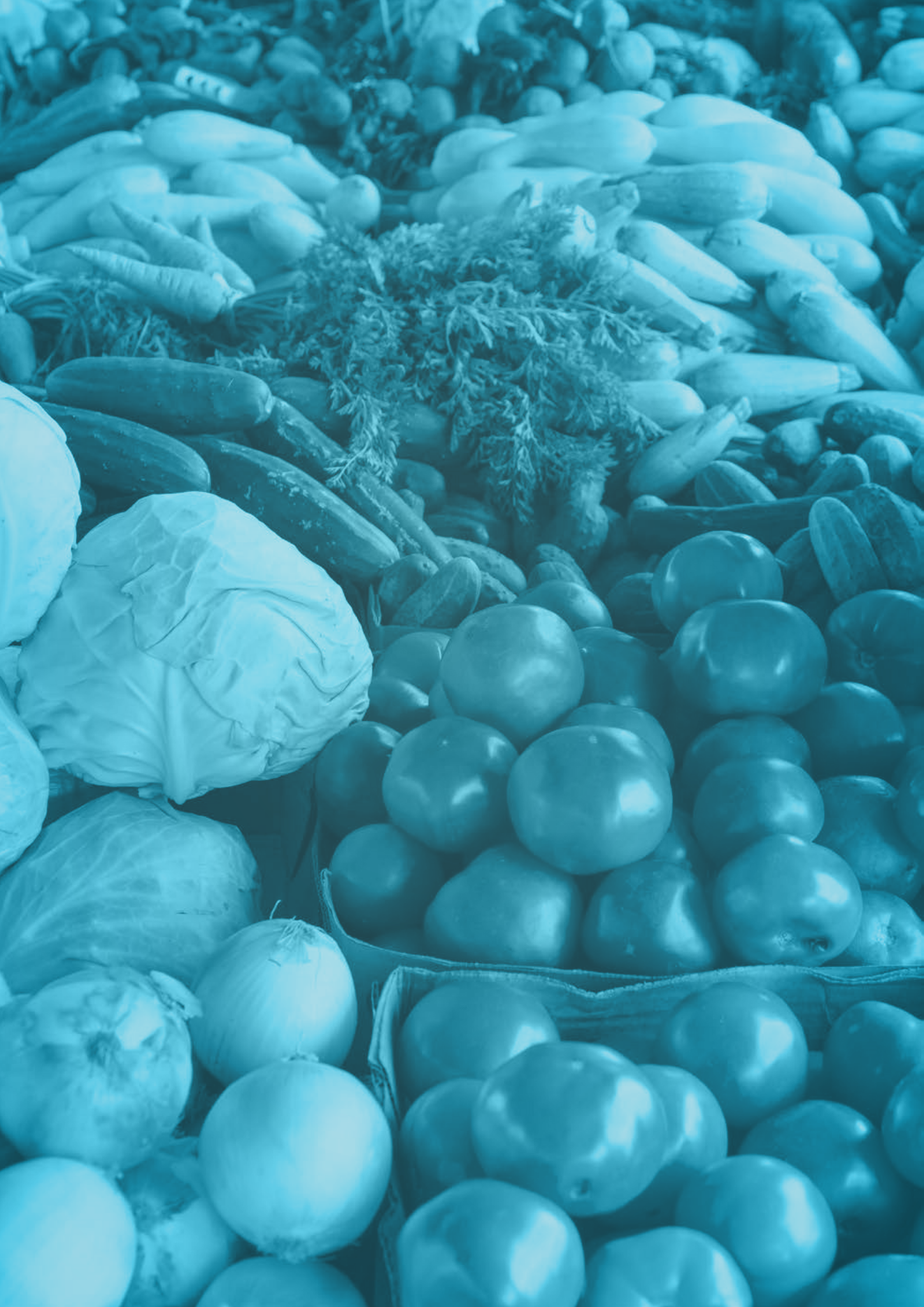
Significant opportunities for diversification to expand exporting in products related to fruit and vegetable production are orange juice and preserved tomatoes, followed by extracts, essences and concentrates of tea or mate.

Orange juice presents the most important opportunity in terms of world market size. However, unlike for apples, Iran does not have a revealed comparative advantage for oranges, so its capacity to produce the necessary inputs for moving into orange juice should be assessed carefully.

Figure 13: Export potential for the fruits and vegetables sector



Source: ITC calculation, Export Potential Assessment (EPA), 2019.



DIAGNOSTIC OF THE VALUE CHAIN'S COMPETIVENESS

Despite the sector's strength and potential, a number of challenges are faced. Unleashing the potential of the fruits and vegetables sector through trade will require that the root causes of major challenges are identified and solutions developed. Fundamentally, these issues arise from constraints on the capacities of the sector to compete in the present, connect through accessing and using information and knowledge, and change by adapting to changing conditions and opportunities.

The competitiveness assessment carried out looks at weaknesses of firms, the wider business ecosystem and the national environment to help identify what bottlenecks to growth firms are currently facing. The assessment follows the different stages of the value chain:

- Access to inputs and resources covers issues related to human resources capabilities, and access to finance, access to equipment or infrastructure.
- Firms' operations and production covers issues related to the value-addition processes, quality assurance, investment, research and development (R&D), and competition, etc.
- Market entry covers issues related to the accessibility of national and international markets, customs procedures, trade information and promotion, etc.

The different value chain stages are further subdivided into three levels:

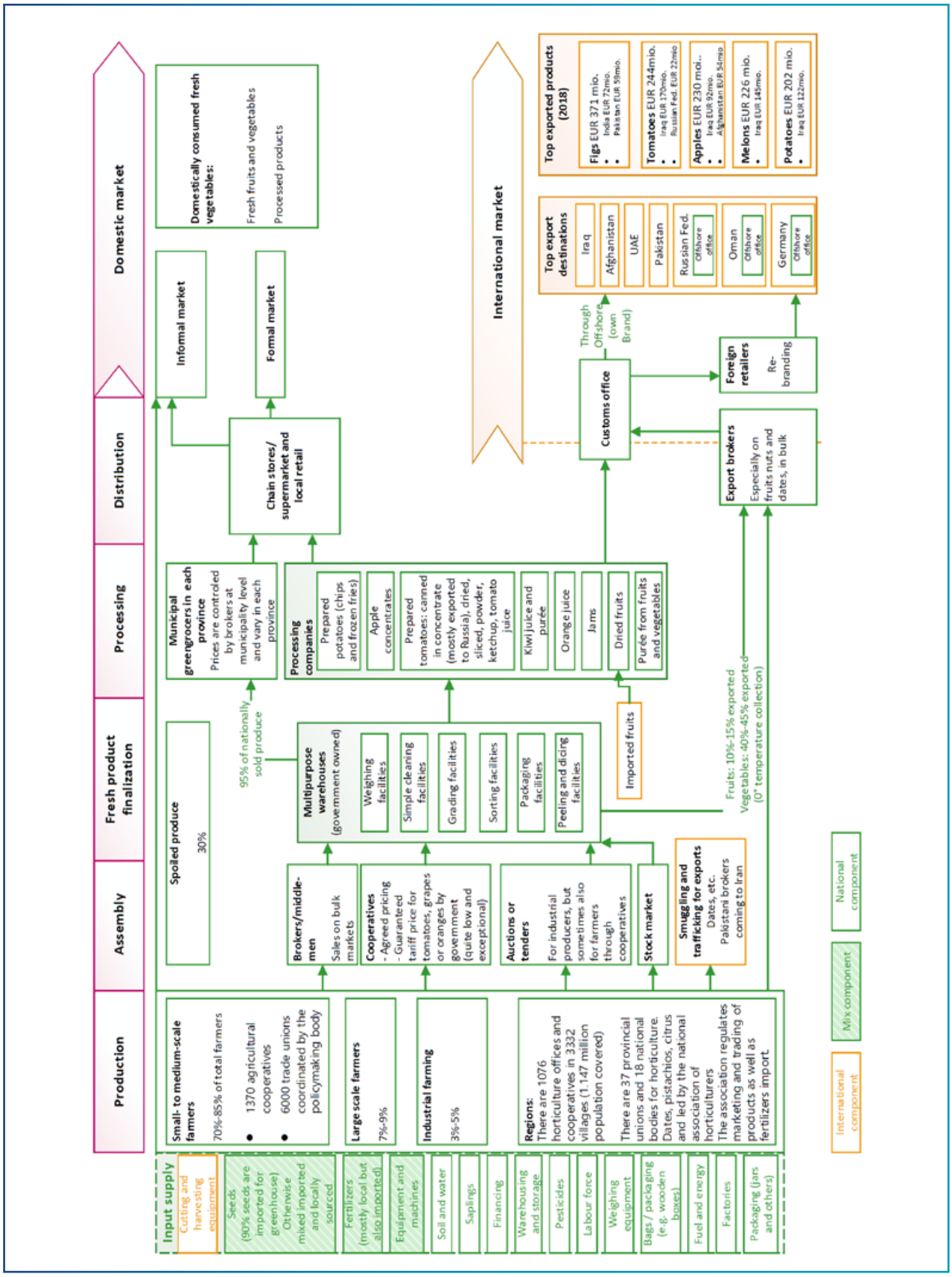
Firm capabilities	Assesses whether firms can manage resources under their control.
The business ecosystem	Is made up of support institutions that supply enterprises with the resources or competences they need to be competitive.
The national environment	Refers to the broader framework in which firms operate typically encompassing relevant policies and regulations.

The following section will present the value chain diagram of the fruits and vegetables sector in Iran and an overview of the bottlenecks along that value chain, the firm capabilities, the business ecosystem and the national environment impacting this value chain.

Table 4: Summary of competitiveness constraints in fruits and vegetables

Farm level	Business environment	National environment
• Poor farm-level input and technology use • Insufficient supply of qualified labour • Severe post-harvest losses are mainly caused by rough handling and gaps in cold chain infrastructure • Packaging services and materials are inadequate • Limited processing capacities, especially for remote markets	• The price setting mechanism for raw produce is not consistent and generates a high number of middlemen • No internationally accredited quality infrastructure limits exports beyond the immediate region • Few Iranian-branded fruits and vegetables products • Lack of knowledge and trust in Iranian producers by international buyers	• Agriculture, and horticulture in particular, is at risk ofclimate change impacts • Water use in horticulture is currently unsustainable

The value chain



Farm-level constraints

Poor farm-level input and technology use

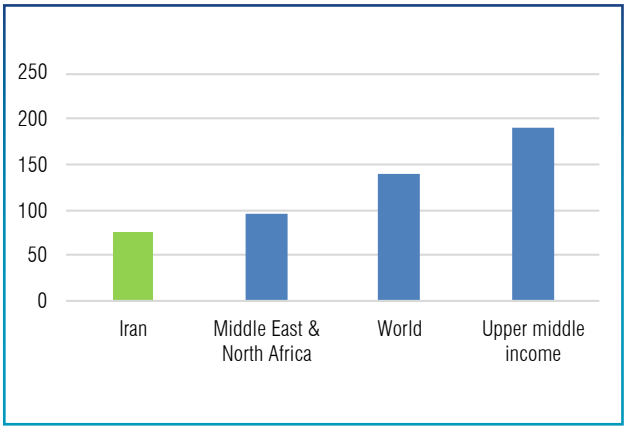
Relevant operational objectives:

- 2.2. Improve access to inputs at the production level
- 2.3. Spearhead the sustainable mechanization of production and improve fresh produce packaging for export

> Even if we use mechanic equipment for harvesting, we are at a disadvantage. Local machines need further R&D [research and development] to compete with international leaders.'

