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Aid for Trade Initiative for the Arab States (AFTIAS)

Skills for Trade and Economic Diversification (STED)

In Egypt

The case of the: Food Processing Sector



Supported By:













Skills for Trade and Economic Diversification (STED) in Egypt

The case of the:

Food Processing Sector

Preparation:

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Foreword

"Skills development is [...] essential to address the opportunities and challenges to meet new demands of changing economies and new technologies in the context of globalization."

Conclusions on skills for improved productivity, employment growth and development, International Labour Conference, 2008.

"The strategic objective of the industrial development strategy is not only to offer job opportunities for the better-qualified, but also and more importantly to make available a wide pool of highly qualified labour at all skill levels, enough to propel the demanded industrial leap."

Egypt's Industrial Development Strategy: The Engine of Growth, 2006.

This report presents an application of the ILO's Skills for Trade and Economic Diversification (STED) methodology to the food processing sector of Egypt's economy. STED is a sector-based approach to identifying and anticipating the strategic skills needs of internationally tradable sectors. The food processing sector is one of Egypt's leading export sectors. It has grown rapidly since the early 2000s, principally through serving markets in the Arab/MENA (Middle East and North Africa) region, including its own domestic market. The sector has been selected due to its large employment share, potential for growth in regional trade, and positive effects for backward linkages to the agricultural sector.

STED has been implemented as part of the Fast-Track-Project of the Aid for Trade Initiative for Arab States, under joint funding from Saudi Arabia, Kuwait, Sweden, Egypt, the Islamic Development Bank, the International Islamic Trade Finance Corporation, and the UNDP.

STED has been developed in recognition of the fact that having the right skills among workers is crucial for firms or industries to succeed in trade, and vice versa understanding trade is important to provide workers with the right skills. Availability of skilled workers contributes to higher and more diversified exports, more foreign direct investment, higher absorption of technology, and more sustainable growth and productive employment creation. At the same time, skills are the key determinant for a worker's success in finding a good job and making a living. In order for skills supply to match skills demand in the labour market, it is necessary to take a forward looking perspective, and to ask not just which skills are in demand today, but which skills will be in demand in the future. This is what STED does.

The methodology has been applied in two economic sectors in Egypt – food processing and furniture, and has been implemented in close collaboration with the Ministry of Industry, Trade and Small and Medium Enterprises (MoTI), the Sector Export Council and the Enterprise Training Partnership for the Food Processing Sector. The sectors were chosen in consultation with the ILO's tripartite constituents in Egypt, and the STED process has been undertaken in collaboration with sector level stakeholder steering committees.

This report, and the companion report on the furniture sector, set out a range of recommendations that together amount to a strategic skills agenda for each of the two sectors covered. The project plans to follow up the reports by supporting implementation of a number of these recommendations in collaboration with stakeholders.

Mr. Peter Van Rooij Director ILO Decent Work Team/ Country Office for Egypt, Eritrea, Sudan and South Sudan Mr. Girma Agune Chief a.i. Skills and Employability Branch Employment Policy Department ILO Geneva

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Many industry stakeholders from government, chambers, private sector, and trade unions generously gave their time and insights during workshops and interviews, reviewing the final draft report and through participating in the steering committee for STED work in the sector.

All errors and omissions remain the responsibility of the authors.

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List of acronyms

Aftias	Aid for Trade Initiative for Arab States
Agadir	Arab Mediterranean Free Trade Agreement
COAE	Centre of Organic Agriculture in Egypt
COMESA	Common Market for Eastern and Southern Africa
EFSIC	Egyptian Food Safety Information Centre
EGP	Egyptian Pound
EIDS	Egyptian Industrial Development Strategy
EIU	Economist Intelligence Unit
EOS	Egyptian Organization for Standardisation and Quality
EU	European Union
FAO	Food and Agriculture Organization
FTRI	Food Technology Research Institute
GAFI	General Authority for Investment and Free Zones
GAFTA	Greater Arab Free Trade Area
GAP	Good Agricultural Practices
GCP	Good Consumption Practices
GDiP	Good Distribution Practices
GDP	Gross Domestic Product
GHP	Good Hygiene Practices
GMP	Good Manufacturing Practices
GOEIC	General Organization for Exports and Imports Control
НАССР	Hazard Analysis and Critical Control Points
HEIA	Horticultural Export Improvement Association
HS	Harmonized System
ILO	International Labour Organization
IMC	Industrial Modernisation Centre
ISIC	International Standard Industry Classification
ISO	International Organization for Standardization
ITC	International Trade Centre
MAPs	Medicinal and Aromatic Plants
MENA	Middle East and North Africa
MFN	Most Favoured Nation
Mol	Ministry of Investment
ΜοΤΙ	Ministry of Industry, Trade and Small and Medium Enterprises

MSEs	Micro and Small Enterprises
NTMs	Non-tariff measures
OECD	Organization for Economic Co-operation and Development
QACP	Quality Assurance control Points
QIZs	Qualifying Industrial Zones
SEAM	Support for Environmental Assessment and Management
SFD	Social Fund for Development
SHOURA	Foundation for Development and the Enterprise Training Partnership
	for the Food Sector Partnership
SME	Small and medium-sized enterprise
SPs	Service Providers
SPS	Sanitary and Phyto-Sanitary
SSA	Sub-Saharan Africa
STED	Skills for Trade and Economic Diversification
TASS	Technical Agricultural Secondary Schools
ТВТ	Technical Barriers to Trade
UAE	United Arab Emirates
USD	United States Dollar
VC	Value Chain
WHO	World Health Organization
ωтο	World Trade Organization

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1. Introduction

In today's rapidly changing and highly integrated world, skills at all levels of business are becoming increasingly critical for performance and competitiveness. Globalization and technological change continue to increase the demand for skills and adaptation of workers to new challenges through lifelong learning. The Aid for Trade Initiative for Arab States (AfTIAS) provides a platform for targeted trade reforms at regional and country levels. Through this initiative the International Labour Organization (ILO) has implemented the Skills for Trade and Economic diversification (STED) methodology for two selected sectors.

The STED methodology is a sector level methodology that assists in the formation of skills development strategies that help countries become more competitive in the context of open markets, and build or maintain a sound and diversified economic structure. Applying the STED methodology typically involves a combination of desk review and field research. This includes collection of relevant data, employer survey work and structured interviews with key informants. The outcomes of STED are recommendations at the policy, institutional, and enterprise level. The process involved in designing those recommendations contributes to raising awareness and stimulating dialogue on skills development among key stakeholders within a sector. The main objectives include enhancing exports and economic diversification, enabling more and better jobs, and helping policy makers to ensure that firms find workers with the right skills and workers acquire the skills needed to find productive employment.

STED initiatives analysed skills needs and developed skills strategies in two export sectors in Egypt in 2014 through the AfTIAS's Fast Track Work Plan 2014. The food processing sector was one of the selected sectors. Food processing is a major sector employing about 600,000 in Egypt in 2013, and generating substantial additional employment in supplier sectors, particularly in agriculture. The Arab region (22 states), as a group, is the biggest importer of Egyptian food processing exports. The region imported up to 73 per cent of the sector's total exports in 2013. The sector has potential to enhance regional trade integration, expanding intra-regional trade within the Arab region. Growth in the sector's exports would have good potential for further developing backward linkages to the agriculture sector, impacting positively on economic returns and employment opportunities in agriculture. Important endeavours are already underway in areas including developing skills standards, food safety and other development strategies for the sector, driven by government and other stakeholders. However, there is no existing strategic planning work that comprehensively draws together trade-related development strategy and skills into a human resource development strategy for the sector.

Egypt is a lower middle income country with a GDP of USD 272 billion in 2013. Annual real GDP growth averaged 4.3 per cent in the 1990s, and it improved to 4.9 per cent in the decade before the uprising in early-2011. Economic growth has remained weak since the uprising with real GDP growth averaging 2.1 per cent per annum during the last four years (2011-2014), and is forecast by the Economist Intelligence Unit (EIU) to rise slightly to 3.8 per cent in 2015. According to the EIU's recent analysis, business confidence has improved and investment is increasing (Egypt is likely to receive further support from Gulf donors such as Saudi Arabia, the United Arab Emirates (UAE) and Qatar for infrastructure development). Assuming there will be no further political shocks, the EIU forecasts that economic growth will increase in future years, reaching 4.8 per cent in 2019.

The total population of Egypt has grown rapidly from 56 million in 1990 to 80 million in 2012, but the annual population growth rate has slowed somewhat, from 2 per cent in 1990 to 1.66 per cent in 2012.

2. Sector characterization

2.1 Overview

Agricultural commodities and processed food products take three different forms: agricultural products; processed intermediate products; and processed consumer goods. World trade in food has changed significantly in recent years; the trade of processed foods has increased, while the proportion of agricultural commodity trade has declined. The Egyptian food processing sector plays an economically important role in Egypt, and is considered one of the vital labour-intensive sectors able to create productive employment opportunities in the current circumstances of Egypt, whether directly in the sector itself or in its supply chain.

Food industry exports are ranked third by value among manufacturing industries. Total Egyptian exports increased by 26 per cent from 2010 to 2013, and according to statistics of the General Organization for Exports and Imports Control (GOEIC) total non-oil exports were about 153 billion EGP in 2013. The food industry exports reached almost 20 billion EGP in 2013 representing around 12 per cent of the total non-oil exports (GOEIC, 2014).

The Egyptian food processing industry has advantages from its location. For many types of agricultural raw material, Egyptian agriculture can produce year-round, and is rarely subject to seasonal constraints. Also, relative to other countries in the region, it has a good water supply, which positions it well as a regional supplier of processed agricultural outputs. Egypt has a key geographical location, with proximity both to Arab countries and Europe, and with direct sea and air shipping services. Egypt also has preferential access agreements with the Arab countries and other regional markets.

However, the agricultural system in Egypt is underdeveloped with weak relationships between growers and processors, and low skills in post-harvest handling from the farm to factory. The Egyptian food processing sector inherits considerable deficiencies related to labour productivity, compliance with international standards, and informality.

2.2 Sector definition

The food processing sector includes companies that transform livestock and agricultural products into products used for intermediate or final consumption through the use of materials, labour, equipment and technology.

International Standard Industry Classification (ISIC) Revision 3 categorizes the food processing industry as Division 15 (manufacturing of food products and beverages) of Section D (manufacturing) and it consists of the following subdivisions:

- ISIC 151 Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats
- ISIC 152 Manufacture of dairy products
- ISIC 153 Manufacture of grain mill products, starches and starch products, and prepared animal feeds
- ISIC 154 Manufacture of other food products
- ISIC 155 Manufacture of beverages

ISIC Revision 4 categorizes the food processing industry as Division 10 (manufacture of food products) and Division 11 (manufacture of beverages) of Section C and the sector is divided into the following subcategories:

- ISIC 101 Processing and preserving of meat
- ISIC 102 Processing and preserving of fish, crustaceans and molluscs
- ISIC 103 Processing and preserving of fruit and vegetables
- ISIC 104 Manufacture of vegetable and animal oils and fats
- ISIC 105 Manufacture of dairy products
- ISIC 106 Manufacture of grain mill products, starches and starch products
- ISIC 107 Manufacture of other food products
- ISIC 108 Manufacture of prepared animal feeds
- ISIC 110 Manufacture of beverages

Trade data in the report are based on trade in products of the food processing sector, and do not cover unprocessed agricultural outputs. In statistical terms, we have used correspondence tables between the ISIC sector codes shown above and Harmonized System (HS) trade codes to distinguish between foods that should be categorized as products of the food processing sector and those that should be classified as products of other sectors.

Products under medicinal and aromatic plants (MAPs) and their extracts and oils are generally not included in the above categories. The raw and dried plant material is not classified as processed for statistical purposes, and many of the uses to which MAPs products are put are not food related. However, as they are a key group of products, closely allied to food processing, for which exports are growing rapidly, they are covered by the report, mainly in boxes separate from the main text.

It is challenging to obtain information for these products strictly by ISIC category as they are subsets of certain ISIC categories. For instance: growing of medicinal and aromatic plants is a subset of ISIC 0111 - Growing of cereals and other crops n.e.c. (not elsewhere classified); and manufacture of essential oils and resins and mixtures of odoriferous is a subset of ISIC 2429 - Manufacture of other chemical products n.e.c. However obtaining trade data is more straightforward as they are categorized as separate groups under the classification of Harmonized Commodity Description and Coding System, also known as the HS, an internationally standardized system of names and numbers used to classify traded products.

Box 1: Sector characterization - medicinal and aromatic plants (MAPs)

Medicinal, aromatic and/or spice plants (MAPs) are plants used for medication (medicinal), for the production of essential oils (aromatic) or for adding flavour to foods (spice). These plants can be either collected from the wild or cultivated, and they can be used fresh or dried, with or without being processed. Ancient Egyptians were already aware of some of the properties of these plants and they used their roots, rhizomes, flower leaves, fruits, seeds and oil for medication purposes. Egypt is one of the main international exporters in some categories of MAPs, for crops such as chamomile, marjoram, coriander and basil. It accounted for about 3 per cent of the world's exports of medicinal plants in 2013, ranking 6th with 109 million USD of exports. Egyptian exports of MAPs, as a whole, have shown a strong capacity for growth, with an annual average growth rate of 20 per cent from 2003-2013, second after India.