Competitiveness is diminished by the use of inappropriate inputs, namely deteriorating irrigation systems, limited access to improved seed varieties to increase yields and resist drought, use of older machinery, relatively little use of chemical fertilizers (see Figure 114) and poor packaging. Farmers mostly use bulk packaging for their produce. This packaging adds no value from a branding perspective and it does not conform to some regional (other than Iraq) and international buyers' requirements. In addition, it leads to increased spoilage of products, particularly when being transported across the country.

Figure 14: Fertilizer consumption (2016) (kg per hectare of arable land)



Source: World Bank, World Development Indicators.

Small-scale farmers have very low levels of mechanization or rely on outdated machinery. The level of mechanization in Iran is 1.1 horsepower per hectare. In comparison, the European Union member states in average have 5 horsepower per hectare. Many of the machines used in the field of agriculture are locally manufactured, and have thus been subject to a backlog during the sanction period. The local companies involved in mechanization are semi-government-owned companies such as Tabriz Tractor Manufacturing Company. In addition, soil rehabilitation systems, combine harvesters, sprayers and dripwater units are also produced locally by private companies. The industry of agricultural machinery is subject to government protectionist policies, and the government provides farmers with tractors and combine harvesters through a beneficial credit line. However, local manufactures of tractors and agricultural machinery have largely been cut off from new technologies and developments within their field. As a result, the agricultural sector in Iran needs an overall modernization and an update with the newest technology. Imports of foreign machinery is too expensive, especially considering the depreciating rial. Many producers, therefore, choose to use machines that have already been used by three or four prior owners.

Modern systems and technologies that can reduce the consumption of natural resources (particularly water) and increase effectivity and productivity of Iranian agriculture are an important need. This includes irrigation systems, water transfer pipes, control units, organic cultivation apparatus and system to collect and recycle wastewater. Furthermore, there is also a need for an automated system for greenhouse technology and garden tools.

Insufficient supply of qualified labour

Relevant operational objectives:
- 2.1. Modernize production and processing skill sets
- 3.2. Improve supply and export market intelligence provision

> ‘We have more and more trouble finding qualified farmers and agro-engineers. They prefer looking for employment in the tertiary sectors.’

Another issue that affects the entire value chain is the increasing rarity of qualified labour. The population of farmers is ageing and young people have no interest in the sector. It is not seen as prestigious and most youth would prefer to live in cities as opposed to rural areas. In addition, there is a brain drain for both skilled and unskilled labour. Agricultural labourers as well as qualified processing employees leave Iran in search of significantly higher wages.

Labour is also lacking in the support sector: there are few quality certification or marketing specialists, for example. This is also due to the presence of export brokers. Few exporting producers directly interact with the buyers/retailers in the export markets. Building capacities in accessing export markets and use of market intelligence would make producers’ cooperatives better equipped to understand how to achieve direct exports.

Severe post-harvest losses are mainly caused by rough handling and gaps in cold chain infrastructure

Relevant operational objectives:
- 2.3. Spearhead the sustainable mechanization of production and improve fresh produce packaging for export

> ‘There are so many product losses, at all stages of the value chain. We would like to reduce this spoilage and increase our production efficiency.’

Substantial post-harvest losses are linked to inappropriate post-harvest handling, a weak cold chain infrastructure and insufficient availability of refrigerated trucks. Causes of post-harvest losses can be categorized as technical and non-technical. At the technical level, there are inadequate post-harvest practices among value chain actors and poor knowledge regarding cold supply management.

At the non-technical level, the small-scale and geographically scattered production, and the low levels of investment, has resulted in a scarcity of cold storage facilities and refrigerated trucks. The larger-scale farms, often integrated with processing plants, possess the required infrastructure. However, the larger-scale and industrial producers represent only about 15% of total production.

Packaging services and materials are inadequate

Relevant operational objectives:
- 2.3. Spearhead the sustainable mechanization of production and improve fresh produce packaging for export

> ‘We usually have very simple bulk packaging of our products, since we do not interact directly with the retailer and are not aware of the requirements.’

Deficiencies in packaging of produce is another factor limiting the sector’s export capacity. These shortcomings in packaging have three significant negative ramifications: produce is less able to withstand long voyages, the produce is less attractive to international buyers, and shipments may not comply with packaging regulations in developed markets.

Addressing the packaging challenge will not be easy, as facilities for packing fresh produce are limited and often employ substandard methods. Little consideration is given to packaging best practices for each specific type of fresh fruit and vegetable. A final element of this dilemma is cost, as most packaging material must be imported at great expense, especially considering the depreciation of the rial.

Despite these critical weaknesses, there have been few measures taken to alleviate this situation. Activities to be considered include spreading awareness of target market packaging requirements, as well as planning and implementing training for sector enterprises on how to comply with mandatory packaging requirements in target markets, such as ISPM-15 (requirement in EU and India).

Limited processing capacities, especially for remote markets (e.g. tomatoes)

Relevant operational objectives:

- 2.1. Modernize production and processing skill sets
- 2.4. Expand processing capacities

‘Our processed foods capacity is yet limited to answer to the large-scale demand of some of our neighbours. We need upscaling.’

The fruits and vegetables processing sector suffers from limited supply capacities due to a number of reasons, of which the most important are the limited supply of raw produce and the limited levels of investment that would allow the sector to upscale.

In terms of raw product supply, the large number of middlemen and the lack of reliability are an important issue. Middlemen tend to not respect contracts and they frequently break agreements when prices move in their favour. Indeed, they do not appropriately price the value of long-term relationships, instead seeking to constantly maximize their own gains at the expense of future business opportunities. As a result, some large processors have resorted to developing fully vertically integrated supply chains. This diminishes the flexibility with which they can expand production. It also hinders the development of backward linkages with the farming community at large, reduces spillover effects and stymies the development of the independent farming sector.

In terms of investment, the current situation and the depreciation of the rial, much like in the agricultural machinery sector, has limited the expansion of the fruits and vegetables processing sector. Governmental policies are, however, in place to foster the value added in this segment. The strategy will thus build on these initiatives to further strengthen the processed fruits and vegetables sector.

Business environment constraints

The price setting mechanism for raw produce is not consistent and generates a high number of middle-men

Relevant operational objectives:
- 1.1. Update and rationalize raw product marketing mechanism

> As a producer, I never thought about where my product would be consumed. My contact point is my dealer and he then takes responsibility for my product.'

The fragmented and small-scale nature of fruits and vegetables cultivation in Iran (between 70% and 85% of total production) leads to relatively low yields with inconsistent quality. Another major issue this creates is the difficulty to distribute inputs to markets, both local and for export. The marketing mechanism is dominated by brokers. Even with a widely developed cooperatives' network, the access to the retail market is never direct from the production level.

In order to sustain the profitability of local production, protectionist policies have been dominant within the agricultural sector in Iran. The protectionist policies are present in the form of government subsidies on a range of basic food products (e.g. wheat) and machinery for farming. This has motivated the proliferation of middlemen.

Typically, both cooperatives and small –and large-scale farmers do not have direct access to the retail market when they distribute their products. Instead, the products pass through several different distribution channels before reaching the retail buyers. The prices of many products increase considerably by the inefficient distribution channels in which each dealer or broker involved in the process charges relatively high sales commissions. The brokers' monopolies in the retail chain leaves them a large leeway to set their prices and hampers the free market. The resulting price is still competitive on the international markets, which, therefore, does not penalize the middlemen.

A method to improve and increase the efficiency in the food distribution system in Iran would be to expand the agricultural commodities exchange to fruits and vegetables products. The agricultural commodities exchange currently distributes 20 commodities, including sugar, saffron, corn, wheat, oil, rice, pistachios and barley. Developing e-marketplaces for agricultural products, therefore registering and making available information about existing products, quantities and prices, would also spur free competition in the marketing of fruits and vegetables.

No internationally accredited quality infrastructure limits exports beyond the immediate region

Relevant operational objectives:
- 1.3. Align the national quality infrastructure to support the needs of producers and processors
- 3.3. Align trade policy to export diversification priorities

> We might want to export to India or the United Arab Emirates, but we struggle to get our products certified, especially for those with a shorter shelf life.'

The National Accreditation Center of Iran (NACI) is not yet a signatory of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA), which impacts on the recognition of its accreditation for test and calibration laboratories as well as inspection bodies.

However, a number of memorandums of understanding (MoUs) have been signed with accreditation bodies of other countries (the Republic of Turkey, the Russian Federation, the Republic of Belarus, and the Republic of Italy).

For other countries, exporters struggle, as they need to send the produce abroad (in a country where the testing infrastructure is accredited) for testing. Since exports of products are usually handled by export brokers and not by producers themselves, this adds complexity in the supply chain and limits their export capacity beyond the countries where bilateral agreements are in place.

Few Iranian-branded fruits and vegetables products

Relevant operational objectives:
- 3.1. Create an Iranian fresh and processed produce brand

> Our current buyers would not accept if we presented a branded product. This is why we sell it without specific packaging or branding, in bulk.'

It is relatively expensive and time-consuming for individual producers to brand their own products, even more when it comes to small-scale producers, which have limited marketing knowledge. Iran thus currently suffers from a lack of branding of its fruits and vegetable products, also due to the indirect sales to the retail markets. The current importing markets are usually rebranding the Iranian products and would not accept an already branded produce that would require to look for other buyers. This does not encourage the development of branding initiatives.

However, developing a local branding would help to resolve several systemic issues, including the number of middlemen in the supply chain. Collective branding uses a specific region of origin as an unalienable attribute. Unless the produce comes from that specific region, competitors cannot make the region of origin claim. Collective branding, regional or national, is also an excellent domain for the public sector to cooperate with the private one.

Lack of knowledge and trust in Iranian producers by international buyers

Relevant operational objectives:
- 3.4. Secure connections to markets and build trust

> Russian buyers are extremely demanding in information and relationship requires nurturing. We sometimes do not know how to establish contact and where to start.'

Due to the very few direct relations between Iranian producers and export markets, there is a general lack of knowledge and trust among potential buyers about the quality of Iranian products. The lack of knowledge from buyers usually covers the following:

- Product quality, availability and price: The information is not easily available to potential buyers. In case they have connections, these are with export brokers who often do not have first-hand information about the product and its production methods, etc.
- The transaction modalities: Potential buyers are currently wary of the current international situation and do not have clarity of exact consequences or dos/don'ts in case of their business with Iran. Since there are no banking channel available for transactions, they are not aware of the alternatives and mechanisms in place to do business. For instance, there is a widespread belief in the business community in the United Arab Emirates that any attempt of business dealings with Iran may lead to reprehension from authorities, including detention in immigration while travelling.

Transactions do occur and the lack of transparency is sometimes intended. However, it is important to share this information in person during business-to-business meetings and market prospecting activities. Ready-made information and building relationships through existing networks is thus crucial to establish trust and build knowledge about Iranian production.

National environment constraints

Agriculture, and horticulture in particular, is at risk of climate change impacts

Relevant operational objectives:
- 1.2. Align policies to mitigate climate change impact risks

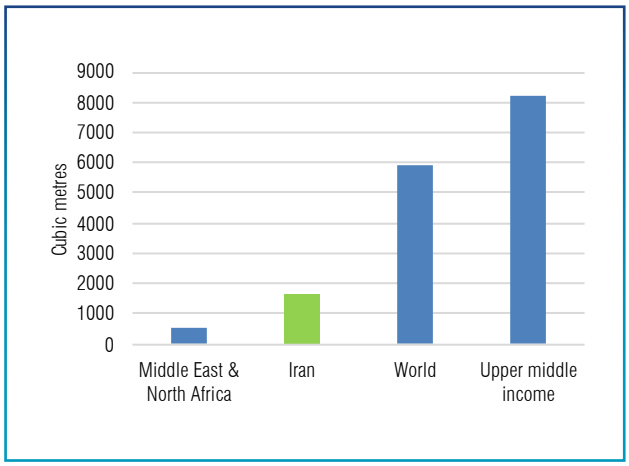
> The droughts became more frequent during the past decades. We need to know how to anticipate it and minimize losses.'

Iran is categorized as a country "vulnerable" to climate change, according to United Nations Framework Convention on Climate Change (UNFCCC) definitions. There is a list of current and future effects that will affect agriculture and particularly fruits and vegetables. These include:

- Declining annual mean rainfall in dry areas;
- Increased flooding in wet areas;
- Increasing temperatures;
- Rising aridity in southern basins;
- Greater weather variability;
- Decreased spring and summer rainfall.

It will be important for policies to take into account these risks and anticipate through targeted measures. Prioritizing research and development in the areas of resilient species is one of the important areas of action.

Figure 15: Renewable internal freshwater resources per capita (2014)



Source: World Bank, World Development Indicators.

Water use in horticulture is currently unsustainable

Relevant operational objectives:
- 1.2. Align policies to mitigate climate change impact risks

> By exporting fruits and vegetables, we're exporting our precious water. Although exports generate revenue, we need to prioritize exports in a way to minimize impact on this essential resource.'

Iran suffers from deficits of two key agricultural resources: water and soil.

Iran receives only 250 mm of rain per year in average, compared to the global average of 800mm. In addition, the distribution of rainfall in Iran is uneven. Near the Caspian Sea, rainfall averages approximately 1,280 mm per year, whereas in the Central Plateau and in the South Caspian Lowlands, it rarely exceeds 100 mm. The Iranian ambition for obtaining self-sufficiency in the fields of agriculture and food production throughout the last century has also contributed to overconsumption of water reserves. Agriculture is responsible for more than half of Iran's total water consumption, but accounts for significantly lower shares of GDP and employment. Extensive dam building has had perverse effects on the rivers and other waterways due to limited analyses of the implications of these projects.

A general overconsumption of water resources by the general population and industries also adds to the problem. It is estimated that Iran is exploiting 97% of surface waters and 70% of its groundwater supplies, whereas the international benchmark for surface water use is 40%.

In order to reduce water consumption in Iran, construction and modernization of new irrigation systems and drainage networks is required. This includes rehabilitation and restoration of qanates (aqueducts), implementation of small and quick impact projects of water supply, water transmission by pipelines, construction of water canals, creating and organizing water and irrigation structures and implementing optimized water consumption systems. There is also a potential for systems collecting and recycling wastewater, desalinization and distribution. Some of these projects are already being materialized. However, due to the extent of the problem, there is still a need to invest in and modernize the irrigation and drainage networks in Iran.

THE WAY FORWARD

Iran's fruits and vegetables sector is a treasure trove. With its large variety of products, their rich taste and strong local varieties, it has the potential to meet the growing regional and international demand, in terms of quality, quantity and a very competitive price. This trove is yet to be discovered by new potential buyers beyond the regional, and sometimes, convenience trade relationships. The lack of knowledge and visibility of Iranian products, in part due to the current geopolitical situation, has led to the creation of a variety of obscure marketing channels that currently constrain the value chain's development. In addition, the prevalence of smallholder farmers limits productivity and creates an important logistical challenge that, combined with the non-transparent marketing, makes it very difficult to reach international markets. A final layer of complexity is the use of water resources – products need to be selected in a way that limits the depletion of the country's precious water.

These challenges call for a strategic, market-led and sustainable response. The approach is structured in three main directions. The first is to streamline a conducive environment for the sector to formalize and thrive, in particular increasing competition at the level of marketing and reducing the amount of middlemen in the process. The second direction is to focus on productivity and value addition, through modernization, but also through alignment of skills with the needs of the sector. Finally, to restore visibility of Iranian fruits and vegetables products on international markets, branding and trust-building through traditional and non-traditional networks is foreseen.

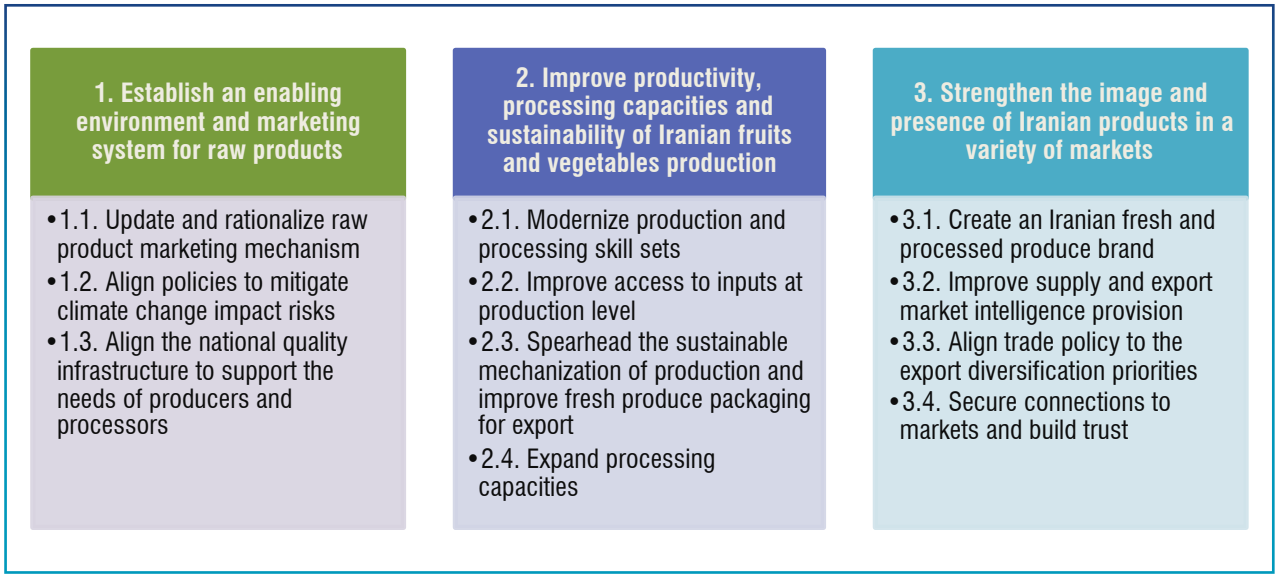
The implementation of this strategy will thus lead to increased exporting through reduced uncertainty and improved connections with high-potential markets, expanded downstream activities for increased domestic value added, and export diversification. It will also increase the efficiency and sustainability in natural resource usage and a sustainable income secured for rural populations. Finally, it will strengthen Iran's positive national image through the development of a national horticulture brand.

Vision and strategic objectives

In line with the strategic approach presented above, the following is a delineation of the proposed vision. The vision statement was discussed and agreed with all stakeholders in the fruits and vegetables sector.

> **"Exporting a fresh blend of taste, modernity and sustainability"**

The strategy's plan of action will respond to this vision by addressing constraints and leveraging opportunities in a comprehensive and strategic manner. To this end, particular efforts will be made to realize the following three strategic and operational objectives.



Strategic Objective 1: Establish an enabling environment and marketing system for raw products

The first strategic objective focuses on the internal value chain efficiency and the enabling environment it requires. It is structured around three main goals, which have been identified as priorities to streamline the sector within the strategy's diagnostic. The first of them is to bring further transparency and coherence in the raw product marketing mechanism through measures such as a national e-marketplace and expansion of agricultural commodities exchanges to horticultural products. The second goal is to capture sustainability of national policies in order to have a clear understanding of the impacts of various crops on water resources and on minimizing risks of climate change on Iranian production. The last objective is to support the quality management infrastructure to enable easy certification for exports.

Strategic Objective 2: Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production

The second strategic objective focuses on the farm and private sector level in order to increase yields and productivity. It firstly concentrates on meeting sector skills requirement, since the sector tends to face difficulties attracting qualified professionals. Among others, this is done through setting up private-sector-led skills platforms, following international best practice. The second objective is to improve the access of inputs for production, namely establishing contract farming pilots and to improve access to seeds. The third objective concentrates on mechanization of production and its packaging with retail in mind, instead of bulk sales. Finally, the last objective aims to attract more investment into the fruits and vegetables processing industries, as they hold great potential and do not have shelf life limitations for exports.

Strategic Objective 3: Strengthen the image and presence of Iranian products in a variety of markets

The third strategic objective is about increased visibility and presence of Iranian products abroad. Firstly, it will be done through the establishment of a common brand of fruits and vegetables from Iran, focusing on the taste and quality of the produce. The provision of market intelligence directly to producers is the second goal under the objective and will enable them to connect with foreign markets directly. The establishment of preferential trade agreements with specific countries such as the Russian Federation will help increase competitiveness of Iranian products. It is advised that trade policy negotiations be conducted with markets in good relations with Iran and holding high potential for export diversification. Finally, export diversification cannot happen without building of solid networks abroad and trust in target markets. This is the last goal under this strategic objective and will be achieved by leveraging both traditional and non-traditional networks in target markets.