For purposes of this report, the following product categories are classified as MAPs:

- 1. Medicinal and aromatic plants (marjoram, chamomile, basil, sage) (corresponding HS code at the 4digit level is HS 1211).
- 2. Medicinal and aromatic plants seeds (anise, cumin, caraway, coriander, fennel) (corresponding HS code at the 4-digit level is HS 0909).
- 3. Medicinal and aromatic plant and other seeds (thyme, ginger, curry, saffron, mixed spices) (corresponding HS code at the 4-digit level is HS 0910).
- 4. Aromatic oils (marjoram, chamomile, basil, sage) (corresponding HS code at the 4-digit level is HS 3301).

Within this sector, it is possible to distinguish between various sub-sectors at different levels of development and with different potential. The most developed are bulk MAPs (e.g. fennel, chamomile, mint, marjoram), essential oils and perfume concretes. Less developed, but with high potential, are medicinal plants and herbal teas, fresh culinary herbs, phyto-medicines and organic MAP crops.

MAPs are advantageous to Egypt for a number of reasons. They can be cultivated under the majority of climates and soils available in Egypt. Relative to their value, their water consumption is low. As they are mostly handled in their dry form, they do not require complex transport or handling arrangements for export (e.g. freezing or special packaging), although preliminary processing can add significant value. Being labour-intensive at grower level, they offer an opportunity for higher employment than other crops. The sector currently employs more than 140,000 workers, excluding supporting manpower.

2.3 Sector profile

The food processing sector accounted for 18 per cent of Egypt's total manufacturing production in 2012 and is valued at over 420 billion EGP. It is Egypt's second largest manufacturing industry, based on production (76 billion EGP in 2012), following the manufacture of coke and refined petroleum products. In terms of net value added, it is the third largest industry following the manufacture of chemicals and chemical products.

		Net value added		Production		
ISIC division code	Top manufacturing groups (by ISIC Rev 4)	Value in billion EGP	% of total manu- factur-ing	Value in billion EGP	% of total manu- factur- ing	% NVA/pro duction
19	Coke and refined petroleum products	75.31	45	125.2	30	60
20	Chemicals and chemical products	17.87	11	34.5	8	52
10+11	Food products and beverages	16.88	10	75.37	18	22
24	Basic metals	15.80	9	54.5	13	29
23	Other non-metallic mineral products	9.32	6	26.6	6	35
21	Pharmaceuticals, medicinal chemical and botanical products	5.60	3	14.9	4	38
	Other manufacturing	28.03	17	88.77	21	32
	Total manufacturing	168.81	100	419.9	100	40

 Table 1: Net value added and production at producer's price for biggest manufacturing sectors, 2012

Source: Industrial statistics, CAPMAS.

As of 2012, real output growth for the food processing sector had, on average, increased by 3 per cent annually from 2000, somewhat slower than for Egyptian manufacturing as a whole, which increased by an average of 4 per cent per annum over the same period. Overall, the industry experienced relatively stable growth over the last decade except for an acceleration in growth around 2007 followed by a slowdown in 2009 arising from the economic downturn.





Source: Authors' calculation using CAPMAS production data and GDP deflator.

2.4 Sector employment and enterprises

According to the Egyptian labour market survey, total employment in Egypt across all sectors and economic activities was estimated to be 23.9 million in 2013 (Labour Force Survey, CAPMAS, 2013). Out of which 11 per cent are employed in the manufacturing sector (total employed in the manufacturing sector according to the labour force survey 2013 is estimated to be 2.5 million, however according to the economic census 2013 is estimated to be 2.4 million). A key characteristic of the labour market in Egypt is gender disparity in labour market participation and in unemployment. The female share of employment is low in the manufacturing industry, at 8 per cent of the total, and highest in health and social work services (59 per cent), education (48 per cent) and agriculture (31 per cent). The largest component of "industry" outside manufacturing is construction, in which employment is typically predominantly male, even in countries with high female labour market participation.

	Total employment	Employment composition	Share of female employment
Agriculture	6,703	28%	31%
Industry	5,779	24%	4%
of which manufacturing	2,570	11%	8%
Services	11,492	48%	22%
All	23,384	100%	20%

Table 2: Total employment by main industries, average of 2013 (000s)

Source: Egypt's Labour Force Survey, CAPMAS 2013.

According to the Economic Establishment Survey 2013 Census, the food processing sector employed 612'000 people, in 77,289 enterprises (both public and private) in 2013. This represents 25 per cent of total manufacturing employment, making food processing the largest sector within manufacturing in terms of employment.

ISIC division code	Manufacturing industries by ISIC, Rev 4	Number of establish- ments	Share of total manufac- turing	Total employment	Share of total manufac- turing
10+11	Food products and beverages	77,289	20%	612,512	25%
31	Furniture	104,250	27%	270,222	11%
14	Wearing apparel	48,715	13%	254,937	11%
25	Fabricated metal products, except machinery and equipment	53,065	14%	184,926	8%
13	Textiles	10,481	3%	184,684	8%
23	Non-metallic mineral products	12,587	3%	158,275	7%
16	Wood and products of wood and cork (except furniture)	38,855	10%	98,766	4%
24	Basic metals	1,518	0%	87,650	4%
20	Chemicals and chemical products	1,903	0%	75,846	3%
22	Rubber and plastic products	3,735	1%	54,825	2%
	Other manufacturing	33,180	9%	433,818	18%
	Total manufacturing	385,578	100%	2,416,460	100%
	Grand total of all economic activities	2,410,353		9,351,137	

Table 3: Total employment and number of establishments, 2013

Source: Egypt's Economic Census, CAPMAS 2013.

The largest subsector is the bakery product manufacturing industry, accounting for 61 per cent of total sector employment in 2013, followed by the manufacture of grain mill products and processing and preserving of fruit and vegetables. The bakery and grain mill products' industries have the lowest average employees per establishment (respectively 7 and 3.8), while the sugar processing industry has the largest number of employees per establishment by far (1,081).

ISIC class code	Food Processing subsectors, by ISIC Rev 4	Total employ- ment	Share of total food processing employment	Number of establish- ments	Share of total number of enterprises in food processing	Average employ- ment (no. of employees)
1071	Bakery products	376,621	61%	54,074	70%	7
1061	Grain mill products	53,244	9%	14,040	18%	4
1030	Processing and preserving of fruit and vegetables	32,848	5%	958	1%	34
1050	Dairy products	26,461	4%	1,883	2%	14
1040	Vegetable and animal oils and fats	21,453	4%	1,581	2%	14
1072	Sugar	18,382	3%	17	0%	1,081
11	Beverages	16,774	3%	91	0%	184
1079	Other food products n.e.c.	15,923	3%	1,202	2%	13
1080	Prepared animal feeds	15,064	2%	1,385	2%	11
1073	Cocoa, chocolate and sugar confectionery	12,908	2%	1,095	1%	12
1010	Processing and preserving of meat	11,542	2%	203	0%	57
1074	Macaroni, noodles, couscous and similar farinaceous products	4,583	1%	155	0%	30
1020	Processing and preserving of fish, crustaceans and molluscs	3,699	1%	548	1%	7
1062	Starches and starch products	2,075	0%	43	0%	48
1075	Prepared meals and dishes	935	0%	10	0%	94
	Total food processing employment	612,512	100%	77,285	100%	8

Table 4: Total employment by major food processing subsector, 2013

Source: Egypt's Economic Census, CAPMAS 2013.

According to the economic establishment surveys for 2006 and 2013, the total number of enterprises in the manufacture of food products in Egypt increased by 22'000 from 2006 to 2013. The major increase was among enterprises employing 5 to 25 employees (more than 20,000).

	Number of employees							
Year	Fewer than 5	5-9	10-24	25-49	50-99	100+	Total	
2006	33,677	17,749	2,643	404	178	286	54,937	
2013	35,415	31,384	9,443	422	239	295	77,198	

Table 5: Distribution of enterprises in manufacture of food products sector by number of employees

Source: Egypt General Census for Population, Housing and Establishments. Egypt's Economic Census 2013.

A key feature of the Egyptian food processing sector is the presence of a large number of micro and small enterprises (MSEs) like many other manufacturing subsectors in Egypt. Eighty-seven per cent of enterprises in the sector employ fewer than ten employees. However the share of micro enterprises with fewer than five employees is lower than for most other manufacturing subsectors.



Figure 2: Distribution of manufacturing enterprises by number of employees, 2013

Source: Egypt's Economic Census, CAPMAS 2013.

The following table shows how the total number of enterprises and employed persons changed for food processing enterprises with 25 or more employees over the period 2011-2014. (The survey behind this data only covers enterprises with 25+ employees.)

Although the total number of enterprises in the food processing sector in this size category decreased from 1,030 in 2011 to 867 in 2014, the total of employed persons increased from 161'000 to 170'000. The share of female employees was between 13 and 15 per cent.

	2011	2012	2013	2014
Number of enterprises	1,030	1,021	941	867
Number of total employees	161,127	160,319	167,492	170,302
Number of female employees	22,450	23,015	24,554	21,329
Share of female employees	14%	14%	15%	13%

Table 6: Numbers of food processing enterprises with 25+ employees, and numbers of employees inthese enterprises 2011-2014

Source: Industrial Statistics, CAPMAS.

The increase in employee numbers comes mainly from increased employment in two subsectors: processing and preserving of fish, crustaceans and molluscs; and processing and preserving of fruit and vegetables. Processing and preserving of fish, crustaceans and molluscs experienced the highest annual increase in the employment of female employees (19 per cent).

The table also presents the annual female participation rates by the subsectors of manufacturing of food products for the period 2011 and 2014. The highest female participation is in processing and preserving of fruits and vegetables.

Industries by ISIC, Rev 4	Average annuc No. of enterprises	al changes of 20 No. of total employees	11-2014 in: No. of female employees	Average annual female participation
Processing and preserving of meat	-3	2	-11	21
Processing and preserving of fish, crustaceans and molluscs	-4	9	19	20
Processing and preserving of fruit and vegetables	-5	8	-2	22
Manufacture of vegetable and animal oils and fats	-8	-1	-7	6
Manufacture of dairy products	-5	6	-5	11
Manufacture of grain mill products	-2	-3	0	9
Manufacture of other food products	-8	1	4	15
Manufacture of prepared animal feeds	1	5	2	8
<i>Total of division 10 manufacture of food product</i>	-6	2	-1	14
Grand total	-4	0	-3	15

Table 7: Dynamic of employment and number of enterprises (25+ employees) and femaleparticipation dynamic between 2011 and 2014 as a percentage

Source: Industrial Statistics, CAPMAS.

2.5 Patterns and trends in trade

The following table shows the distribution of total Egyptian non-oil exports in 2010 and 2013. Egyptian food industry exports increased by 36 per cent from 2010 to 2013. The total of about 20 billion EGP (approx. 2.8 million USD) in 2013 represented 12 per cent of total Egyptian non-oil exports.

Sector	Export value (in million	Share of total	Ex (in r	port value nillion EGP)	Growth (2010-13)
Building	4.675	20%	2010	32.033	13%
Chemical industry	4,289	18%	22,078	29,526	34%
Food industry	2,865	12%	14,458	19,715	36%
Eng. & elec.	2,221	10%	12,572	15,259	21%
Mining industry	3,182	14%	12,348	14,904	21%
Agro	2,027	9%	11,110	13,882	25%
Ready-made garments	1,429	6%	7,833	9,822	25%
Weaving-spinning	911	4%	4,535	6,263	38%
Homeware	728	3%	3,622	5,001	38%
Medical and pharmaceutical industry	453	2%	2,038	3,112	53%
Furniture	351	2%	1,440	2,414	68%
Other	213	1%	1,256	1,470	17%
Total	23,344	100%	121,672	153,401	26%

Table 8:	Distribution o	f non-oil	Egyptian	exports	2010 and 2	013
			-010-000			

Source: General Organization for Export and Import Control (GOEIC).

The Egyptian food processing increased its export sales by a factor of almost ten from a value of 226 million USD in 2002 to 2,191 million USD in 2013. Imports of processed foods also increased substantially, by a factor of six between 2002 and 2013.



Figure 3: Egyptian exports and imports of products of food processing sectors (USD million)

Source: ITC trade map.

In addition to growing sales of existing products in existing markets, Egyptian food processing sector exports have expanded partly through diversification into new markets, and partly through diversification into new products as shown in the figure below. Competition from imports has diversified in terms of product imported, but has only diversified slightly in terms of the number of countries from which they are imported.

In the charts below, "product diversification" represents the number of food processing product categories (at HS 6-digit level) traded. "Market and source diversification" represents the number of countries to which Egyptian food processing exports go, and the number of countries from which Egypt imports food processing products.

Figure 4: Product and market diversification of Egyptian food processing sector



a. Product diversification



b. Market diversification

Source: ITC trade map.

The main subsectors driving the increase in exports have been in processing and preserving fruits and vegetables, manufacture of dairy products, manufacture of sugar, and manufacture of grain mill products.



Figure 5: Exports of Egyptian food processing sector by subsector (by ISIC Rev. 3)

This chart is based on calculating exports from each subsector using concordance tables that link trade data classified by 6-digit HS code to sector data classified by ISIC code.

Source: ITC trade map.