Market and product development approaches

The following chapters detail specific markets for the Iranian fruits and vegetables sector. They present objective trends, access requirements and local distribution channels, but also more subjective factors such as the business culture and some dos and don'ts. The markets are divided into two categories: neighbouring convenience relations and new diversification challenges. These new diversification challenges represent important levers to secure a diversified export basket and a resilient fruits and vegetables sector.

NEIGHBOURING MARKETS FOR GREATER REGIONAL PRESENCE

Iraq: A large and changing market across the border

Import trends

Iraq's combined imports of vegetables (HS 07), fruit and nuts (HS 08) and prepared products (HS 20) from all origin countries totalled $2.5 billion in 2018; vegetables accounted for 34.6% of this total, fruits and nuts for 40.4% and prepared products for 25%. Combined, these products represent 4.7% of Iraq's total imports. The top imports from Iran are tomatoes, melons, and other prepared or preserved vegetables.

Globally, Iraq is the 23rd largest importer of vegetables, fruits and nuts. This makes it the 3rd highest ranked of Iran's biggest export markets in the sector, behind the Russian Federation (ranked 9th) and the United Arab Emirates (ranked 18th). It is also a larger importer than most other Middle Eastern countries.

As a share of Iraq's total imports, vegetables, fruits and nuts have fallen from a recent peak of 7.9% in 2007, but are recovering from a more recent low of 3.3% in 2013. As a share of global imports of these products, Iraq has increased from 0.1% in 2001 to 0.8% in 2018, though its share has fallen from 1.2% in 2009. This is the 3rd fastest growth rate seen among Iran's top six export destinations, behind the Russian Federation and the United Arab Emirates.

Market access

As neighbours with a long history of trade, many Iranian businesses and exporters have a good understanding of working with partners in Iraq. With exports totalling $9 billion, Iraq was Iran's 2nd largest export market in 2018, after China. These exports represented 9.3% of Iran's total. This share grew by 8.7% in 2001–18.

Iraq borders Iran and, weighted by population distribution, Iraq is the 2nd closest country to Iran. However, border and documentary compliance are particularly challenging in Iraq. In addition, logistics services are a very serious challenge to trade. Iraq was ranked 147th out of 160 countries in the World Bank's 2018 Logistics Performance Index. It performed worst in the customs sub-index.

In-market considerations: Distribution, competition and demand

Retailers typically purchase goods from established wholesalers and wholesale markers. Cold chain management is a challenge in some parts of the country, however. While price is an important factor in the Iraqi market, speciality products and branding are playing an increasingly important role as demand for processed foods increases.

Iran is the largest source of Iraq's imports of vegetables, fruits and nuts. Its products had a 54.6% share of the import market in 2018.

General business environment

The banking system in Iraq, which has three different structures – central, state-owned and private – is still developing. Iran and Iraq have agreed to continue cooperating to expand trade between their countries, with the countries' leaders meeting multiple times in the past year to discuss trade and plan for improved trade channels between the two countries.

The way forward for Iran

Much of Iran's exports of fruits and vegetables to Iraq, an established trading partner, have been raw and unprocessed products. Increasingly, exporters will have opportunities to distinguish their products and to sell higher-value-added processed products to Iraqi consumers. However, this anticipated shift in demand is likely to be accompanied by greater diversification of imports and additional competition, making product quality a more important factor. Nevertheless, addressing trade frictions and further improvements to price competitiveness will also remain important goals for strengthening exports. In particular, exporters can work with logistics services and distributors to develop more efficient connections with buyers in Iraq.

The highest-potential products in the Iraqi market for Iran are:

- Apples
- Grapes
- Cucumbers
- Potatoes
- Eggplants
- Preserved gherkins
- Preserved tomatoes
- Preserved potatoes (chips, fries)

Afghanistan: A challenging, but important market

Import trends

Afghanistan's combined imports of vegetables (HS 07), fruit and nuts (HS 08) and prepared products (HS 20) from all origin countries totalled $428.1 million in 2018; vegetables accounted for 68% of this total, fruits and nuts for 25.6% and prepared products for 6.4%. Combined, these products represent 2.9% of Afghanistan's total imports. The top imports from Iran are fresh apples, pears and quinces; prepared tomatoes; and fruit juices.

Afghanistan is the world's 68th biggest import market for vegetables, fruits and nuts, making it the smallest of Iran's six most important export destinations.

As a share of Afghanistan's total imports, vegetables, fruits and nuts have increased steadily in the past two decades, from 0.8% in 2001 to 6.2% in 2018. As a share of global imports of these products, Afghanistan has seen considerable growth, from 0.004% in 2001 to 0.2% in 2018.

Market access

Although Afghanistan borders Iran, weighted by population distribution, Afghanistan is only the 16th closest country to Iran. Constraints in border and documentary compliance for trade can be very serious. Logistics services are also a very serious challenge to trade. Afghanistan was ranked 160th out of 160 countries in the World Bank's 2018 Logistics Performance Index. It performed worst in the tracking and tracing sub-index.

Tariff rates faced by Iranian exporters vary by product. For the top export products: there is a 40% general tariff on fresh apples, pears and quinces; 10% general tariff on prepared tomatoes; 30% general tariff on fruit juices; 10% general tariff on other prepared vegetables; and 10% general tariff on jams. Iran's top export products are subject to import requirements related to product registration, testing, certification, customs port, and licensing. Compliance with the plants quarantine law, for example, is required.

In-market considerations: Distribution, competition and demand

As neighbours with a long history of trade, many Iranian businesses and exporters have a good understanding of working with partners in Afghanistan. Furthermore, cultural and linguistic similarities facilitate trade and business relationships. With exports totalling $2.9 billion, Afghanistan was Iran's 4th largest export market in 2018. These exports represented 3% of Iran's total. This share grew by 2.9% in 2001–18.

Iran is the 3rd largest source of Afghanistan's imports of vegetables, fruits and nuts, after the Republic of Uzbekistan and the Islamic Republic of Pakistan. Its products had an 18.3% share of the import market in 2018.

Low incomes mean that there are limited opportunities for selling specialized and branded products. Cold chain management is also a challenge in some parts of the country.

General business environment

Rule of law is very weak in Afghanistan. It was ranked 123rd out of 126 jurisdictions in the World Justice Project's Rule of Law Index 2019. It was judged to perform relatively well on the enforcement of civil justice, but poorly on corruption in civil justice.

The way forward for Iran

Iran is a major source of Afghanistan's imports of fruits and vegetables. Opportunities for the further development of Iranian fruit and vegetable exports to Afghanistan are limited by demand conditions in Afghanistan, which are mainly a function of its income level. Instead, improvements in the efficiency of border and customs clearance procedures, as well as transport and logistics, are likely to be important drivers of future growth in exporting. To achieve this, Iranian firms will need to work closely with in-market partners and work towards building closer connections with established and new importers.

The highest-potential products in Afghanistan's market for Iran are:

- Watermelons
- Eggplants

NEW DIVERSIFICATION CHALLENGES

United Arab Emirates: Significant and varied opportunities

Import trends

The United Arab Emirates' combined imports of vegetables (HS 07), fruit and nuts (HS 08) and prepared products (HS 20) from all origin countries totalled $3.5 billion in 2018; vegetables accounted for 28% of this total; fruits and nuts for 56.3%; and prepared products for 15.6%. Combined, these products represent 1.3% of the United Arab Emirates' total imports. The top imports from Iran are other nuts, fresh melons, and grapes.

The United Arab Emirates is the world's 18th biggest import market for vegetables, fruits and nuts, making it the 2nd largest of Iran's six most important export destinations, after the Russian Federation. It is also the 2nd largest import market in the Middle East, after the Kingdom of Saudi Arabia.

As a share of the United Arab Emirates' total imports, vegetables, fruits and nuts have increased somewhat recently from a low of 1% in 2008, to 1.6% in 2018. As a share of global imports of these products, the United Arab Emirates has declined somewhat from a recent high of 1.7% in 2015 to 1.2% in 2018. This if the 2nd fastest growth rate seen among Iran's top six export destinations, behind the Russian Federation.

Market access

The United Arab Emirates' ad valorem tariffs average 2.5% in vegetables, fruits and nuts (the most-favoured-nation rate). Tariff rates faced by Iranian exporters vary by product. For the top export products: there is a 0% most-favoured-nation duty on fresh apples, pears, and quinces; 5% most-favoured-nation duty on prepared tomatoes, fruit juices, other prepared vegetables, and jams.

Iran's top export products are subject to numerous types of import requirements, including labelling, packaging, hygienic, testing, and storage requirements. Labelling and packaging requirements include, for example, Order of the Minister of Environment and Water No. 84 of 2012 about the Implementing Regulations of the Federal Law No. (5) of 2009 regarding the organic inputs and products.

In-market considerations: Distribution, competition and demand

As neighbours with a long history of trade, many Iranian businesses and exporters have a good understanding of working with partners in the United Arab Emirates. With exports totalling $5.9 billion, the United Arab Emirates was Iran's 3rd largest export market in 2018. These exports represented 6.2% of Iran's total. This share grew by 3.7% in 2001–18.

The United Arab Emirates is a close neighbour to Iran, situated directly across the Persian Gulf. Weighted by population distribution, the United Arab Emirates is the 10th closest country to Iran. There are moderate constraints, particularly related to cost, in trading across borders. Logistics services, however, are a strength in trade. The United Arab Emirates was ranked 11th out of 160 countries in the World Bank's 2018 Logistics Performance Index. It performed worst in the customs sub-index.

Iran is the 4th largest source of the United Aram Emirates' imports of vegetables, fruits and nuts, after the United States, India and the Republic of South Africa. Its products had a 5% share of the import market in 2018.

While many in the United Arab Emirates have high incomes, there is also a large population of lower-income foreign workers, with less purchasing power and different demand patterns. There are opportunities for growing specialized and organic products.

Many food importers are expanding or planning to expand. The expansion of tourism is growing demand

from hotels and restaurants. Considerable food processing activity in the country also provides additional opportunities to exporters.

General business environment

Rule of law is quite strong in the United Arab Emirates. It was ranked 32nd out of 126 jurisdictions in the World Justice Project's Rule of Law Index 2019. It was judged to perform well in most aspects of civil justice.

While the United Arab Emirates has a well-developed banking system and financial sector, trade has been negatively affected by cautious attitudes in the financial sector leading to refusals to work with Iranian businesses and with clients doing business with Iran.

The way forward for Iran

Despite demand for specialized, branded and processed products, much of Iran's fruit and vegetable exports to the United Arab Emirates are raw and unprocessed. While this presents opportunities for upgrading exports, there is also a need to adapt to changing market conditions. In particular, the expanding number of food importers and growth of demand from hotels and restaurants in the United Arab Emirates will require Iranian exporters to work to establish new connections with buyers and distributors. With assistance and access to market information, smaller and more flexible exporters may be better able to target particular market segments.

The highest-potential products in the Emirati market for Iran are:

- Dates
- Watermelons
- Tomatoes
- Potatoes
- Preserved tomato paste

Russian Federation: A demanding market with high potential

Import trends

The Russian Federation is one of the key world importers of raw and processed fruits and vegetables, ranking 9th in 2018 and reaching an import value of $8.2 billion. Iran has been growing its market share in the Russian market, which today represents 4.6% (up from 2.4% 10 years ago), or a value of $378 million. An enabling factor could have been the embargo the Russian Federation has set on European Union agricultural imports (extended to Turkey in 2015–2016 due to diplomatic tensions), leading the country to widen the range of its importers.

The Russian market's annual growth rate in the past five years has been negative on vegetables and processed foods (– 10% and – 3%) and null on fruits. However, during the same period, Iran managed to gain market share, particularly on imports of fruits, with a notable 19% growth. Imports of vegetables have also been growing in the same period, with 7% annual growth. The growth on processed fruits and vegetables has, however, been negative, imports being down by 3% (see market analysis section for further details).

Due to the largest population among all Russian cities (12.4 million people in Moscow and 5.6 million people in St. Petersburg), the highest consumer incomes and the fast-growing healthy eating trends, Moscow and St. Petersburg areas are the Russian territories with the highest concentration of imported fruits and vegetables consumers in the Russian Federation. In addition to that, Moscow serves as the major distribution hub for the products destined to other territories of the Russian Federation.

The Russian fruits and vegetables market is highly dependent on imported goods; however, such dependence is not even between different fresh produce categories:

- ~ 10% for potatoes;
- ~ 30% for vegetables;
- ~ 85% for fruits;
- ~ 100% for nuts.

At the same time, we see very fast growth of the local production of greenhouse tomatoes and cucumbers, as well as apples, which is enhanced by significant state financial support. Thus, the window for shipments in these categories will be shrinking in the next 5–7 years.

Market access

The preferential tariff for Generalized System of Preferences (GSP) countries is applied to Iran for most raw and processed fruits and vegetables (under the agreement Russian Federation for Developing Countries).

- Import duty on fruit is 7.5%% and VAT 18%.
- Import duty on vegetables is 7.5% and VAT is 10%.

There is a range of fruits and vegetables (including apples, citrus, tomatoes and cucumbers, etc.) where import duty is calculated on the basis of weight.

Another set of requirements exist for the sector in the Russian Federation. The exporter has to be included in the list of exporters approved by the Russian Federal Service for Veterinary and Phytosanitary Supervision. The scheme of import and payment is sophisticated and requires usage of indicative import price imposed by the customs office in the Russian Federation as well as a long chain of tax avoidance mechanisms. Exporters that do not comply with these formal and informal rules simply cannot deliver produce to the Russian Federation.

The Russian Federation's import requirements for fruits and vegetables products are very broad and stringent, with, on average, 30 different requirements on labelling, marking, packaging, processing history, genetically modified organism (GMO), quarantine, sanitary and phytosanitary (SPS) and others. Each HS 6 product line has specific regulations attached and they can be accessed here: https://www.macmap.org.

The Russian Federation is an accessible trade partner for Iran, through the Republic of Azerbaijan, or directly through the Caspian Sea (through Anzali and Noshahr ports). The International North–South Transport Corridor (INSTC) will also contribute to securing the connection between the two countries: INSTC is a 7,200 km-long multi-mode network of ship, rail and road route for transporting freight between India, Iran, Afghanistan, the Republic of Armenia, Azerbaijan, the Russian Federation, Central Asia and Europe.

In-market considerations: Distribution, competition and demand

An important trend of the Russian fruits and vegetables sector is high concentration of sales in the retail chains, while open markets are losing their importance, which results in high quality demand and strong price competition at all steps of the supply chain.

Table 5: Top 10 Russian food retail chains by turnover (2018)

#	Retail company name	Annual turnover (bn RUR)	Annual turnover (bn USD)
1	X5 Retail Group	1 525	24.23
2	Magnit (Tander)	1 237	19.66
3	Lenta	4 13.5	6.57
4	Auchan	306.4	4.87
5	SPS Holding (Krasnoe & Beloe)	301	4.78
6	DIXY Group of Companies	298.7	4.75
7	Metro Group Russia	198.9	3.16
8	O`KEY	159.4	2.53
9	Spar	126.6	2.01
10	Globus	90.5	1.44

Source: ITC.

Under Russian regulations, representative offices of foreign companies cannot be involved in commercial activities. The advantage of establishing a representative office in the country is to strengthen control over distributors and product promotion. Registration of a wholly owned subsidiary in the Russian Federation is possible. The federal and local government provide support to international companies establishing manufacturing facilities in the Russian Federation, particularly in fast-track development areas in the Russian Far East and other special economic zones.

However, the types of consumer preferences for fruits and vegetables in both markets are very similar, facilitating imports of Iranian produce to the Russian Federation. As in Iran, the Russian market tends to prefer open-air cultivated fruits and vegetables, alternative or native varieties, and have similar usage for the produce in processing terms.

Iranian high-level decision makers have understood the current potential of the Russian market for Iranian producers, especially in a context where the Russian Federation seeks to diversity and globalize its importers base (away from the European Union and Turkey to a lesser extent). The discussions of increasing volumes of imports to the Russian Federation and lowering import tariffs have been brought to the highest level with discussions between the President of Iran, Hassan Rouhani, and Vladimir Putin, as well as Prime Minister Dmitry Medvedev.

Being the new key fruits and vegetables provider instead of Turkey is indeed an opportunity for Iran and would allow an upscaling from the current 6th importer position on the Russian market.

Ideologically and culturally, the countries have quite good ties. From a language point of view, however, challenges will subsist, as English would be the only possible transaction language and the level on both sides can sometimes be insufficient. However, in the Russian Federation, strong personal relationships are critical to business success, so face-to-face business meetings are vital.

Box 1: Detailed product prioritization for the Russian market

Considering the current trends in local production development and changes in the import structure, the major growth trends for Iranian fruits and vegetables in the Russian Federation are visible in the following categories:

Processed foods for business-to-business market:

- Processed nuts, dates and figs etc. for confectionery buyers
- Fruit purée and jam for retail and confectionery
- Juice concentrates – apple, grape and cherry

High demand for confectionery and juice industry ingredients in the Russian Federation will be a long-lasting trend. The confectionery industry in the Russian Federation is growing, including production of confectionery items positioned in the healthy foods segment, where a lot of nuts and processed fruits are used. The local production of such ingredients by Russian companies is very low and will not grow fast in the medium term, as local fruit growers receive higher prices for fresh products, so do not have any reason to invest in the processing lines, while competition in the fresh market is still very low.

At the same time, fruit processing allow Iranian suppliers to solve the issue with long transportation and short shelf life of their products, as well as to supply the products that are a good fit into the modern Russian trend towards a healthy lifestyle.

Vegetables:

- Lettuce
- Eggplants
- Capsicum
- Celery
- Cabbage
- Squash
- Garlic

Russian farmers grow rather large quantities of potatoes, satisfying 90%–95% of the local market demand. Greenhouse production of tomatoes and cucumbers in 2014–19 was highly supported by the Russian Government, which used to subsidize 20% of the greenhouse construction costs. Further growth in this sector means that there will be less space for imported tomatoes and cucumbers within the Russian market in the near future. Growing competition will make this sector less profitable for exporters in the nearest future.

At the same time, production of lettuce, eggplants, capsicum, celery and squash in the Russian Federation is very low, because the vegetation season in the local climate is short and heated greenhouses are typically needed to grow such vegetables or at least their seedlings. Considering the rather high cost of construction and energy for greenhouses, production of such vegetables in the Russian Federation is not competitive in comparison with growing in warmer countries. Cabbage producers are facing similar problems with climate constrains and the need to grow seedlings in the expensive greenhouses, so cabbage production in the Russian Federation is decreasing. Local garlic has relatively low quality and high production cost and can't compete with the Chinese one, while Iranian garlic suppliers can benefit from the shorter transportation distance compared with the major Chinese garlic-growing regions.

Fruits:

- Grapes
- Nectarines
- Cherries and sour cherries
- Melons and watermelons

The Russian Federation is one of the largest apple importers and the largest pear importer in the world and it seems that the Russian import ban that is influencing the largest suppliers of apples and pears to the Russian Federation (the Republic of Poland, the Kingdom of Belgium, and the Netherlands) would create a lot of space for import from other countries. However, the actual effect is different. First of all, import from European countries is still coming to the Russian Federation via "grey" logistics channels. At the same time, in 2014, after the ban implementation, Russian authorities and orchard growers recognized that the local fruit production is very low and started to develop modern orchard growing in the country. As a result, import of apples and pears to the Russian Federation from Europe did not drop dramatically, while more and more new orchards planted after 2014 are coming into commercial production and more and more apples are harvested locally. For example, in 2018, Russian apple harvest increased by 42% compared with the previous year and surpassed 1 million tons. In the next 5–7 years, the Russian Federation is likely to produce the majority of locally consumed apples and is likely to become an apple exporter. Considering this, the window to increase apple and pear imports to the Russian Federation will close in the next few years. Thus, while the Russian Federation currently provides opportunities for apple exporters, including Iranian suppliers, it does not make sense to invest in this market development.

The situation with grapes, stone fruits and other warm climate fruits is completely different. Nearly 450 thousand tons of grapes are grown in the southern parts of the Russian Federation. However, only about 10% of this quantity are table grapes. Lack of sunny days and relatively short summers result in low sugar content in the local grapes, so more than 80%–90% of the table grapes in the market are imported. The largest grapes supplier to the Russian Federation is Turkey, but Turkish exporters are facing significant difficulties with the Russian VPSS control at the border and other countries that grow sweet and not expensive grapes can benefit from this situation. The picture with nectarines and cherries is very similar.

Outside of the local harvest season, watermelons and melons were traditionally coming to the Russian Federation from the Southern European countries. After implementation of the Russian import ban, these ties were broken, so non-seasonal watermelons and melons have to come from faraway territories such as the Federative Republic of Brazil, China, and the Republic of Costa Rica, etc. Possibility to ship these fruits for much shorter distance from Iran is a significant competitive benefit for Iranian farmers, which is already visible in the current import statistics.