The main categories of processed food exported are:

- dairy products mainly cheese;
- sugars and sugar confectionary sucrose, sugar confectionary and molasses;
- vegetable, fruit, nut etc. food preparations mainly juices, processed olives, processed potatoes, fruit preparations and preserved fruits and vegetables;
- vegetable fats and oils etc. mainly soy bean oil, vegetable oils, sunflower oil and palm oil;
- miscellaneous edible preparations "other food preparations", yeast, sauces, soups and broths; and
- processed cereals.



Figure 6: Exports of Egyptian food processing sector by product category

This chart is based on 6-digit HS codes shown in concordance tables as being products of the food processing sector. It therefore does not include 6-digit HS codes shown in concordance tables as being products of other sectors, such as agriculture. When comparing with Figure 5, it should be noted that apparently similar high level categories under HS and ISIC do not always match up well. For example, products of ISIC 1513 (processing and preserving of fruit and vegetables) appear under HS7, HS8 and HS20.

Source: ITC trade map.

The main imports of processed foods are:

- animal and vegetable fats and oils etc. mainly sunflower seed oil, palm oil, and soy bean oil;
- meat mainly beef and bovine livers;
- dairy products mainly milk powder and butter, but also cheese and other dairy products;
- animal feed;
- sugars and sugar confectionary mainly raw cane sugar; and
- miscellaneous edible preparations mostly "other food preparations".



Figure 7: Imports of processed foods into Egypt by product category

This chart is based on 6-digit HS codes shown in concordance tables as being products of the food processing sector. It therefore does not include 6-digit HS codes shown in concordance tables as being products of other sectors, such as agriculture.

Source: ITC trade map.

Box 2: Trade in MAPs

Global trade in MAPs, as defined for purposes of this report (including essential oils, concretes, seeds, spices etc. as well as plant material), is worth about 10 billion USD, with an annual average growth rate of 11 per cent for 2003-2013. China is the leading exporter of MAPs with a share of 20 per cent of world exports in 2013 amounting to about 2 billion USD, followed by India which exported 1.6 billion USD in the same year.

Egypt's exports of MAPs reached 158 million USD in 2013; the US, Germany and France are the main importers. Libya, Saudi Arabia and Russia are also significant importers of Egyptian MAPs. Production and export of MAPs in Egypt have shown an annual increase of 7.4 per cent in production and 20 per cent in exports over the last ten years. The cultivated MAPs area reached 80'000 acres in 2013 and it extends throughout the country.

Figure 8: World's top exporters and importers of MAPs



a. Top exporters

b. Top importers



Note: RoW- Rest of World; Annual average growth rates for the 2003-2013 are given in the parenthesis

Source: ITC Trade map.

Box 2: Trade in MAPs (continued)

Going into further detail, the graphs below show the increase in export and import of different MAP products. Egyptian exports of ginger, saffron, turmeric, thyme, bay leaves and curry (HS 0910) grew from around 0.14 million USD to 1.3 million USD from 2003 to 2013. Over the same period, exports of seeds of anise, badian, fennel, coriander, cumin and others (HS 0909) grew from around 5 million USD to 11 million USD. Exports of medicinal plants (HS 1211) grew from less than 20 million USD to almost 110 million USD. Exports of essential oils (HS 3301) grew from 8 million USD to 36 million USD. In terms of imports the first MAP type (HS 0910) grew from around 0.43 million USD to more than 10.8 million USD; the second type (HS 0909) grew from around 2.4 million USD to around 4.9 million USD; the third type (HS 1211) from around 1.4 million USD and the imports of essential oils grew from 1.4 million USD to 14 million USD.

Figure 9: Egyptian exports and imports of MAPs



a. Egyptian exports of MAPs



Figure 10: Essential oils (EO) - HS 3301



a. World exports of HS 3301





b. Egptian exports of HS 3301



Source: ITC trade map

Box 2: Trade in MAPs (continued) - Essential oils (HS 3301)

Global trade in essential oils and concretes reached about 4 billion USD in 2013, an average annual increase of 10 per cent from 1.6 billion USD in 2003. The European Union (EU) is the largest participant in trade, accounting for about 36 per cent of the world's imports and 28 per cent of the world's exports in 2013. Looking at charts Graph 2 (a-b) above, we can look more closely to the growth of Egyptian exports and imports of essential oils in the last ten years. From 2002 to 2013, Egyptian exports of essential oils etc. (HS 3301) grew from around 8 million USD to 36 million USD, while corresponding imports grew from 1.4 million USD to 14 million USD.

b. World top importers

b. Egptian exports of HS 3301

Figure 11: World top exporters and importers of HS 3301



a. World top exporters

Figure 12: Egyptian top partners







Out of the top ten importers of Egyptian food processing exports, nine are countries from the Arab region. While the this region is the main destination for Egyptian food processing exports, its imports mainly come from outside of the region with Argentina, USA and Brazil as the top three exporters to Egypt. However countries from the Arab region, such as the United Arab Emirates, Turkey and Saudi Arabia, are among the top twenty exporters of food processing products imported into Egypt in 2013 (see Figure 13b).

Figure 13: Top importers and exporters, Egyptian food processing



a. Top destinations of food processing products exported from Egypt

b. Top sources of food processing products imports into Egypt



Source: ITC trade map.

Based on UN Comtrade data, the following table shows the main markets for Egyptian food processing products exports in 2013 using 2-digit HS code classifications. The main markets for Egyptian food product exports in 2013 were Saudi Arabia, receiving about 12 per cent of total food products export, Libya (8 per cent), and UAE (6 per cent). Forty-three per cent of Egyptian exports from dairy products went to Saudi Arabia and Libya, 10 per cent of Egyptian exports from oil seeds and medicinal plants went to Italy, 26 per cent of Egyptian exports from essential oils and odoriferous substances were exported to Saudi Arabia, Iraq and UAE.

Table 9: Distribution of Egyptian food product exports in 2013 (as a percentage) by main markets and using 2-digit HS code classifications

roduct category 4 Dairy, eggs, honey, & ed. products 17 Edible vegetables	ta 👯 KSA	o 🔤 Libya	4 👓 Iraq	on 🚽 UAE	x Russian Federati on	а ик	italy	ω <mark>∞</mark> Jordan	₄ 🚥 Lebanor		ω 4 Syria	ω ▶ Syria → □ Sudan	ω ▶ Syria → □ Sudan ω ▶ Kuwait	 ∞ A Syria → O Sudan ∞ A Kuwait ∞ → Moroccc 	with with with with with with with with
7 Edible vegetables	13:	9	4	СЛ	8	10	100 C	14	11 3	11 3 4	11 3 4 3	11 3 4 3 1	11 3 4 3 1 3	11 3 4 3 1 3 0	11 3 4 3 1 3 0 29
8 Ed. fruits & nuts, peel of citrus/melons	14	-	10	6	14	9		2	2 2	2 2 1	2 2 1 0	2 2 1 0 3	2 2 1 0 3 4	2 2 1 0 3 4 1	2 2 1 0 3 4 1 34
9 Coffee, tea, mate & spices	3	16	9	2	0	0		- P	1 13	1 13 10	1 13 10 4	1 13 10 4 5	1 13 10 4 5 0	1 13 10 4 5 0 5	1 13 10 4 5 0 5 32
2 Oil seeds /medicinal plants/straw	6	2	4	9	2	-	E	10	10 3	1 10 3 4	1 10 3 4 5	10 3 4 5 0	10 3 4 5 0 1		1 10 3 4 5 0 1 4 52
3 Lac, gums, resins, etc.	14		5	10					1					1 1 1 2 0	
5 Animal or veg.fats, oils & waxes	2	1	13	0	0		0	0 0	0 0 16	0 0 16 9	0 0 16 9 12	0 0 16 9 12 2	0 0 16 9 22 1	0 0 16 9 12 2 1 2	0 0 16 9 12 2 1 2 17
7 Sugars & sugar confectionery	4	8	-	0			0	0 2	0 2 2	0 2 2 3	0 2 2 3 6	0 2 2 3 6 25	0 2 2 3 6 28 0	0 2 2 3 6 28 0 2	0 2 2 3 6 25 0 2 47
8 Cocoa & cocoa preparations	*	2	2	9		1	0	0	8	6 8 0	0 6 8 0	0 8 9 0 1	0 8 9 0 1 4	0 8 9 0 1 4 2	0 8 9 0 1 4 2 29
9 Preps. of cereals, flour, starch or milk	8	8	4	2	0	0	-	0	0 3	0 3 8	0 3 8 5	0 3 8 5 1	0 3 8 5 1 1	0 3 8 5 1 1 0	0 3 8 5 1 1 0 61
0 Preps. of vegs., fruits, nuts, etc.	10	13	4	7	1	ω	121	2	2 3	2 3 1	2 3 1 1	2 3 1 1 3	2 3 1 1 3 3	2 3 1 1 3 3 5	2 3 1 1 3 3 5 45
1 Misc. edible preparations	20	3	3	8		4		4	1 11	1 11 3	1 11 3 4	1 11 3 4 7	1 11 3 4 7 4	1 11 3 4 7 4 4	1 11 3 4 7 4 4 32
3 Residues from fool industries, animal feed	6	0		4		4	17.2	8	8 4	8 4 3	8 4 3 0	8 4 3 0 1	8 4 3 0 1 1	8 4 3 0 1 1 32	8 4 3 0 1 1 38 41
ssential oils and odoriferous substances	10	2	8	8	0	-	4	0	0 4	0 4 3	0 4 3 2	0 4 3 2 4	0 4 3 2 4 1	0 4 3 2 4 1 2	0 4 3 2 4 1 2 54
	12	~	6	сл	σı	on		4	4 4	4 4 4	4 4 4 4	4 4 4 3	4 4 4 3 3	4 4 4 3 3	4 4 4 3 3 2

10 to less than 20 per cent of the total exports of this subsectors goes to this country 5 to less than 10 per cent of the total exports of this subsectors goes to this country

2.6 Value chains

The value chains of agro-food processing industries are typically rather complex, often with a number of intermediaries involved between small scale producers and processing firms, and between the processing firms and users – whether domestic consumers or users in foreign markets. The figure below shows a simple version of a value chain in agro-food processing. It starts from farming and ends with the end users in local and foreign markets. It covers growing, post-harvest activities, transportation, manufacturing and processing, post manufacturing activities, and reaching the end users.

Figure 14: Food processing value chain (simple)



The detail of value chains varies between products. Some of the ways in which a value chain might be more complex than that shown here include:

- additional layers of intermediaries;
- more than one processor in the chain, with those closer to the farmer producing ingredients for those closer to the customer;
- different value chain configurations for different raw materials and other inputs.

Food processing value chains essentially consist of three main steps or processes beginning with obtaining inputs and raw materials, producing food items, packaging and ending with distribution, which can be domestic retailing or international export distribution.

Raw materials and inputs come from principally agriculture, and the quality of these inputs is essential to quality and productivity in the sector. Unfortunately, Egyptian agricultural productivity is substantially inferior to industrial productivity, which critically constrains the performance of the food processing industry in domestic and international markets.

In the context of the globalization of food supply chains and ever increasing consumer requirements for food that is safe and of high quality, exporting countries need to strengthen the structures of agro-food processing in terms of their food quality and safety. Food safety and quality have a number of dimensions:

• compliance with regulations and standards that are mandatory within the producing country, such as food safety standards;

- compliance with regulations and standards that are required for access to export markets, especially those established under the Agreement on Technical Barriers to Trade (TBT) and the Agreement on the Application of Sanitary and Phyto-Sanitary Measures (SPS);
- compliance with voluntary standards such as ISO standards or standards for organic certification, which may be required by some customers or may be adopted for broader marketing purposes; and
- compliance with specifications internal to the business that are designed to ensure that the product is perceived by end customers to be attractive, consistent and of high quality.

Assuring food safety and quality⁽¹⁾ cannot be achieved through end product control alone, it is necessary that all operators along the food value chain take responsibility through the adoption of the production and process standards such as Good Agricultural Practices, Good Manufacturing Practices, Good Distribution Practices and Good Hygiene Practices (see figure 15).



Figure 15: Assuring food safety and quality through food value chain

Source: Adjusted from Margret Will and Doris Guenther "Food Quality and Safety Standards as required by EU law and the Private Industry", 2007.

With the objective of supplying consumers with safe and high quality food, the process of assuring food safety and quality starts at the farm, continues with food operators at all stages of production, processing, handling and distribution, and ends at the consumer's table. In this context, public and private standards (see Boxes 3 and 6) specify and harmonise product and delivery attributes for a

⁽¹⁾ Throughout the paper, we use the following definitions by the FAO and WHO for food safety and quality:

Food Safety refers to all characteristics that are not negotiable, namely food hazards, whether chronic or acute, that may make food injurious to the health of consumers (e.g. microbiological hazards, pesticide residues, misuse of food additives, chemical contaminants, including biological toxins and adulteration).

Food Quality includes all other product attributes that influence a product' value for consumers, including positive attributes such as the origin, colour, flavour, texture and processing methods of the food and negative attributes such as spoilage, contamination with filth, discoloration, off-odours.

common understanding on food quality and safety "from farm to fork". Farmers should apply Good Agricultural Practices (GAP) to ensure food quality and safety through variety and seed selection, soil preparation, crop and pest control management, harvesting methods, sorting, grading and packaging. Sellers of commodities/inputs at local or international markets should apply Good Distribution Practices (GDP) and manufacturers must apply Good Manufacturing Practices (GMP). These practices include Good Hygiene Practices (GHP) fundamental to Hazard Analysis and Critical Control Points (HACCP) standards.

However, value chain operators are not the only ones with a stake in assuring food safety and quality. It requires an integrated approach, involving laws, regulations, standards and enabling business environment as well as competent public and private services as a part of an efficient and effective system for the assurance of food safety and quality (see Section 3).

Growing international competition and an increasing incidence of food safety scandals highlight the growing importance of food safety and quality assurance systems (see Box 3) for the competitiveness and development of any food processing sector as well as for public health.

Box 3: Food safety and quality assurance management systems

Food safety assurance systems

In order to assure food safety and quality, various safety and quality assurance systems have been developed. Some of the systems are obligatory by law and some voluntary to be implemented by food supply chain members. Obligatory systems have been established to assure food safety through specific legal provisions. These systems are called "Safety Assurance systems" and include GHP, GMP and HACCP. GMP (similarly for GAP and GDiP) is a set of guidelines specifying activities to be undertaken and conditions to be fulfilled in food manufacturing processes in order to assure that the food produced meets the standards of food safety. Similarly, GHP constitute a set of guidelines specifying activities to be undertaken and hygienic conditions to be fulfilled and monitored at all steps of the food chain in order to assure food safety. Both GMP and GHP constitute a precondition in a food enterprise for implementing the HACCP system.



Source: Adapted from Sikora, T. and Strada, A. "Safety and Quality Assurance and Management Systems in Food Industry: An Overview", 2006.

HACCP is a systematic food safety assurance method to identify, evaluate and control food hazards. The HACCP system consists of 13 stages of implementation, of which 6 are preliminary tasks and 7 are HACCP principles. In 1969, the Codex Alimentarius Commission, created by FAO and WHO to develop food standards, guidelines and related texts, brought out the Recommended International Code of Practice – General Principles of Food Hygiene GHP which has gone through several revisions. Codex Alimentarius Commission recommends a HACCP based approach whenever possible to enhance food safety as desired.

The International Organization for Standardization (ISO) issued ISO 22000 to harmonize food safety management systems on a global level as requirements for any organization in the food supply chain. Therefore ISO 22000 is a generic food safety management standard, which integrates the Codex's 7 principles of HACCP and dynamically combines it with Pre-Requisite Programmes (PRPs) necessary to control and reduce any food safety hazards.

While the implementation of the food safety systems such as GMP, GHP and HACCP is obligatory, the implementation of food safety management system according to ISO 22000 standard is voluntary.

Food Quality Assurance and Management Systems

Maintenance and/or introduction of the remaining qualities in food (nutritional, sensory and convenience values) is not required by law, but is desirable to customers. Voluntary implemented systems, known as quality assurance and management systems, include for example Quality Assurance Control Points (QACP), the well-known ISO-9000 (quality management) and ISO 14000 (environmental management). QACP is one of the quality assurance systems in food processing, created based on the HACCP concept. In case of HACCP, Critical Control Points (eliminating hazards), parameters and their critical limits are determined, while in QACP Control Points (quality assurance, not safety) parameters and their critical values are determined. The ISO-9000 series of standards represent the requirements which have to be addressed by every enterprise to assure the reliable production and timely delivery of goods and services to the markets.

Egypt has a substantial endowment of capacity to produce agricultural raw materials, including exotic fruits and a wide range of vegetables. The ability to produce different varieties of fruits and vegetables in the off season is an important comparative advantage (Selim, 2009).

The following table presents the responses of the 167 enterprises surveyed for the project to a question on sources of raw materials. The companies surveyed mainly use domestic raw materials. Compared to the exporting companies, non-exporters are more likely to use imported raw materials with 10 per cent of all the surveyed non-exporters directly importing their inputs and another 29 per cent importing raw materials indirectly.



Figure 16: Sources of input materials for exporters and non-exporters among food processing companies surveyed

The lack of a good transport and storage system in Egypt constrains the utilization of Egyptian agricultural raw materials by the food processing sector. Industry sources estimated agricultural raw material losses to be as high as 60 per cent. This reduces returns to farmers. For food processors, it raises the cost of raw materials, and harms raw material quality and consistency. As shown in Figure 17, a substantial percentage of the surveyed companies (36 per cent) indicated that sourcing high quality inputs is an obstacle to exporting.

Source: STED Survey, Egyptian Food Processing Sector, 2014.
Figure 17: Sourcing quality inputs as an obstacle



Source: STED Survey, Egyptian Food Processing Sector, 2014.

In Box 4, the value chain of MAPs and their extracted substances shows that there are four important players in the VC: growers, farmer's associations and traders; service providers (SPs) and processors/exporters.

Box 4: Value chain of the Egyptian MAPs sector

For MAPs and their extracted substances value chain there are four important players: growers, farmer's associations and traders, processors/exporters, and service providers (SPs)

- 1. Growers: The majority of MAPs are cultivated by small growers in old areas of cultivations and concentrated in certain locations for each specific crop such as basil in Assiut. Usually the traders and/or growers formulate an entity where they can facilitate their production and trading under one organized umbrella which is the farmers' association. The majority of growers are applying conventional manual practices of irrigations and fertilization. However, a few large scale growers are adopting modern irrigation systems, new seeds and cultivars, modern facilities for drying and collection. Having good quality seeds is one of the major challenges for growers due to the shortage of developed pure seeds. Most of the growers are using their own seeds (cultivated in previous seasons) which often have many defects and incompliance with the market needs. A few growers are using new imported seeds. Some growers are adopting organic farming systems for better marketing opportunities. Such growers are familiar with the organic regulations such as the EU regulation No. 834/2007, National Organic Programme, Japanese Agriculture Standards and other standards and trademarks. Most growers have been in this business since childhood through their families. Some growers accept the idea of testing new inputs such as improved seeds, fertilizers and drying practices but they require technical support and prefer to see the trials on experimental fields and study tours (internal or external) before adopting new techniques on their own farms.
- 2. Traders: They play an important role in the value chain of MAPs, dealing with growers and processors/exporters and acting as the main gatekeepers for growers, also providing technical support services. They usually supervise the harvesting and transportation from the field to the drying facility, basic cleaning and screening operations, classifying the products according to the different quality grades, and selling to the processors or the exporters. In some cases, processors or exporters purchase crops directly from growers. For essential oils, many processors receive fresh plant material from growers or local traders and perform oil extraction in small units. These units are located in the middle of the cultivation areas and they tend to use dated technologies under poor hygienic conditions. Often, traders offer a wide range of MAP crops hence lack specialized knowledge and skills in certain products. Most traders have their own locations for drying, sorting, and storage. Traders usually provide technical support to the growers they deal with, and supervise the harvest and drying activities. They also perform laboratory tests on purchased inputs products to ensure product quality and safety.
- 3. **Processors/exporters**: Some exporters have their own farms. They outsource the rest of their demand to other contracted farms or traders. The following types of exporters can be found in the Egyptian MAPs sector:
 - exporters having their own facilities for drying, screening and packing,
 - exporters having facilities for screening and packaging,
 - exporters not performing any of the above mentioned activities.
- 4. Service providers: These are the technical support bodies that deliver technical consultation, research, training, and/or marketing services to the MAPs producers at all levels. Formal providers come from the Ministry of Agriculture and Land Reclamation. However there are many informal service providers, such as the traders and suppliers of agro-chemical substances. They have a strong effect on the small farmers, because in most cases they cover the demands of MAPs on credit. They give recommendations on the use of pesticides and fertilizers. Generally there is a lack of knowledge for these services.

2.7 Profile of companies surveyed

167 enterprises were selected to be interviewed representing main geographic regions in Egypt; urban governorates, Lower Egypt and Upper Egypt from the main food processing subsectors: cheese processing; bakeries; sugar confectionery; vegetable oil, and preparation of vegetables and fruits. For the purpose of the survey, businesses focused on medicinal and aromatic plants and their essential oils were also included.

Table 10: Geographical distribution of the interviewed sample

	Exporter	Non-exporter	Total
Urban governorate	29	26	55
Lower Egypt	40	25	65
Upper Egypt	25	22	47
Total	94	73	167

Source: STED Survey, Egyptian Food Processing Sector, 2014.

According to the survey data, exporter enterprises tend to be larger in terms of number of employees. 65 per cent of exporters employ 50 or more persons, compared to 76 per cent of non-exporters who employ fewer than 50.

Figure 18: Distribution of exporter and non-exporter enterprises in the sample by number of employees



Source: STED Survey, Egyptian Food Processing Sector, 2014.

Out of the 94 surveyed exporting companies, 45 per cent say they have an export plan.

In terms of export shares in total sales, the larger companies tend to export smaller shares of their total sales, for instance almost 90 per cent of the surveyed exporting companies which employ more than 250 employees export only up to 50 per cent of their total sales.

Among all exporters, 44 per cent export only up to 25 per cent of their sales, 24 per cent export between 25 and 50 per cent, and only one fifth export more than 75 per cent of their total sales.



Figure 19: Export shares in total sales, by number of employees



In terms of ownership, 86 per cent of surveyed enterprises have 100 per cent domestic investment, and only 9 per cent have 100 per cent foreign investment. The share of companies with 100 per cent foreign investment is slightly higher for the exporting enterprises.



Figure 20: Enterprise shares by ownership type

Source: STED Survey, Egyptian Food Processing Sector, 2014.

About 65 per cent of the surveyed enterprises are located in industrial zones. Surprisingly, the exporting companies in the sample have a higher prevalence in rural areas, while more non-exporters are located in urban areas.

Figure 21: Distribution of companies by location



Source: STED Survey, Egyptian Food Processing Sector, 2014.

About 70 per cent of exporting companies' surveyed export directly, and 23 per cent export indirectly (through an intermediary). The remaining 5 per cent use both types of channel. This export behaviour varies by the location and ownership type of the company. Companies located in rural areas mainly export indirectly, while companies in industrial zones and urban areas mainly export directly. Foreignowned and joint investment companies are the most likely to control their own distribution.







Source: STED Survey, Egyptian Food Processing Sector, 2014.

In terms of distribution channels, the most commonly used channel is through an Egyptian export company. More than one third of surveyed export enterprises use this channel when they sell their products abroad. The next most common used channel is through exhibition, with 22 per cent of the enterprises. Only 1 per cent of the surveyed companies sell directly to major retail chains. Another 3 per cent say they use wholesalers as a distribution channel to reach consumers in foreign markets.

Figure 23: Distribution channels



Source: STED Survey, Egyptian Food Processing Sector, 2014.

Laboratory and testing facilities

About 80 per cent of enterprises interviewed indicated that they test their products inside the company in addition to formal testing by governmental or private testing facilities. Exporters usually use laboratories at the Ministry of Agriculture or the Ministry of Health to test their products. They express dissatisfaction with the service provided, particularly with delays in delivering results.

3. Business environment

3.1 Egyptian institutional framework⁽²⁾

Egypt is a lower middle income country, with USD 272 billion GDP in 2013. With a population of over 80 million, it is the most populous Arab country. It has the fourth biggest economy in the Arab world after Saudi Arabia, UAE, and Algeria. Egypt benefits from a number of comparatively favourable conditions for development: i) natural resources, in particular abundant energy resources; ii) substantial external income from sources such as the Suez canal, the tourism industry, remittances from migrant workers (8 per cent of GDP) and development and military assistance; iii) extremely fertile soil (although only 5 per cent of the country is arable land) to produce high quality food products; iv) a large local market leading to large-scale production; v) trade agreements that give it good access to export markets; and vi) a central location at the juncture of Africa and Asia and as well as between the Mediterranean Sea and the Indian Ocean.

⁽²⁾ In this section, we have used extensively the following study: Markus Loewe, "Industrial Policy in Egypt 2004-2011", Discussion Paper 13/2013, German Development Institute.

After the MoTI was created in 2004, the Ministry of Investment (MoI) and the Social Fund for Development (SFD) became the principal players in Egyptian industrial policy. An overview of the agencies responsible to these three ministries is shown in Figure 24.

The following will also explain the industrial policy instruments implemented by the Egyptian government since 2004, which have remained active since the revolution of January 2011 and through subsequent political developments.





⁽³⁾ The Industrial Training Council has been moved under the authority of the Ministry of Technical and Vocational Education and Training through Prime Ministerial Decree No. 1050 of 2015.



Source: Markus Loewe, "Industrial Policy in Egypt 2004-2011".

Ministry of Industry, Trade and SMEs (MoTI)

The MoTI issued the *"Egyptian Industrial Development Strategy" (EIDS)* in 2006 and it is still effective (Loewe, 2013). Its main goal is to sustain growth and provide employment through a significant increase in domestic investment (MoTI, 2006).

The strategy defines eight fields of action:

- human resources and entrepreneurship
- access to finance
- infrastructure
- innovation and technology
- quality assurance
- enterprise competitiveness
- exports
- foreign direct investment

Recognizing that most exporters have grown in the domestic market before they compete successfully in international markets, the promotion of domestic market-oriented companies has been added as a ninth field of action of the EIDS, under the responsibility of the Internal Trade Development Agency.