General business environment

Russian roubles, US dollars and euros are preferred currencies for payment. All hard currency settlements with Russian companies and organizations should be made to the exporter's bank through authorized Russian commercial banks. Some exporters prefer the customer to make payment from hard currency accounts held offshore in countries such as the United Kingdom, United States, Switzerland, the Republic of Cyprus and the Grand Duchy of Luxembourg, etc.

An increasing number of Russian buyers are demanding flexible payment options, mainly revolving credit lines. Letters of credit are normally used due to high local interest rates.

Foreign payment records of Russian companies can be obtained via information services such as Dun & Bradstreet and Coface. Some companies obtain this data in lieu of credit reports, which are not always available in this market. Corporate credit bureaux such as Coface have a presence in the Russian Federation, but the level of information available is generally less than in more developed markets.

Bodies such as the Russian Chamber of Commerce and Moscow Chamber of Commerce offer a voluntary framework for resolution of commercial disputes. This may be a suitable means for resolving small-scale matters.

The Russian court system remains weak, but is improving. Many companies doing business in the Russian Federation draw up contracts under foreign law, such as international arbitration for dispute resolution.

The way forward for Iran

The Russian market has the highest potential for increase, but is difficult to access due to numerous in-market barriers established by Russian policies. This will require an ongoing diplomatic effort at the highest level, as already initiated by Iranian policymakers, especially focusing on lowering tariffs on certain key products (apples and tomatoes).

Informal contacts being a key success factor in the Russian market, business representatives from Iran should also maintain good relations with their counterparts in the market. Guidance from the ITPO to exporters will be key: distribution of briefing notes, manuals or online guidelines can help exporters understand the cultural habits and criteria to succeed as a preferred importer in the Russian market.

The highest-potential products in the Russian market for Iran are:

- Processed nuts, dates and figs etc. for confectionery buyers
- Fruit purée and jam for retail and confectionery
- Juice concentrates – apple, grape and cherry
- Lettuce
- Eggplants
- Capsicum
- Celery
- Cabbage
- Squash
- Garlic
- Grapes
- Nectarines
- Cherries and sour cherries
- Melons and watermelons

Pakistan: A neighbour with increasingly demanding consumers

Import trends

Pakistan is a fairly large neighbouring market for Iran, a slightly larger importer then Iran itself, with $0.9 billion worth of imports.

Iran is, however, only the 6th import market for Pakistan, representing 5.2% of the Pakistani market, worth $47 million. The Pakistani market is quite concentrated on two main importers – Afghanistan and Australia, but has been growing fast due to an increase in economic growth rate and a consequent rise in consumer spending.

In the past five years, Pakistan's market in fruits and vegetables, both raw and processed, grew by a modest 3%. This is due to the decrease of the share of a major importer – Australia – which peaked in 2017 with $366 million. Iran has been slowly increasing its market share on the Pakistani market on all fronts, but particularly on the processed fruits and vegetables side (53%), although from a low base. Imports of fruits also grew by 29% and finally vegetables by 7% (the most imported products by Pakistan with a value of $28 million in 2018).

Market access

Pakistan imposes high import duties on most foodstuffs. For instance, some fruits face a 20% tariff (18% for Iran due to a bilateral preferential trade agreement between the two countries signed in 2004). There is anecdotal evidence that some wholesalers import food products from Dubai through channels that enable them to evade full custom duties and charges. It should be noted that Pakistan has very few trade agreements.

New packing rules may also impact exporters. In February 2019, Pakistan introduced new regulations for food packaging and product shelf life that require:

- A minimum 66% shelf life at the time of clearance of goods;
- Labelling of nutritional values and usage instructions in Urdu and English;
- Reporting of the certifying "halal" authority in the country that validates the product.

Pakistan's import requirements for fruits and vegetables products are variable depending on the products, from 15 different requirements for potatoes, eight requirements for prepared tomatoes, to just one labelling requirement for apples. Each HS 6 product line has specific regulations attached and they can be accessed here: https://www.macmap.org.

Pakistan shares a border with Iran. Currently, the main border post is located at Taftan and caters for trade on both sides of the border. The opening of two new trade posts along the border, both on the Pakistani side, was agreed between the two countries during a Pakistani official commercial visit to Teheran in 2016.

In-market considerations: Distribution, competition and demand

Pakistan has a well-established fast-moving consumer goods (FMCG) distribution system. Three distributors –Udl, Premier and UDL Distributors– cover the whole of Pakistan, while many others operate in small, regional areas. Smaller operators are generally independent and typically charge a fee for product distribution. Their employees take orders from shops and institutions, deliver the orders and collect payment. They also ensure products gain shelf space and are not displayed after their use-by date. Distributors may also redistribute products with an approaching expiry date to avoid loss from date expiry.

In Pakistan, distributors play a major retail role. Distributors develop the brand and promote it in both wholesale and retail markets. Some distributors own delivery vehicles, which travel between shops and service them. Others adopt a hybrid system, where fellow distributors manage some outlets for products they have imported, especially in small cities.

As Pakistan's food retail market becomes more dynamic, it creates new market entry opportunities. The opportunities are changing quickly, as new purchasing behaviours lead to new forms of consumption. For example, the growth of franchised "quick service restaurants" and e-commerce will increase sales of imported packaged food and bottled beverages.

Two new arrivals are driving change in Pakistan's fruits and vegetables market: supermarket chains and e-commerce. Both are helping to transition Pakistan from traditional to modern grocery, as characterized by the breadth of products, the elimination of independent distributors and customers who bulk buy.

Iranian producers invariably encounter competition from locally manufactured brands, which enjoy entrenched customer loyalty and a significant price advantage. These locally manufactured products cover products such as jams and beverages. Competition for imported processed fruits and vegetables will principally derive from other premium imports that are subject to the same custom duties and tariffs.

Trade with Pakistan falls into Iran's ambition to strengthen regional trade in order to increase its resilience to international sanctions. This has been illustrated by the agreement between the two countries to strengthen bilateral trade and economic ties and a vow to remove potential bottlenecks during the 8th Pakistan–Iran Joint Trade Committee.

General business environment

Quotes should be cost and freight (CIF) port of delivery in US dollars. Payment must be made by irrevocable letter of credit.

Even with regards to Pakistan's political connections to the Gulf Cooperation Council (GCC), it always kept close ties with Iran. Linguistic and religious links exist between Iran and Pakistan. There are many Farsi words in Urdu, and the Pakistani national anthem is almost entirely in Persian. While Pakistan is a majority Sunni state and Iran overwhelmingly Shia, the former has a sizeable Shia minority that could be as high as approximately 20% of the population.

The way forward for Iran

The highest potential for Iranian products in the Pakistani market are processed fruits and vegetables products. However, the high level of tariffs imposed will require bilateral negotiations to attempt to establish a preferential trade agreement targeting key export products, which would include the Iranian processed tomatoes (tomato juices and pastes) and potatoes (chips and frozen fries).

The high demand for processed products in Pakistan is an opportunity to trigger product diversification in Iran and upscale production on products currently geared towards the national market. Compliance with the new packaging regulations will, however, need to be ensured. The ITPO can play a key role in sensitizing processed fruits and vegetables producers about the requirements of the Pakistani market, specifically on packaging and Urdu translation of the product description.

The highest-potential products in the Pakistani market for Iran are:

- Tomatoes
- Potatoes
- Preserved tomatoes
- Preserved potatoes

Turkey: An established partner with the potential for further growth

Import trends

Turkey is a similar-sized market to Pakistan, with $1 billion worth of imports in the raw and processed fruits and vegetables sector. Iran is, however, only the 17th import market for Turkey, representing only 1.6% of the Turkish market, worth $16.6 million. The Turkish market is quite concentrated on two main importers – the United States and Canada. Turkey has a large domestic market of 80 million people. The population is experiencing rising wealth, leading to increased demand for Westernized products and technological solutions.

In the past five years, the Turkish market has seen growth only in the fruits segment, with an 8% growth. However, the vegetables and the processed fruits and vegetables imports particularly shrank during the same period (down by 2% and 10% respectively). Fruits is also the segment in which Iranian imports grew by 9% during this period, showing a successful market penetration (fruits, mostly dates and melons, represent 88% of total sector exports to Turkey).

Market access

Turkey shares a border with Iran. Two major border points exist with Iran: Gürbulak and Kapıköy. The conditions at the two border posts are very different: Gürbulak is equipped with more modern conveniences and scanning equipment, while Kapıköy has less modern equipment and slower operations.

Despite the European Union alliance, Turkey continues to maintain various tariff and non-tariff barriers to control and restrict imports, particularly for agriculture products. Tariffs and duty rates are subject to change without notice, and agricultural goods remain protected by steep tariffs. The tariff applied to potatoes, for instance, would be 19.3% for Iran, whereas apples face an overwhelming 60.3%.

Value-added tax (VAT) applies in Turkey irrespective of the country of origin. For most agricultural products, VAT ranges from 1% – 8% and, for some processed products, it can reach up to 18%.

Turkey's import requirements for fruits and vegetables products are very broad and stringent, with more than 25 different requirements on labelling, packaging, quarantine, sanitary and phytosanitary (SPS) and others. Each HS 6 product line has specific regulations attached and they can be accessed here: https://www.macmap.org.

In-market considerations: Distribution, competition and demand

Market visits are very important in having a good connection with buyers. Finding a good, reliable partner that has good affiliations with the local industry is essential in marketing products that need distribution.

A memorandum of understanding (MOU) has been made recently between Iran and Turkey for the expansion of bilateral border trade. The MOU was signed by Mohammad Abedi, the governor of Iran's Khoy County in the north-western province of West Azerbaijan, and Mehmet Emin Bilmez, the governor of Turkey's Van Province, during the meeting of Iran–Turkey Joint Committee of Border Cooperation (July 2019).

General business environment

Turkey's legal system has written commercial and bankruptcy laws that provide a means for enforcing property and contractual rights. The court system can be slow to make decisions and is often overloaded, so having a case finalized can sometimes take quite long.

Turkey is a member of the International Centre for the Settlement of Investment Disputes (ICSID), and is a signatory of the New York Convention of 1958 on the Recognition and Enforcement of Foreign Arbitral Awards. Turkish law accepts binding international arbitration of investment disputes between foreign investors and the state.

Quotes should be in the form of an itemized pro forma invoice, free on board (FOB) and cost, insurance and freight (CIF). Unless instructions are given to the contrary, goods should be fully insured on the CIF value and covered for the entire journey. A letter of credit and favourable credit terms, e.g. up to 60 days, are often expected.

While business relations are increasingly European in manner, it is still relevant to understand and appreciate Turkish business customs. Most notably, direct and personal contact continues to drive much of the business in Turkey. Thus, it is often useful to visit the country and meet directly with potential partners and buyers. Direct partnerships with individuals who understand the Turkish market may also enable greater insights into the products best suited for export.