The *Industrial Modernisation Centre (IMC)* is the core of the EIDS and it provides funds to companies for the following type of modernization effort:

- on-the-job training for workers
- training for entrepreneurs
- quality management (establishing standards, calibrating, laboratory upgrading)

- ICT systems upgrades
- innovation and research and development
- technology transfer
- export development (e.g. market research and export strategies)

Until 2008, the IMC refunded up to 80 per cent of total costs of industry modernisation in Lower Egypt and as much as 90 per cent in Upper Egypt. Due to the global financial crisis, the shares were raised to 90 per cent and 95 per cent respectively. The IMC can provide a subsidy for the total costs of urgently needed equipment, up to 100'000 EGP. However these services are limited to formal enterprises with 10 and more employees (full-time and socially insured) with sales that have risen over the previous three years. The IMC also runs three more specialized programmes:

- **1.** The National Supplier Development Programme takes a value chain approach to upgrading the local suppliers of the top 100 Egyptian manufacturing companies with high export potential.
- 2. The Cluster Development Programme supports small and medium-sized enterprise (SME) clusters with their collective technical upgrading. It provides technical and financial assistance for innovation and export promotion, starting with two clusters (dairy and automobile).
- **3.** The 1,000 New Factories Programme provides training, marketing assistance and technical support in product design to 1000 medium-sized companies during start-up and expansion.

For the period between 2005 and 2010, the IMC budget was EUR 426 million, EUR 250 million of which was contributed by the EU, 103 million by the Government of Egypt and 73 million by the private sector (from user fees). Today, the IMC has 17 offices with 85 customer service agents.

The *Industrial Training Council (ITC)* was established to assess current and future training needs and plan and coordinate the national training offer in cooperation with other state agencies and the Federation of Egyptian Industries. It does not provide training itself, but acts as a coordinator by outsourcing training to the most competent private and public training providers.

To improve the accessibility and quality of the physical and digital infrastructure for enterprises, the *Industrial Development Authority* was assigned to: i) manage the state-owned industrial zones; ii) provide land and infrastructure to enterprises in these zones; and iii) facilitate cooperation between the zones so as to encourage formation of industrial clusters.

The *Egypt Technology Transfer and Innovation Centres*, 12 non-profit organizations, were established for the purpose of upgrading the Egyptian industrial sector from being technologically excluded to being an effective technology adopter. They provide Egyptian companies with appropriate technological solutions and know-how, either by putting them in contact with Egyptian universities and research centres or by purchasing the technology from abroad. They charge for their services.

In addition, other actors have also established technology centres including for micro and small enterprises run by the *Social Fund for Development (SFD)*. Among these is the Egyptian Traceability Centre for Agro-Industrial Exports (e-Trace), established by UNIDO to promote new technologies in Egyptian agriculture and agro-industries.

To help Egypt export more manufactured goods, the *Export Councils*, including the *Food Export Council*, were established. They are governed by a board composed of private companies and report

to the MoTI. Membership in the Export Council is a condition for the entitlement to receive export subsidies. Subsidies calculated based on the value of the exported goods oscillated between 8 and 15 per cent in the past decade. Since July 2014, the subsidy has been split into a basic and a variable subsidy and is calculated based on a composite set of indicators including location, product, sector and so forth. The *Egyptian Export Promotion Centre* is the entity to disburse the subsidy. In addition, the Export Councils also offer financial and technical support to help exporters develop export strategies, better market their products, and present their products and services at international exhibitions.

The **National Quality Council** monitors all the activities of the national quality system within which six institutions have assumed tasks. The role of the **Egyptian Organization for Standardization and Quality** is to bring Egypt in line with international standards. **The Egyptian Accreditation Council** is responsible for accrediting bodies that assess conformity, including calibration and testing laboratories. The **National Institute for Standards** checks that the results of calibration and testing do not deviate from international norms. The **Industrial Control Authority** monitors the products of industrial companies to ensure compliance with national and international standards. The **National Quality Institute** raises awareness about existing standards and norms.

All these institutions are elements of the Egyptian Quality infrastructure.

Quality infrastructure is generally understood as the totality of the institutional framework required to establish and implement standardization, metrology (scientific, industrial and legal), accreditation and conformity assessment services (inspection, testing and product and system certification) necessary to provide acceptable evidence that products and services meet international requirements in terms of quality, safety, health and the environment if they are to compete in global markets.

Two World Trade Organization (WTO) agreements –Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS) - define the rules under which standards and technical regulations can be formulated and how disputes are resolved (see Box 5 for details on the agreements).

Social Fund for Development

The Social Fund for Development (SFD), which was founded in 1980 and is still the main actor of micro- and small enterprise promotion and Egypt.

SFD financial services include:

- micro-credits (EGP 50,000-2 million) through contracting banks and SME associations;
- insurance for credit failure, life and fire; and
- funds to attend national and international exhibitions.

The SFD also offers MSEs a range of non-financial services that resembles MOTI and its agencies offer to formal medium-sized and large enterprises. It also runs an "incubator programme".

Ministry of Investment and the General Authority for Investment and Free Zones (GAFI)

The Ministry of Investment was established in 2004. It is in charge of improving Egypt's investment climate, and attracting foreign investment through reforms in five areas: investment legislation; tax administration; monetary policies; trade policies; and investment policies. Its main instrument is the GAFI, which existed before MOI was created but was transformed from a regulatory body into an investment-promotion body.

Since 2005, GAFI has had four main tasks: attract foreign direct investors; simplify registrations and licensing of new establishments; promote and manage the free zones and the Qualifying Industrial Zones (QIZs); and (since 2009) promote SMEs.

GAFI's main activities include: i) one-stop-shops for registration and licensing services; ii) the free zones; iii) the QIZs; iv) the MOI's efforts to develop Egypt's infrastructure; and v) the SME promotion programme.

One-stop-shops: GAFI established and administers one-stop-shops that bring together representatives from different organizations to help facilitate the registration and licensing of companies.

Free zones: As of today, there are ten public free zones and 32 privately-administered free zones. Companies may settle in a free zone, or establish their own free zone, if they belong to one of the branches specified in the Investment Law and export at least 50 per cent of their products. They must pay a user charge amounting to one per cent of their net profits. In return, they are exempted from all taxes and customs and all import and export regulations as well as from some labour law provisions. Land in free zones is relatively inexpensive (ESCWA 2007; Ghorfa 2009).

Qualifying Industrial Zones (QIZs): The QIZs have mostly been established under a protocol signed by Egypt, Israel and the US. The protocol offers quota-free and duty-free access to the US market for products from any company that were manufactured in a QIZ in Egypt – provided that the combined value added in Israel and in the Egyptian QIZ is at least 50.5 per cent, with a minimum of 10.5 per cent local Israeli content. Egypt now has four QIZs, with a total of 760 companies. QIZs export mainly clothes, but also dairy products, pharmaceuticals, cosmetics and dried vegetables.

SME promotion: Since January 2010, GAFI has also been active in SME promotion, with the aim of uniting SME development activities in a more comprehensive strategy that targets companies with capitalization between EGP 2 and 25 million. These companies are somewhat larger than the SFD's usual targets and smaller than most of the IMC's targets.⁽⁴⁾

The strategy includes three elements: business development services; access to finance; and skills development. All three elements focus on industries that have high potential to create jobs and increase output, but suffer from significant gaps in know-how and access to capital. These industries include agriculture and food processing, logistics, health and education services, lab analysis, renewable energies and water conservation equipment.

⁽⁴⁾ To avoid duplicating efforts, GAFI signed an agreement with the SFD stipulating that GAFI would not serve companies with profits under EGP 2 million while SFD would refer firms that were earning more than that to GAFI.

These instruments and policies have been assessed as being comparatively effective in promoting investment and exports but much less in facilitating structural change. The generous transfers made it possible for Egyptian exporters to compete in world markets but also reduced firms' incentive to innovate and become more competitive. Moreover these instruments have focused on medium-sized to large companies. Most of the funds have gone to companies that were already exporting, and not to micro and small enterprises (MSEs) even where they were eligible for support (Loewe, 2013).

Enterprise Training Partnerships

There are twelve sectoral Enterprise Training Partnerships (ETPs) in Egypt, founded through the Technical Vocational and Training (TVET) Reform Programme that began in 2005, (co-funded by the EU and Egypt), and coordinated through the Industrial Training Council of the MoTI. The ETPs have been created as private-public training partnerships to help identify demands of industry in terms of human resource development and training, with the purpose of implementing a bottom-up strategy, aiming to improve training for the workforce, and thereby enhance the competitiveness of Egyptian industry. One of the ETPs is focused on the food sector.

3.2 Market access and trade agreements

Trade policy plays a critical role in attracting both domestic and foreign direct investment by expanding opportunities for economies of scale, facilitating integration into global value chains, and boosting productivity and rates of return on investment. Firms' ability to compete in foreign markets increases with effective trade policies that allow access to competitively priced imported inputs, and to international markets through effective customs procedures, preferential tariff rates, and the removal of non-tariff barriers.

Egypt is a founding member of the WTO and has participated actively in its negotiation rounds since 1995. Egypt has pledged to meet WTO commitments. It has removed most non-tariff barriers, substantially decreased tariffs, liberalized foreign investment policies, privatized public sector companies, and liberalized the foreign exchange markets. In addition, Egypt has successfully signed a number of regional and bilateral trade agreements which benefit the Egyptian food processing sector by allowing market access to bigger trading areas (see Box 5 below on Egypt's trade agreements).

Box 5: Egypt's regional and bilateral trade agreements

Regional agreements

- The *Common Market for Eastern and Southern Africa (COMESA):* Egypt became a member in 1998. COMESA includes 20 member countries and provides Egypt with duty-free access to a market of more than 450 million consumers. The COMESA states are important and growing trade partners for Egypt as it expands its economic activity on continental Africa.
- **Greater Arab Free Trade Area (GAFTA)**: signed in 1997 and entered into force in 1998. It includes 22 members of the League of Arab States: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, UAE and Yemen. The agreement provides for the phasing out of customs and other fees and duties and the elimination of all non-tariff barriers including administrative, monetary, financial and technical barriers.
- Arab Mediterranean Free Trade Agreement (Agadir) signed in 2004 between Egypt, Jordan, Morocco and Tunisia. The agreement offers member States tariff- and quota-free access to each other's markets, as well as a rules-of-origin advantage. The customs agreement was fully enacted by the member countries throughout 2006 and 2007. Since its ratification, the agreement has promoted industrial and economic ties, allowing for the co-production of products exportable to the European Union, other Arab countries and, to member States.
- Egypt Free Trade Agreement (Iceland, Liechtenstein, Norway and Switzerland) covers trade in industrial products and basic agricultural products. The main objective of the Agreement is to achieve the liberalization of trade in goods in conformity with Article XXIV of the GATT 1994. By 1 January 2020, customs duties on almost all industrial products will have been eliminated.

Bilateral agreements

- Free Trade Agreement with Tunisia signed in 1998.
- Free Trade Agreement with Morocco signed in 1998.
- Tariff and Trade Agreement with Libya signed in 1990.
- Free Trade Agreement with Turkey signed in 2005. Industrial products of both parties will be exempt from customs duties and other charges.
- Free Trade Agreement with the European Union as part of the Association Agreement (signed in 2001). The EU-Egypt Association Agreement provides Egypt with preferential access to the EU market of more than 500 million consumers. Under this agreement all manufactured goods of both parties, will be exempt from all import tariffs and fees. Agricultural products are subject to reductions and eliminations according to certain conditions specified in the agreement. The agreement specifies the creation of a free-trade agreement over a period of 12 years.
- The Egypt-MERCOSUR Agreement signed in Buenos Aires in 2010 aiming to establish clear, predictable and lasting rules to promote the development of reciprocal trade and investments.

Other agreements

• QIZs: Egypt offers the added benefit of duty-free access to the US market of more than 300 million consumers. This results from the QIZs protocol between Egypt, Israel and the US. The agreement allows duty-free access provided 35 per cent is manufactured in a QIZ in Egypt and there is 10.5 per cent Israeli content. It has resulted in a more than tenfold jump in Egyptian textiles and ready-made garments exports to the US in its first four years of operation.

As a consequence of its economy-wide policy reforms in the early 2000s, with trade policy at the forefront, Egypt's total merchandise trade has increased from 20 per cent of GDP in 2000 to almost 46 per cent of GDP in 2008. Following a fall in 2009, it recovered to 39 per cent of GDP as of 2012. In 2009, the MoTI announced an export promotion strategy for the period 2010-2013, with the aim of doubling the volume and value of Egyptian exports and increasing the number of exporting firms by negotiating new trade agreements and accessing new markets and sectors (MENA-OECD, 2010).



Figure 25: Total merchandise trade (per cent of GDP)

Sources: World Development Indicators database at http://data.worldbank.org/data-catalog/world-development-indicators.

Although Egypt's total merchandise exports increased during the period 2001-2012, its merchandise account showed a trade deficit, partly due to its high dependency on imported foodstuffs and its large deficit of trade in capital equipment and vehicles. Oil and gas accounted for over 46 per cent of Egypt's total merchandise exports in 2012 (ITC Trade Map).



Figure 26: Total merchandise exports and imports (in billion USD)

Source: World Development Indicators database at http://data.worldbank.org/data-catalog/world-development-indicators.

Regional trade with Arab countries, especially exports to Arab countries, has been on an upward trend for the last decade. Food processing is among the sectors that has experienced rapid export growth.



Figure 27: Developments in Egyptian food processing exports analysed by main region-level importers (USD million)

Source: ITC trade map.

Egypt has signed many regional trade agreements covering its main partners (GAFTA, Agadir etc.). According to the private-sector actors, there is confusion among investors as to which agreement takes precedence over which, since particularly with Arab countries, some agreements overlap.⁽⁵⁾ The impact of regional trade agreements on the volume and shares of Egypt's trade with member countries is quite significant.

Egypt has substantially lowered its tariff rates, particularly on capital goods. A presidential decree in 2009 (51/2009) reduced tariff rates on a number of imported goods including capital goods, which resulted in bringing down the average weighted tariff to 5.5 per cent in 2009.

Technical regulations and food standards

Technical regulations and standards are pillars of international trade that allow countries to benefit from globalization. Technical regulations are imposed by the government of an importing country, and are mandatory for market access. Standards are voluntary, but in many cases customers require that their suppliers comply with specific standards and can demonstrate that they do so. The TBT agreement of the WTO stipulates that the product characteristics imposed by technical regulations should be based on international standards.

From a trade policy perspective, technical regulations and standards are forms of non-tariff measures (NTMs). NTMs are import/export related regulations that are not in the form of a tariff. They are classified into technical and non-technical NTMs. *Technical NTMs* refer to product-specific properties such as characteristics, technical specifications and the production process for a product. They also include conformity assessment methods, which affirm the compliance of a product to a given requirement. These technical regulations are generally aimed at ensuring quality and food safety, environmental protection and national security, and at protecting animal and plant health. On the

⁽⁵⁾ In-depth interviews with sector representatives.

other hand, non-technical NTMs do not refer to product-specific properties but to trade requirements, such as shipping requirements, custom formalities, trade rules, or taxation policies.

Sanitary and phytosanitary measures (SPS) are technical in nature and include prohibition of products, measures governing quality and hygienic requirements, production process, and related conformity assessments. TBT measures refer to technical regulations and procedures for assessment of conformity with technical regulations and standards, excluding measures covered by the SPS Agreement (see Box 6 on the WTO's SPS and TBT agreements). TBT measures may also include, or deal exclusively with, terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process and production method.

Box 6: Overview of the WTO's SPS and TBT Agreements

TBT Agreement

The WTO Agreement on TBT entered into force on 1 January 1995 as one of the WTO agreements under Annex 1A of the Agreement Establishing the World Trade Organization. The TBT Agreement strengthened and clarified the provisions of the "Standards Code" – the original plurilateral 1979 Tokyo Round Agreement on TBT governing regulations and standards.

The TBT Agreement aims to ensure that technical regulations, standards and conformity assessment procedures do not create unnecessary obstacles to trade. At the same time, it recognizes that each country should not be prevented from taking measures necessary to protect human, animal and plant life or health or the environment. Technical regulations and standards may vary from country to country, posing a challenge for producers and exporters. The TBT Agreement strongly encourages the use of international standards and aims to create a predictable trading environment through its transparency requirements.

SPS Agreement

The WTO's agreement on the Application of Sanitary and Phyto-Sanitary (SPS) Measures sets out the basic rules for food safety and animal and plant health standards and addresses the variety of measures used by governments to ensure human and animal food is safe from contaminants, toxins, disease-causing organisms and additives, and measures to protect human health from pests or diseases carried by plants and animals. These measures are not covered by the TBT Agreement. The SPS Agreement explicitly recognizes the right of governments to take measures to protect human, animal and plant health, but where trade restrictions result, these measures should be taken only to the extent necessary for the health protection, on the basis of scientific evidence. If there is not sufficient scientific evidence, governments may temporarily impose precautionary restrictions while they seek further evidence. The SPS Agreement allows governments to set their own standards and they should be applied in a non-discriminatory manner.

The basic aim of the SPS Agreement is to maintain the sovereign right of any government to provide the level of health protection it deems appropriate, but also to ensure that these sovereign rights are not misused for protectionist purposes and do not result in unnecessary barriers to international trade. SPS measures to ensure food safety and to protect the health of animals and plants should be based as far as possible on the analysis and assessment of objective and accurate scientific data.

Scope of the SPS and TBT Agreements

The scope of the two agreements is different. The SPS Agreement includes all measures whose purpose is to protect: i) human or animal from food-borne risks; ii) human health from animal – or plant-carried diseases; and iii) animals and plants from pests or diseases; whether or not these are technical requirements.

The TBT Agreement covers all technical regulations, voluntary standards and conformity procedures to ensure that these are met, except when these are SPS measures as defined by the SPS Agreement. Therefore, while the type of a measure determines whether it is covered by the TBT Agreement, it is the purpose of the measure which determines whether it is subject to the SPS Agreement.

Most measures related to human disease control are under the TBT Agreement, unless they concern diseases

which are carried by plants or animals (such as rabies). In terms of food, labelling requirements, nutrition claims and concerns, quality and packaging regulations are generally not considered to be SPS measures and hence are normally subject to the TBT agreement.

Difference of provisions under the SPS and TBT agreements

The SPS provisions differ from those of the TBT Agreement in three important aspects: i) while the TBT Agreement requires that product regulations be applied on a Most Favoured Nation (MFN)⁽⁶⁾ basis, (due to differences in climate, pests or diseases and food safety conditions), the SPS permits governments to impose different SPS requirements on food, animal or plant product sources from different countries, provided that they do not arbitrarily or unjustifiably discriminate between countries where identical and similar conditions prevail; ii) the provisions of the SPS Agreement explicitly permit governments to choose not to use international standards and use higher standards on the basis of scientific justification; iii) the SPS Agreement introduces the Precautionary Principle and permits governments to adopt SPS measures on a provisional basis in cases where relevant scientific evidence is insufficient, by taking into account pertinent information that may become available at a later stage.

Effective market access and trade opportunities increasingly depend on compliance with technical Non-Tariff Measures (NTMs). As tariff rates are decreasing and the use of non-tariff barriers to trade is being restricted by WTO agreements, the focus of governments on the WTO's SPS and TBT measures for international trade of agricultural products is intensifying. SPS measures are implemented to ensure that food is safe for consumers, and to prevent the spread of pests and diseases among animals and plants. The SPS Agreement and the associated WTO dispute settlement mechanism are intended to ensure that food safety standards are not misused for protectionist purposes.

The issue of food safety has become a top priority due to the following factors:

- •increased awareness of food safety and food borne diseases and their effects;
- •higher incidence of many food borne diseases and emerging new or antibiotic-resistant pathogens in many regions of the world;
- •increased awareness and understanding of the sources and consequences of food borne diseases;
- •higher levels of industrial mass production leading to increased risks of food contamination on a significant scale;
- •changing lifestyles, with increasing number of people eating outside the home in food service or catering establishments, at take-away establishments or at street food stalls;
- increased trade in food products;
- increased international tourism;
- •rapid urbanization, leading to a more complex food chain and thus greater possibilities for food contamination.

The integration of the Egyptian economy into global world trade is helping the country to open up new markets for its manufacturing products, including products of the food processing sector. However, there are concerns about quality as compared to international standards. For the food

⁽⁶⁾ MFN is non-discriminatory trade policy commitment offered by one country to another on a reciprocal basis. Under Article I of the General Agreement on Tariffs and Trade (GATT) and its successor the World Trade Organization (WTO), all signatory states must extend this treatment to one another. Common markets, customs unions, and free trade areas, however, are exempt from MFN provisions.

processing sector to be globally competitive, it has to meet those challenges along its entire supply chain starting with farmers to processing companies and finally to retailing.

As traditional unprocessed trade in food has declined internationally, and been replaced by trade in processed foods, developed countries have become a major destination for processed food exports from many developing countries. However this opportunity can present challenges to the developing countries. One challenge is the ability of developing countries to meet increasingly stringent food safety standards imposed by developed countries.

The huge informal sector presence in the Egyptian food processing industry highlights the need for compliance with food safety standards, not only for the purpose of exporting but also for domestic consumption. The lack of proper application of hygienic procedures by the informal sector can lead to health hazards. In addition, problems with food safety and handling in the informal sector can harm the reputation of more productive producers of higher quality products. Bringing Egyptian food products in line with international food safety standards is imperative, both to underpin exports and promote domestic consumer safety.

The WTO agreements – the SPS and TBT – have contributed to an increasing interest among governments in regulating international trade in ways intended to protect the health and well-being of consumers. The WTO does not provide for quality standards per se, but refers to existing international standards, and encourages its members to require the application of certain standards of quality, which include those related to the International Plant Protection Convention for plant protection, and the World Organization for Animal Health and the Codex Alimentarius for food security.

The Codex Alimentarius was established in 1963 by the FAO and WHO to set standards, guidelines and codes of practice to protect the health of consumers, and to ensure best practices in food trade. There is no body for the international harmonization of the implementation of these standards, and as a consequence they are subject to quite different regulations in different countries.

Although the Codex Alimentarius Commission (CAC) guidelines have no backing of any international law, the WTO endorsement of these standards through SPS and TBT agreements has made them de facto mandatory. An important CAC guideline for food processing companies is to follow a food quality management system called Hazard Analysis and Critical Control Points (HACCP) (see Box 3).

Egypt's adoption of WTO SPS measures contributes to its better integration in global product chains in the food processing sector. Egypt has developed a framework for sanitary and phytosanitory standards based on the WTO SPS agreement. The Central Department for WTO within the MoTI of Egypt acts as the technical secretariat for the SPS-sub-committee established in 2003. The subcommittee is in charge of monitoring Egyptian obligations and rights under the SPS agreement. A second SPS-sub-committee exists under the auspices of the Ministry of Agriculture and is responsible for the technical aspects of SPS. A number of laws (the Agricultural Law 53/1996 and the Pharmaceutical Law 14/1984 for SPS measures) govern SPS measures.

According to the Business Climate Development Report for Egypt (2010), even though the government had put in place an institutional framework and processes for applying the WTO's TBT and SPS agreements, they have not yet delivered effective implementation and compliance with international standards.

The Egyptian Organization for Standardisation and Quality (EOS), which is affiliated to the MoTI, is the national authority in all matters related to standardization and quality control in Egypt and is a WTO's national TBT enquiry point. Standards are formulated and set by the EOS. The General Organization for Export and Import Control (GOEIC) is responsible for inspection of imports and exports. In addition, other ministries including the Ministry of Health and the Ministry of Agriculture are also involved in the process of inspection at various points in the food chain. The EOS is also tasked with testing, metrology and conformity, updating and developing EOS testing laboratories, and accrediting EOS laboratories. Although Egypt's institutional and legislative framework for the adoption of technical standards is well developed and effective, verification of compliance is a problem as the responsibility lies with other ministries, which creates coordination problems and administrative burdens for exporters and importers.

The Egyptian Accreditation Council (EGAC) is a national body for assessing and accrediting certification bodies, inspection bodies, and laboratories. It is headed by the MoTI and governed by a board representing all stakeholders and concerned bodies. However, the private sector has reported that the process of certification is lengthy which suggests that EGAC's technical capacity might be insufficient (MENA-OECD, 2010). There are 140 testing and calibration laboratories that have been accredited either by EGAC or NLAB (National Laboratories Accreditation Bureau). GOEIC's accredited laboratories acquired ISO 9001/2000 certification in 2008. Around 115 laboratories, the majority of which are public, acquired ISO 17025, which provides the general requirements for the competence of testing and calibration laboratories. While not being mandatory, according to Egyptian regulations, it ensures better international recognition of food testing practices.

One of the major functions of the EOS is to formulate all Egyptian food safety standards. In this context, the EOS is also responsible for certification, awareness and training, consultation and problem-solving and coordination between stakeholders' interests. It further acts as a focal point for information and knowledge transfer and represents Egypt in corresponding organizations regionally and internationally. Today there are 8,500 Egyptian standards, of which 1,600 standards are in food related fields. All standards are harmonized with relevant international standards due to the efforts of EOS translation and harmonization processes. The EOS has 28 technical committees focused only on food (EOS, 2008).

A high level of dissatisfaction among government, private and consumer agencies in Egypt over the control and regulation of food safety in Egypt was highlighted during the panel discussion entitled "Food Safety: Barrier or Enhancer to Trade" hosted in Cairo (2008). Food safety levels in Egypt were seen as being dangerously low from international and domestic trade perspectives, despite the existence of 17 agencies concerned with food safety.⁷ The panellists agreed that the multiplicity of food control authorities has hampered Egypt's food safety system with contradictions, conflict and inefficiencies in the implementation of food safety laws and measures, and that there was therefore a need for a unified National Food Safety agency with a mandate focused solely on food safety. A need for a new unified food law was also highlighted by the panellists. It was noted that there are more than 120 food related regulations in the form of legislation, ministerial or presidential degrees and circulars, all of which have the force of law. A new unified food law was seen as being necessary to reach an effective solution to these legislative barriers. The quality of current food safety legislation was seen as another major source of problems, with existing laws and regulations being seen as

⁽⁷⁾ Several of these 17 food agencies fall under different ministries.

ambiguous, contradictory and laden with red tape. It argued that this made it difficult for small producers to obtain licenses, hampering awareness of – and hence compliance with – food quality and safety standards.

The same perspective of serious problems with food safety and handling was apparent from the research for the current study, from interviews, from consultations with experts, and from workshop discussions.

Quality standards are a challenge for food processing in Egypt. Both the quality and value of food products are frequently low, because of deficiencies throughout the food value chain – at farm level, among intermediaries between farm and processor, at food processors, and in distribution facilities. The implementation of suitable food product standards is an utmost importance for a successfully expanding Egyptian food processing sector for both its domestic and international markets.