The way forward for Iran

Currently, the highest potential for Iranian products in the Turkish market are raw fruits. However, the high level of tariffs imposed will require bilateral negotiations to attempt to establish a PTA targeting key export products.

Much like in the Russian market, informal contacts being a key success factor in Turkish market, business representatives from Iran should also maintain good relations with their counterparts in the market and broaden their contact networks. Guidance from the ITPO to exporters will be key: distribution of briefing notes, manuals, lists of contacts or online guidelines can help exporters understand the criteria to succeed as a preferred importer.

Guidance on the stringent market requirements and support to achieving compliance will be key, as the Turkish market's technical requirements are extremely stringent.

The highest-potential products in the Turkish market for Iran are:

- Dates
- Chickpeas
- Preserved tomatoes
- Preserved potatoes

PLAN OF ACTION

To achieve the vision and strategic objectives discussed, a robust, actionable and realistic strategic plan of action (PoA) is required. This is provided below, and constitutes the heart of this strategy. The PoA is structured along the three strategic objectives described above and their operational objectives. For each objective, the PoA outlines detailed activities and their implementation modalities, which include:

- Priority level: Priority 1 being the highest and 3 the lowest.
- Start/end dates: The desired time-frame of the activity.
- Targets: Quantifiable targets that allow monitoring of the activity from the implementation stage to completion.
- Leading implementing partners: One accountable lead institution per activity. (The institution can also have a technical role or can solely have an oversight and coordination role.)
- Supporting implementing partners: Any institution that should be involved at any stage of the activity's implementation.

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
1. Establish an enabling environment and marketing system for raw products	1.1. Update and rationalize raw product marketing mechanism	1.1.1. Develop directories on buyers, distributors and others to improve information in wholesale markets and reduce transaction costs, moving towards the eventual establishment of a unified, electronic marketplace (or e-marketplace).	1						Project	• Directories created for buyers and distributors • E-marketplace created	Ministry of Agriculture Jihad (MoAJ)	Agricultural Research, Education and Extension Organization (AREEO) + Agricultural Planning, Economic and Rural Development Research Institute (APERDRI)
		1.1.2. Reduce administrative barriers to firm entry to encourage greater competition among fruit and vegetable distributors and marketers	2						Reform	• Administrative process simplified	MoAJ	
		1.1.3. Expand the agricultural commodities exchange to fresh fruits and vegetables products	2						Project	• At least five key horticulture products integrated in the commodities' exchange	MoAJ	Iran Mercantile Exchange (IME)
	1.2. Align policies to mitigate climate change impact risks	1.2.1. Undertake a mapping of climate change vulnerabilities in the production of fruits and vegetables, identifying specific risks faced by subsector and region, and disseminate targeted information and recommended adaptation strategies to farmers	2						Project	• Mapping conduced • Information disseminated to farmers	Iran Department of Environment	MoAJ, APERDRI and AREEO
		1.2.2. Conduct a comprehensive review of existing subsidy and incentive programmes available to actors involved in the sector, and analyse their effects on encouraging or discouraging adaptions to climate change, to identify potential areas for the reform of these programmes into means of encouraging adaptation	2						Reform	• Feasibility study conducted • New reforms passed on climate change adaptation	MoAJ	
		1.2.3. Create a water market for agricultural use, which would monitor and allocate the use of water based on a number of agreed criteria. The water management centre would be in charge of developing this initiative	1						Project	• Water market platform created	Water management centre	MoAJ and Iran Department of Environment
		1.2.4. Develop wastewater recycling and purification, including from agricultural and industrial sectors	1						Project	• At least 20 pilot projects over different production regions	Water management centre	MoAJ and Iran Department of Environment

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
1. Establish an enabling environment and marketing system for raw products	1.3. Align the national quality infrastructure to support the needs of producers and processors	1.3.1. Establish or identify a monitoring unit within the Ministry of Agriculture Jihad, in collaboration with the industry chambers, responsible for preparing a regular review of food safety and other quality certifications required in target markets	2						Project	• Monitoring unit on quality management issues appointed	MoAJ	Iran Chamber of Commerce, Industries, Mines and Agriculture
		1.3.2. Organize consultations with farmers and firms in the sector to determine challenges and shortcomings in the national quality infrastructure (NQI), with reference to the results of the review of requirements in target markets	3						Project	• Specific reforms on national quality infrastructure identified	APERDRI	MoAJ and Iranian National Standards Organization (INSO)
		1.3.3. Pursue the recognition of Iran's quality and food safety infrastructure on a bilateral basis, prioritizing target markets, and support the upgrading of testing and certification facilities to comply with the import requirements though training programmes and support in acquiring needed equipment	1						Project	• At least five new mutual recognition agreements of NQI	INSO	MoAJ and Ministry of Foreign Affairs
		1.3.4. Support the National Accreditation Center of Iran in signing and complying with the terms of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement	1						Project	• International Laboratory Accreditation Cooperation (ILAC) membership requirements fulfilled	National Accreditation Center of Iran	MoAJ and INSO
		1.3.5. Further develop traceability systems used across the value chain (covering inputs, production and processing, and distribution) through requirements on information collection on product origin and processing, with consideration of traceability requirements in target markets	1						Project	• New traceability requirements in place	INSO	MoAJ and APERDRI
		1.3.6. Enhance the capabilities of farmers and firms in the sector to comply with voluntary standards to improve the value of their products, through activities including: • Identifying relevant standards and the areas and actors most likely to benefit from certification in coordination with sector associations; • Providing information and training on relevant voluntary standards, including on organic production, environmentally and socially responsible farming, and other areas; • Offering information on compliance and certification with relevant regimes.	2						Project	• At least one training session per year organized through regional extension services	AREEO	INSO

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
2. Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production	2.1. Modernize production and processing skill sets	2.1.1. Identify, in collaboration with the private sector, best practices in farming and value-addition activities to inform the design of extension services and training programmes	1						Project	• National best practice examples identified	AREEO	APERDRI and MoAJ
		2.1.2. Review the extent and quality of agricultural extension services in consultation with practitioners and farmers, including the extent to which services provided match the needs of farmers in the sector	1						Project	• Review of extension services conducted every three years	AREEO	APERDRI and MoAJ
		2.1.3. Develop Training of Trainers programmes to upgrade the technical skills and effectiveness of agricultural extension workers who work with fruit and vegetable growers, particularly in the field of post-harvest techniques	1						Project	• Training of Trainers (ToT) programmes created and conducted every year	AREEO	APERDRI and MoAJ
		2.1.4. Design a sector skills policy, including information on training programmes related to the skills profiles of common positions, developed in collaboration with firms and technical and vocational education and training (TVET) providers and others from the education sector	2						Reform	• Sector skills policy developed • Sector skills councils in place to review qualification needs	MoAJ	Ministry of Education (MoE) and Iran Technical and Vocational Training Organization (Iran TVTO)
		2.1.5. Work with higher education institutions to prepare and connect students with high-skill jobs in the sector by: Raising awareness of opportunities in the sector among students; • Reviewing opportunities for reform to programmes of study and courses to provide enhanced training on the technical and business skills needed in the sector; • Connecting students with potential employers and other sector representatives through job fairs and other initiatives; • Support entrepreneurship through coaching and connection with successful entrepreneurs.	1						Project	• Sensitization campaign run yearly • Reform of the tertiary courses relevant to agriculture • At least one job fair per year • Support scheme for new entrepreneurs in agriculture established	Ministry of Science, Research and Technology	MoAJ, APERDRI, Technical and Vocational University (TVU) and leading universities
		2.1.6. Create innovation and training management centres involving the actors of production and export. Use these centres to establish transmission of knowledge and innovation from the most advanced countries in the agricultural field.	1						Project	• At least five innovation centres in place for agriculture	APERDRI	MoAJ, research institutes and AREEO

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
2. Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production	2.2. Improve access to inputs at the production level	2.2.1. Provide information to farmers on accessing and using high-yield and drought-resistant seed/rootstock varieties suited to their growing environment and relevant to market demand	1						Project	• Information disseminated through training and manuals to all production regions	AREEO	Seed and Plant Improvement Institute (SPII)
		2.2.2. Support the spread of contract farming in the fruit and vegetable production subsector by reforming the governing legal and regulatory framework and increasing awareness and understanding of the practice among farmers	1						Reform	• Establish a regulation on contract farming • Sensitization campaign conducted	MoAJ	APERDRI
		2.2.3. Promote investment in and the expansion of domestic input sectors, including seeds/rootstock, fertilizers and pesticides, with consideration of the needs of market – and export-oriented producers. In particular, develop investment with advanced countries in the field of hybrid seeds	1						Project	• Investment attraction campaign carried out	MoAJ	APERDRI and Ministry of Industry, Mine and Trade (MoIMT)
		2.2.4. Support research and development activities on improved seeds/rootstock and other fruit and vegetable farming inputs, including by linking education and research institutions to sector associations	2						Project	• At least 30% funding increase on research and development on inputs • At least five new university-association linkages	MoAJ	APERDRI, Seed and Plant Improvement Institute (SPII), and Seed and Plant Certification and Registration Institute (SPCRI)
	2.3. Spearhead the sustainable mechanization of production and improve fresh produce packaging for export	2.3.1. Incorporate modules on mechanization and the proper use of agricultural equipment in training programmes and extension services	1						Project	• All extension services incorporate a mechanization module	AREEO	APERDRI and MoAJ

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
2. Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production	2.3. Spearhead the sustainable mechanization of production and improve fresh produce packaging for export	2.3.2. Identify best practices to overcome cold chain infrastructure deficiencies and post-harvest losses, through practical advice in alignment with food safety recommendations, at all value chain stages, such as: • Production • Harvest » Optimum harvesting times for each crop » Handling recommendations • Post-harvest treatments » Packing advices to avoid deterioration (e.g. stacking) » Encourage value-added services, including grading and sorting » Cooling and transport options (e.g. how to create air flows for bulk loads) Develop a training programme (cool chain training), targeting key actors across the value chain to disseminate recommendations to producers and companies and capacitate them through workshops	1						Project	• Gaps on post-harvest losses identified • Training programme carried out every year in each region	AREEO	APERDRI and MoAJ
		2.3.3. Lead consultations between farmers, financial institutions and financial sector regulators on the conditions of access to finance and how these can be better suited to the needs of farmers seeking operational and investment financing	2						Project	• New financial tools in place for farmers' investment	MoAJ	Ministry of Economic Affairs and Finance (MoEAF)
		2.3.4. Provide training to exporting producers about packaging requirements in key markets (especially: the United Arab Emirates, the Russian Federation and Pakistan) and connect Iranian produce packaging with the national brand (Operational Objective 3.1.)	2						Project	• Training on packaging provided to exporting producers every year	Iran Chamber of Commerce, Industries, Mines and Agriculture	MoAJ and exporters associations
	2.4. Expand processing capacities	2.4.1. Attract new investment into the processing subsector by identifying opportunities, defining an investment proposition and targeting potential investors	1						Project	• Investment attraction campaign carried out	MoAJ	MoIMT and Federation of Iranian Food Associations
		2.4.2. Develop a cluster policy for the fruit and vegetable processing subsector, including: • Mapping of processing and related activities, including industrial parks connected to the sector; • Identification of sites for potential new or expanded industrial parks, located with consideration of production regions and centres of demand and exporting; • Develop optimization units in the less covered regions.	2						Project	• Cluster policy implemented • Rehabilitation of at least four old sites	MoAJ	MoIMT and Federation of Iranian Food Associations