STED survey findings on technical regulations

The STED survey results showed that almost 30 per cent of the interviewed exporting enterprises felt that technical regulations and related trade obstacles are burdensome for their business. Out of those who indicated that they were burdensome, 57 per cent saw the main challenge in conformity assessments; 36 per cent in procedural obstacles (inefficient implementation of regulations); 32 per cent in strict requirements stipulated by regulations; and 31 per cent because of lack of information on technical requirements or on assessment procedures.



Figure 28: Why are technical regulations burdensome?

Source: STED Survey, Egyptian Food Processing Sector, 2014.

Companies located in rural areas experience more impediments to trade as more than 50 per cent of the rural exporting companies indicated that technical regulations are burdensome for their business compared to 35 per cent and 23 per cent of the companies located, respectively, in urban and industrial zones. Furthermore, a greater share of foreign companies, as opposed to domestic companies, say they are affected.



Figure 29: Percentage of enterprises that indicated technical regulations are burdensome

Source: STED Survey, Egyptian Food Processing Sector, 2014.

The share of company sales that are exported also correlates with their perceptions of their ability to deal with technical regulations. The companies exporting between 25-50 per cent of their total sales were most likely to say they were affected by technical regulations, with 43 per cent of them reporting that technical regulations are burdensome for their business.

Figure 30: Percentage of enterprises indicating that they find technical regulations burdensome by share of exports in sales



Source: STED Survey, Egyptian Food Processing Sector, 2014.

STED survey findings on conformity assessments

The most common reported reason (57 per cent) for burdensome technical regulations was because of demanding conformity assessments, in particular testing and certification. This is in line with the result from the International Trade Centre's NTM study for Egypt, which concluded that conformity assessments were often more burdensome than fulfilling technical requirements. Egyptian exporters and importers were usually familiar and compliant with technical requirements but they had difficulties demonstrating compliance with those requirements (ITC, 2014).

Almost all (97 per cent) of the companies surveyed test their products before shipping them for export, and most (94 per cent) indicated that they test their products inside the company.

The next common way to get testing done is through a government institution, noted by 21 per cent of surveyed companies. This is presumably mainly done where companies need testing done independently, and also where tests are required that are outside the capabilities of their own laboratories.

Exporters requiring external testing usually use laboratories in the Ministry of Agriculture and Ministry of Health to test their products. They highlight problems with delays in delivering results, and dissatisfaction with the level of service provided.

Figure 31: Survey results on product testing before shipping

a. Do you test your products before they are shipped?**b.** Who performs the testing?



Source: STED Survey, Egyptian Food Processing Sector, 2014.

The survey undertaken for the ITC's NTM study in Egypt highlighted strict labelling requirements for processed foods in Arab countries such as Saudi Arabia, Kuwait and Lebanon. The study noted that exporters reported labelling requirements were intentionally being used to hinder imports.

STED survey findings on quality standards

Almost 70 per cent of surveyed exporting companies have a quality certificate, while the share is only 21 per cent for the non-exporting enterprises. This highlights the necessity or importance of having products and processes that demonstrably meet international quality standards in order to succeed in international markets.





Source: STED Survey, Egyptian Food Processing Sector, 2014.

The following figures present shares of enterprises surveyed with a quality certificate, analysed by different characteristics. The shares are higher for foreign enterprises and for enterprises that are located in industrial zones and urban areas. Bigger companies, in terms of employee numbers, are more likely to have a quality certificate. Enterprises that export regularly are more likely to have a quality certificate than those that export irregularly. Certification with a quality standard is important for succeeding in direct exporting.







c. number of employees



d. sales type









Source: STED Survey, Egyptian food processing sector 2014.

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Box 7: Competitive position of the MAPs sector

Egypt's MAPs industry enjoys several advantages:

- a flora with about 2000 species of plants;
- farmers' centuries of experience;
- favourable environmental conditions that allow cultivation throughout the year, independent from the season;
- recent development in airfreight, sea freight, land transportation and the creation of free zones in ports on the Red Sea and the Mediterranean;
- relatively low labour costs;
- the world's increase in demand for MAP products;
- the growing interest in MAP cultivation, organic farming, biodynamic systems;

However, it also faces obstacles that hinder the sector's development. These include the following:

- poor implementation of good agricultural practices such as the uninformed use of pesticides, and poor collection and handling practices that cause contamination;
- high rent and land fragmentation hinder economies of scale. Fragmentation of ownership also causes significant fluctuations in supply which makes export commitments difficult to maintain;
- lack of innovation and investment in research and development. Among the reasons for this are the high levels of land fragmentation, lengthy procedures required by the Ministry of Agriculture and Land Reclamation and poor cooperation between value chain members;
- lack of appropriate technology for post-harvest and pre-processing purposes as well as unhygienic drying techniques such as sun drying in the fields or on roads. This also harms the reputation of Egyptian exporters;
- difficulty in meeting international regulations on MAPs, especially those of the EU. Traceability to provide evidence on the origins of the product is fundamentally important for this purpose.

Global competition from countries like India, China, Morocco, Pakistan, Turkey, Romania, Australia and Canada represents a serious threat to the Egyptian industry. Although some Egyptian products are irreplaceable, demand for these products is not very elastic. Importers will turn to other countries when necessary, in order to meet their quality and cost targets.

3.3 Skills supply

The Ministry of Education, Ministry of Higher Education, Ministry of Agriculture and Land Reclamation, Ministry of Industry, Trade and Small and Medium Enterprises and Non-Governmental Organisations are all involved in developing skills relevant to the Egyptian food processing sector. Development of skills for the food sector starts at the early stages of education. It is linked with the development of skills for the agricultural sector; Technical Agricultural Secondary Schools (TASS) are the main skill provider for the food processing employees.

Secondary and intermediate level

Administered by the Ministry of Technical and Vocational Education and Training, secondary and intermediate level schools offer two education-strands of different lengths and with different degrees of specialization. Students can enrol in three-year technical secondary school courses, or in five-year courses. In the first three years, courses are similar and the following two years provide education suitable for senior technicians or trainers.

Within the first strand there is a further division in different types of programme. Students can choose between three options:

- 1. Technical Agricultural Secondary Schools (TASS) (118 schools and 3 attached units) where students select either the agricultural or the laboratories division. The former gives a two-year general introduction in agriculture and a third year of specialization in the following disciplines: animal production, fisheries, agricultural industrialization, land reclamation, agricultural mechanization, and pasta and bakery. The latter prepares laboratory technicians to work in food-related laboratories.
- 2. Vocational Agricultural Secondary Schools (59 schools) are often attached to TASS. They provide a general introduction on agriculture in the first two years, followed by one year of specialization in different disciplines: gardening, veterinary, bee health and plant protection, agricultural industry, dairy, pasta and bakery.
- **3.** Technical Agricultural Secondary Schools with dual system (21 TASS operating the dual system, incorporating both classroom and work-based learning) have students that specialize in one of the following fields: dairy production, agricultural mechanization, pasta and bakery, fisheries.

Enrolment data for 2012/13 indicates that approximately two-thirds of secondary school students attended technical secondary education, out of whom 11 per cent (179,213) chose TASS. The proportion of students who chose TASS varies considerably depending on the district, from 0 per cent in Cairo to 15 per cent in Menia. The female share of students is low, accounting for only 22 per cent of total relevant graduates in 2012/13.⁸ While TASS graduates can continue to study higher education depending on their exam results, progression rates are low in comparison to graduates of general secondary schools.

⁽⁸⁾ Total graduates of TASS in 2012/13 was 57,252.

Again, at the intermediate level, the 5-year Advanced Technical Agricultural Schools (5 schools) are entirely publicly-administered by the Ministry of Technical and Vocational Education and Training. With the first three years similar to those of TASS, the following two are aimed at turning students into senior technicians or trainers in specialized areas such as food processing, animal production and land reclamation.

Higher education

After graduating from secondary education, students face the choice of whether to pursue higher education, which may either be through a university or a higher institute.

Universities: As of 2012/13, there were 24 public universities and 20 private universities. Only public universities have agriculture faculties. According to CAPMAS statistical reports for 2014, enrolment in agriculture faculties in 2012/13 was 32,177, of whom 12,630 (39 per cent) were female. Courses are offered in the following areas: plant production programme, food processing programme, pest control programme, biological technology, agricultural economics, agricultural engineering programme and animal production programme.

According to the National Academic Standards for Agricultural Science,⁽⁹⁾ for the food processing programme in higher education, food and dairy science courses cover two main topics: food industries and technologies and dairy industries and technologies. The graduates of the food processing programme leave university with skills in areas including manufacturing various food products, applying quality assurance and food safety standards, using modern methods for assessing and evaluating food products, choosing the appropriate storage conditions for food products, and controlling and preventing food spoilage. They are eligible to work in food factories, food quality control institutes and organizations, food import and export companies, food supply ("Tamween") and customs departments and food laboratories.

Private universities do not offer agriculture faculties because of low student demand for this field of specialization. An exception is that the American University of Cairo has recently introduced a programme on food chemistry, covering microbiology, food safety and food processing.

Higher institutes: offer bachelor and master degrees to people who have taken time off after their secondary studies. However, at the moment only two institutes in the governorates of Assuit and Shoubra offer faculties in agriculture. According to a CAPMAS statistical report of 2014, there were 1,729 agricultural graduates from higher institutes in 2011/2012, of whom 568 were female.

Continuing vocational training

The MoTI, and the Ministry of Agriculture and Land Reclamation administer public continuing vocational training for the food processing sector. The main provider of continuing training and technical assistance has been the Food Technology Centre, since it was established in 2003 under the MoTI. It targets all areas of food processing, from product development to Quality Management Systems and post-harvesting techniques. The Central Administration for Training under the Ministry of Agriculture and Land Reclamation also administers six vocational training centres across the country, responsible for shaping their courses to the skills needed in the governorate where they are located.

⁽⁹⁾ The National Academic Standards for Agricultural Science were issued by the National Authority for Quality Assurance and Accreditation in Education (NAQAAE) in 2009.

Under the same ministry the Food Technology Research Institute (FTRI) aims to bring the quality of food to international standards, while still maintaining a good quality-price relationship. Currently the FTRI includes eight different research departments⁽¹⁰⁾ and three cross cutting units. Training courses are developed based on research findings. Food processing factories are not the only ones to be targeted; housewives, rural women and graduates also participate in different projects.

Other more specialized institutes are the Centre of Organic Agriculture in Egypt (COAE) and the Research Institute for a Sustainable Environment. The former provides organic and biodynamic training and consultation as well as other services related to international standards on organic farming. The latter promotes education and research in sustainable environments in the MENA region.

In terms of food safety training, despite it being in high demand and crucial to the development of the food industry, very little is on offer. The Egyptian Food Safety Information Centre (EFSIC) under the FTRI, and other private organizations mainly specialized in quality systems, are the main bodies to focus on the area. The EFSIC offers training courses to the food processing industry, agro-food sector and governmental organizations targeting key officials, workers, trainers, and extension workers in the agriculture and health sectors. Its main areas of focus are: food safety during food processing, Good Consumption Practices (GCP), Good Agricultural Practices (GAP), Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practices (GMP), Food Safety Systems, Food Safety and Good Hygiene Practices (GHP) and Nutrition.

Non-Governmental Organizations

Other key providers of skills development include non-governmental organizations, the most established ones being the Horticultural Export Improvement Association (HEIA), the Foundation for Development and the Enterprise Training Partnership for the Food Sector Partnership (SHOURA).

The HEIA aims to develop the horticultural industry and its exports by providing demand-driven training to workers, technicians and managers as well encouraging the use of new modern technology, practices, international standards such as Global Gap, HACCP and GMP among others.

The SHOURA Foundation gives students and graduates of TASS and Faculties of Agriculture the opportunity to put into practice what they have learned in school with a 30-day hands-on learning experience in farms and food processing factories. In 2013/14 over 1,500 students benefited from the programme.

The Enterprise Training Partnership for the Food Sector⁽¹¹⁾ (ETP-Food) aims to enable vocational training of employees based on skill demand in the sector and on National Skill Standards. The ETP-Food currently offers a wide range of training packages to the food processing sector including preparing different types of technicians for poultry, meat processed products, fishery processing and preparing butter, cheese, ripening technicians, milk quality, dairy laboratory technician and dairy product quality control and confectionary.

⁽¹⁰⁾ The eight research departments are: Bread and Dough Research; Special Food and Nutrition; Field Crops Research; Horticultural Research; Oils and Fats Research; Meat and Fish Research; Dairy Technology Research and Food processing and Packaging Research.

⁽¹¹⁾ The Enterprise TVET partnership for Food Sector is a public-private partnership mechanism developed to support demand driven reform of education and training, established through the EU-Egyptian Government funded TVET Reform Programme and implemented under the umbrella of the **MoTI** between 2006 and 2014.

Programmes on skills development implemented previously

Two main projects on skills development for the food processing sector were implemented previously.

The Skills Development Project (SDP) was financed by the World Bank and the Government of Egypt to create awareness of the importance of vocational training, and address the urgent training needs of employers in three main sectors: manufacturing, tourism and construction. Under the project, support for the food manufacturing sector was given through developing and conducting short term training activities in areas such as: ISO-22000 & Supplier Assurance System; Bakery, General Food Safety; GMP; GCP, HACCP (see Section 2 and Box 3) and cleaning and disinfection for food factories; chocolate; good hygiene practices (GHP); and food microbiology.