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
2. Improve productivity, processing capacities and sustainability of Iranian fruits and vegetables production	2.4. Expand processing capacities	2.4.3. Foster improved business connections and communication within the fruit and vegetable processing subsector by strengthening sector associations and fostering increased information sharing across the value chain	2						Project	• New connections between production and processing through sector associations	Federation of Iranian Food Associations	Sector associations
3. Strengthen the image and presence of Iranian products in a variety of markets	3.1. Create an Iranian fresh and processed produce brand	3.1.1. Establish a national brand for fruit and vegetable products produced in Iran that is designed to appeal to target foreign markets and the domestic market, in collaboration with specialized associations Define rules and certification procedures for coverage of the national brand, based on factors such as domestic value added, product quality, environmental sustainability and others determined in collaboration with sector stakeholders. Consider the use of an intellectual property strategy for better protection	1						Project	• New national F&V brand developed • Certification procedure developed with the brand	MoAJ	MoIMT, ITPO and Organization for Registration of Deeds and Properties
		3.1.2. Carry out an information campaign – through in-person and published channels – targeting fruit and vegetable producers, processors, marketers, distributors and others to raise awareness of the brand, highlight the potential benefits to them from their participation and explain the requirements on them	1						Project	• Awareness-raising campaign implemented	MoAJ	MoIMT and ITPO
		3.1.3. Promote the brand abroad, focusing on target and high-potential markets, through public information campaigns, participation in trade fairs and missions, and direct targeting of in-market buyers and distributors (including those with non-traditional business models, such as online grocers)	1						Project	• International promotional campaign implemented	MoAJ	MoIMT and ITPO
		3.1.4. Develop a national campaign – including advertising and point-of-sale display materials – promoting the consumption of nationally branded fruit and vegetable products, emphasizing value, quality and support for domestic production and reduced reliance on imports	2						Project	• National promotional campaign implemented	MoAJ	MoIMT and ITPO

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
3. Strengthen the image and presence of Iranian products in a variety of markets	3.2. Improve supply and export market intelligence provision	3.2.1. Develop new and regularly updated sources of information on domestic and international markets, including detailed information by product–market combinations for major products and target export markets	2						Project	• New web-based portal available for market information on F&V	ITPO	APERDRI and MoAJ
		3.2.2. Establish regular means of communicating market intelligence news to farms and firms, including by leveraging extension services and other existing means of outreach in disseminating market information	3						Project	• At least four new channels of communication established with farms and firms	AREEO	Iran Chamber of Commerce, Industries, Mines and Agriculture, ITPO, MoAJ and APERDRI
		3.2.3. Carry out capacity-building workshops and related activities for farmers and firms in the sector on accessing, understanding and reacting to market information	3						Project	• Online and offline workshops on trade information in place	AREEO	Iran Chamber of Commerce, Industries, Mines and Agriculture, ITPO, MoAJ and APERDRI
		3.2.4. Support the strengthening of farmers' associations and sector associations in other aspects of the value chain as a means of delivering and analysing information on market access and demand trends	1						Project	• Sector associations' capacity building carried out	ITPO	MoAJ and APERDRI
	3.3. Align trade policy to export diversification priorities	3.3.1. Review market access conditions for fruit and vegetable exports to target markets and other high-potential destinations to identify opportunities for expanded trade	3						Project	• Assessment of market conditions carried out	MoIMT	MoAJ
		3.3.2. Identify barriers to trade with target markets and prioritize the resolution of issues in future negotiations on market access	1						Reform	• Include barriers to trade into negotiations and advocate for reforms	MoIMT	MoAJ
		3.3.3. Review the alignment of trade policy with investment goals in the fruit and vegetables sector	2						Reform	• Trade policy aligned with the needs of F&V sector	MoIMT	MoAJ
		3.3.4. Review the conditions of market access for imported inputs and equipment used in the sector and revise the use of tariff and non-tariff barriers to ensure access to needed factors of production	3						Reform	• Facilitation of imports of equipment and inputs	MoIMT	MoAJ

Strategic objective	Operational objective	Activity	Priority	Period					Reform or project	Targets	Leading implementing partners	Supporting implementing partners
				2021	2022	2023	2024	2025				
3. Strengthen the image and presence of Iranian products in a variety of markets	3.4. Secure connections to markets and build trust	3.4.1. Organize business-to-business meetings with key potential markets for Iran and support strategic participation in key trade fairs. The participation in trade fairs should be backed by proactive planning of key partners to be met and potential deals to be discussed.	1						Project	• At least two business-to-business meeting sessions organized per year on target markets	ITPO	MoAJ and APERDRI
		3.4.2. Develop guidelines and hand out materials for potential buyers on the payment mechanisms options available, the current practice, and dos and don'ts	1						Project	• Guideline handout developed and distributed to exporters	ITPO	MoAJ and APERDRI
		3.4.3. Mobilize and resource target market-based Embassies of Iran to deliver trade information on fruits and vegetables to the exporters' association. The information should contain a detailed market profile with a section on consumer trends and preferences and latest successful fruits and vegetables. Use fixers in markets to do quarterly bulletins by e-mail.	1						Project	• At least five embassies mobilized to provide market information in target markets	Ministry of Foreign Affairs	MoAJ and ITPO
		3.4.4. Increase presence in target markets, particularly the Russian Federation, and bring Iranian producers to trade missions and local trade fairs (notably Prodexpo and World Food Fair) in order to expand opportunities for direct communication and face-to-face meetings.	2						Project	• Resource target markets embassies and trade attachés • Take part in local trade fairs with a clear work plan	Ministry of Foreign Affairs	MoAJ and ITPO
		3.4.5. Study cost–benefits of air transportation for highly perishable products, such as lettuce, cucumbers and tomatoes, capsicum, eggplants and stone fruits to specific target markets to increase market reach	1						Project	• Study conducted and distributed to producers	ITPO	MoAJ, APERDRI, and Iran Chamber of Commerce, Industries, Mines and Agriculture

GUIDELINES ON STRATEGY IMPLEMENTATION

The objective of the Iran's Fruits and Vegetables Strategy is to create an enabling environment for the fruits and vegetables sector and to ensure its preservation while contributing to the country's exporting, growth and development. Achieving this ambitious objective will depend on the implementation of the activities defined in this strategy.

It is the translation of priorities into implementable projects that will contribute to achieving the substantial increase in export competitiveness and in export earnings envisaged under the strategy. These will be driven by reforming the regulatory framework, optimizing institutional support to exporters and strengthening firms' capacities to respond to market opportunities and challenges. Allocation of human, financial and technical resources is required to efficiently coordinate, implement and monitor work on the strategy.

Successful execution of activities will depend on stakeholders' abilities to plan and coordinate actions in a tactical manner. Diverse activities must be synchronized across public and private sector institutions to create sustainable results, and it is thus necessary to foster an adequate environment and create an appropriate framework for the strategy's successful implementation.

Key to achieving the targets will be coordination of activities, monitoring progress and mobilizing resources for implementation. To that effect, industry representatives recommended that an advisory committee of public sector and business representatives for the fruits and vegetables sector be rapidly established, operationalized and empowered. The advisory committee is to be responsible for overall coordination, provision of policy guidance and the monitoring of industry development along the strategic orientation.

It is recommended that the advisory committee be empowered to meet quarterly and to implement the following functions:

- Create a shared understanding of key market challenges and opportunities facing the sector;
- Set goals and targets that, if achieved, will strengthen the sector's competitive position and enhance Iran's overall capacity to meet the changing demands of markets;
- Propose key policy changes to be undertaken and promote these policy changes among national decision makers;
- Support the coordination, implementation and monitoring of activities in the sector by the government, business, institutions or international organizations to ensure alignment to goals and targets, as required to contribute to resource identification and alignment.

As part of the overall trade policy and NES design process, it has been recommended that an inter-ministerial and multisectoral business council be organized and structured to address overall challenges and opportunities to Iran's trade performance. It is recommended that chairs of advisory committees, such as that for the fruits and vegetables sector, be members of the council to consult on key trade thematic areas ranging from policy to regulations and trade negotiations.

The presence of the advisory committee to oversee the strategy's implementation is a key success factor, but it is not sufficient to effectively fulfil its assigned functions. The strategy's success depends on business sector support and participation in implementation, proactive networking and communication, and resources for implementation (Table 6).

Table 6: Key success factors for effective implementation

Factor	Details
Business sector support and participation in implementation	The business sector clearly expressed its willingness to contribute, directly or in partnership with public institutions, to the implementation of the strategy. Their implementation efforts can range from providing business intelligence to institutions to contributing to project design, promotion and branding or policy advocacy, etc. In brief, the business sector's practical knowledge of sector operations is essential to ensuring that the strategy remains aligned to market trends and opportunities.
Proactive networking and communication	The key implementing institutions detailed in the plan of action need to be informed of the content of the strategy and the implications for their programming during its implementation period. This networking and communication is essential to build further ownership and to provide institutions with the opportunity to confirm the activities they can implement in the short to long term. It will be important for the members of the advisory committee and other institutions to reach out to relevant institutions nationally to create awareness and support for the development of the fruits and vegetables sector.
Resources for implementation	The advisory committee, in collaboration with other institutions, will need to leverage additional support for efficient implementation. Effective planning and resource mobilization is indispensable in supporting strategy implementation. Resource mobilization should be carefully planned and organized. As the fruits and vegetables sector is a priority of the NES, the government should define annual budget allocations and supports to drive the industry growth. This commitment will demonstrate clear engagement towards strengthening the sector and will encourage private partners to support development. In addition to national budget support, resource identification will require the effective targeting of foreign investors in line with the strategy's priorities. Investment flows to Iran should also be considered as a valuable driver of strategy implementation and overall industry development. The various implementation modalities detailed will determine the success of the strategy's implementation. However, high-level support from the government, in collaboration with strong championship by the business sector, will be the real driver of successful strategy implementation.

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