Support for Environmental Assessment and Management (SEAM) was a multidisciplinary environmental project funded by the UK Department of International Development and implemented by the Egyptian Environmental Affairs Agency through the Technical Cooperation Office for the Environment and Entec (a UK-based engineering and environment consultancy). The main focus sectors were food processing, textiles and oil and soap. The SEAM project carried out cleaner production audits in several food processing plants, and implemented a number of demonstration projects. For the food processing sector, guidance manuals were produced on water and energy conservation and on reducing waste through improved quality control.

The ILO is currently implementing the Promoting Worker Rights and Competitiveness in Egyptian Exports Industries project in Egypt, with the aim of strengthening respect for labour standards and building productivity in export-focused factories. The project works in the textile, ready-made garments and food processing sectors. Among other supports, it has developed training manuals on occupational safety and health, workers' rights and responsibilities, good manufacturing practices, and human resource development.

4. Envisioning the future

4.1 Introduction

The Egyptian food processing sector is active across a wide range of product categories, in both export and domestic markets. There are significant differences between these product categories in terms of markets served, competitiveness and other factors, but they also have a significant amount in common.

Over the last ten years, there have been large increases both in exports and imports of processed foods from and to Egypt, although these trends have levelled off since around 2010. Exports predominantly go to other MENA Arab countries. Products exported are diversified across a range of product categories, the most significant of which by value are: dairy products; sugars and sugar confectionary; vegetable, fruit and nut food preparations; edible oils; and miscellaneous edible preparations.

Imports of processed foods come predominantly from outside the region, particularly from the Americas. Indonesia, India, Ukraine and New Zealand are also significant sources of imports. The most significant categories of processed foods imported are edible oils, meat, dairy products and

ingredients for animal fodder. The most significant category of unprocessed foods imported is cereals, largely used by the food processing sector itself for manufacturing inputs such as flour.

This vision of the future aims first to draw a broad picture that is widely applicable across most of the sector's product categories. It then narrows in on a product category closely related to the wider sector – that covering MAPs and their essential oils and other derivative products.

Introduction – medicinal and aromatic plants (MAPs)

In addition to taking a cross-cutting perspective across the whole food processing sector, this report also places a particular focus on MAPs and their extracts. This is recognized by stakeholders as a key area of opportunity for Egypt, in which exports are already growing exceptionally rapidly

4.2 Future market position

The core of the vision for the future proposed by this report is that the Egyptian food sector will reinforce its competitiveness, allowing it to increase exports into priority export markets in target product categories. This is partly about increasing market share, but also about contributing to increasing the value of target markets, by bringing higher quality and higher added value products to these markets with strong marketing and at competitive prices.

In terms of market position, this vision has two main strands:

- 1. The sector will become more significant as a regional hub for supply of processed food, based on raw materials produced locally where this can be done effectively and efficiently, and also using imported raw materials where this is more effective.
- 2. The sector will develop a stronger global market position in high value product categories in which it has a comparative advantage, exporting not just within the MENA region but also to a wide range of markets in other regions, including developed country markets.

Taken together, both of these strands imply the development of a stronger food ingredients sector within the wider sector. Increased local production of food ingredients is required both to take advantage of developing regional and domestic markets for prepared consumer foods, and also because some of the higher value added products that could potentially be exported globally are in the food ingredients domain.

Overall, these strands imply a resumption of significant growth in total exports of processed foods, with a particular emphasis on higher value added products. They also imply that the sector's sales to its domestic market will improve in terms of product quality, product sophistication and value for money, enabling it to increase the value of its domestic market and maintain its overall share in the face of competition from imports.

Future market position - medicinal and aromatic plants (MAPs)

This vision encompasses continuing to develop a stronger global market position in the MAPs product category, exporting to global markets, including developed country markets. This implies continued strong growth in exports of MAPs products and their extracts including essential oils. While there is considerable scope for further growth, it is necessary to anticipate that growth in exports of the products in which Egypt is currently increasing exports most rapidly must eventually slow and level off.

Looking ahead there are additional product areas worth concentrating on as they may have high potential. These include organic MAPs and fresh culinary herbs.

While its outputs are used as ingredients in products like pharmaceuticals and perfumery as well as in foods, MAPs is representative of the wider opportunity to develop global market positions in high value food product categories based on local agricultural production.

4.3 Beneficial impacts of future market position

The principal direct impacts of improving the position of the food processing sector in export and domestic markets will be to increase sales and value added by the Egyptian food processing sector. Increased sales will occur both as a consequence of the sector gaining market share through improved competitiveness and as a consequence of stimulating increased demand for higher value-added products in targeted markets.

As the sector sources many of its raw materials domestically, increasing sales from the Egyptian food processing sector will have the indirect impact of increasing sales from Egyptian agriculture. This will benefit employers in the sector through driving increased sales and the potential for increased margins. It is anticipated that it will also drive increased employment, directly in the food processing sector itself, and indirectly in sectors supplying the food processing sector – particularly agriculture, but also in logistics and in intermediary trading enterprises. It is anticipated that it will also drive improvements in the quality of employment in these sectors, with greater employment formality, better working conditions and improved incomes coming as part of the package of changes needed to improve quality and productivity. Typically, indirect employment trading enterprises arising from processing of domestically produced agricultural raw materials is substantially greater than direct employment in food processing. However, increases in labour productivity in food processing will mean that the percentage increase in direct employment each year will be significantly less than the percentage increase in sales.

Increased employment and improvements in the quality of employment will also generate further employment in other sectors of the Egyptian economy, induced by the spending of those employed directly and indirectly.

Beneficial impacts of future market position – medicinal and aromatic plants

Increasing sales of MAPs products will drive benefits similar to those for other parts of the food processing sector. Much of the sector's growth will be supplied by new agricultural enterprises in the Delta region, operating on a larger scale than existing enterprises. As agricultural production of MAPs products is labour intensive relative to other types of crops grown in Egypt, shifting to MAPs

production should significantly increase the numbers employed on the land used, even if labour productivity is higher than for existing MAPs production.

Employment should also increase in processing of MAPs products to produce essential oils and other products, as new processing operations are developed, and as quality assurance and food safety standards drive a requirement for more employees in testing, documentation and compliance.

4.4 Sources of greater competitiveness

Under this vision of the future, improved competitiveness is expected to come about through:

- increased productivity and reduced waste in food processing, and throughout Egyptian food value chains;
- consolidation and enforcement of food safety standards along the food value chain, consistent both with accessing international markets and improving safety and quality of food within Egypt;
- improved food handling and safety throughout the food value chain, underpinning higher quality, and enabling compliance with technical regulations and standards required in target markets;
- stronger integration along the food value chain, with better coordination and information flow;
- new and improved products that meet end customer desires in Egypt and across the MENA region;
- new and improved food ingredient products that meet the needs of food processing companies globally; and
- improved branding, marketing, sales and channel management in relevant markets.

Sources of greater competitiveness - medicinal and aromatic plants

Egypt is already highly competitive in MAPs products, as evidenced by strong growth in exports. Greater competitiveness will come from addressing the significant issues the sector has in terms of productivity, hygiene, processing technologies, compliance with standards, weak connections along the supply chain and continuing to increase the land area used to grow MAPs. It will also come from product innovation, from increasing the scale of growing and processing enterprises, and from producing more products in compliance with standards valued by the market, such as, for example, organic standards.

4.5 Underpinnings of greater competitiveness

It is anticipated that skills will make a major contribution to improving competitiveness. This will partly be by reducing the extent of constraints that skills place on competitiveness, and partly by skills development as an essential component of other aspects of development.

The overall approach proposed is based on:

• adoption of best international approaches to food processing company management, including approaches that involve collaboration between managers and workers;

- adoption of effective approaches to managing the food supply chain within Egypt, from farm to the point of sale to consumers, with a strong focus on improving productivity, quality, and food safety;
- the right skills to achieve these goals at all occupational levels; and
- a collaborative approach between government, industry and other stakeholders to achieve these goals, with support from development partners including the ILO.

5. Gaps in business capabilities

A central element of the STED approach is to investigate what companies need to be better at doing if they are to be competitively successful into the future. The approach involves asking companies for their views are on what they need to be good at in order to succeed, and undertaking a wider investigation of which business capabilities are needed for success.

We asked companies about the business capabilities they need for success both through the interview survey and through other consultations. Figure 34 summarises responses from the interview survey.

Figure 34: Areas of business capability identified by enterprises surveyed as very important for their future success – number of companies identifying each important area of capability



Source: STED Survey, Egyptian Food Processing Sector, 2014.

The main themes that emerge from these responses are about:

- marketing particularly international marketing, but also domestic marketing and distribution, and managing international distribution channels;
- food safety, hygiene and quality including testing and certification for international markets, quality assurance and sourcing high quality inputs/raw materials;
- innovation including research and development and new product development;
- production both linked to quality and food safety and hygiene, and with a focus on production management and maintenance.

These themes are consistent with the priorities that were subsequently raised in workshops, and in other consultations with stakeholders in the sector. They are also consistent with existing assessments of strategic priorities for the sector, as referenced elsewhere in this report.

The survey undertaken for the study provides additional insights into some of these areas, as set out below.

Sourcing input materials

Farming practices can impact on access to export markets not just through their ability to supply products that meet the processor's requirements, but also to fulfil requirements of some major markets or retailers.

The following figure shows that 16 per cent of exporter enterprises surveyed use their own farms and resources as a source of agro-product input materials, and about 26 per cent directly or indirectly import agro-product input materials. 39 per cent of non-exporter enterprises surveyed indicated that they import agro-product input materials directly or indirectly.

For input materials other than agro-products, 59 per cent of exporters interviewed indicated that they import such input materials directly or indirectly, compared to 37 per cent of non-exporters.



Figure 35: Sources of agro-product input materials for exporters (E) and non-exporters (NE)

Source: STED Survey, Egyptian Food Processing Sector, 2014.



Figure 36: Sources of non-agro product input materials for exporters and non-exporters

Source: STED Survey, Egyptian Food Processing Sector, 2014.

When we asked exporter enterprises whether they considered sourcing agricultural input materials as an obstacle to exporting, 36 per cent indicated that this issue was a problem. When enterprises were asked to describe challenges, they mentioned: sourcing high quality agriculture inputs; unavailability and high prices; lack of safe farming practices among farmers; misuse of fertilizers and pesticides; problems with harvesting and post-harvesting techniques; problems with coordination with other growers and food processing enterprises to achieve benefits during equipment use and logistics; and the USD exchange rate. Solutions suggested included providing guidance to farmers; regulation of the application of pesticides; adding large areas of new arable land through reclamation; and improving the quality of seeds.

Figure 37: Challenges relating to sourcing agricultural input materials (number of enterprises)



Source: STED Survey, Egyptian Food Processing Sector, 2014.

Figure 38: Suggestions for solutions to challenges in sourcing raw materials (number of enterprises)



Source: STED Survey, Egyptian Food Processing Sector, 2014.

International marketing and managing international distribution channels

Egypt has relative advantages in some agricultural products, particularly arising from its ability to produce some products all year round. The geographical location and proximity to Arab countries and Europe are all points of strengths in marketing and logistics. Egypt also has preferential access agreements with Arab countries and other regional markets.

Egypt should focus on enhancing food processing subsectors with comparative advantages that show high potential for export shifts such as fruit concentrates, tomato paste, and dates. Medicinal and aromatic plants and their extracted substances have also demonstrated high potential. The industry interviews showed the Arab countries, EU, Africa, and USA to be the markets perceived as most attractive. Success in these areas will depend on developing strong capabilities in marketing of food in areas including export marketing, product management and channel management applicable to the new product markets to be targeted.

The need is both for improved capabilities in ongoing marketing and commercial management of existing products, and for the understanding of consumer preferences, and how they are changing, required to guide development of new or improved products.

Such capabilities require market research work that the enterprises interviewed mostly cannot implement using their own existing resources. The Food Export Council provides services in this area based on desk research. However, there is a need both to build capabilities in this area at company level, at the level of institutions such as the Food Export Council, and also in terms of building cooperation between stakeholders on training and capability development.

Regulatory compliance

Regarding export activities, 30 per cent of exporting enterprises indicated that post manufacturing procedures relating to technical regulations and procedures are burdensome on the enterprise. These technical regulations and procedures include the required technical standards such as tolerance limits of pesticides residues, strict labelling, conformity assessment to prove compliances through testing in laboratories, and other procedures such as obtaining required certificates such as product certificates of origin.

Following are some of issues indicated as burdensome in Egypt:

- delay in administrative procedures;
- high fees and charges;
- need for more appropriate trade facilities (transportation, ports ...);
- large number of different documents and difficult documentation to fill out in addition to difficulties with translation of documents from or into other languages;
- inconsistent classification of products;
- deadlines set for completion of requirements are too short.

There may also be a need to comply with specifications or standards agreed with specific customers. Many major retailers in export markets have demanding specifications, substantially in excess of national legal and regulatory requirements, that suppliers are required to follow. These may include, but are not limited to, standards for good agricultural practices.

Box 8: Business capability gaps in MAPs

The main business capability gaps identified for MAPs are the following:

- Sourcing quality seeds: Investment in innovation at grower level is limited, partly because of weak
 connections along the value chain, with processors and exporters having limited influence with
 growers. There seems to be scope to improve and diversify growing of MAP crops through
 experimenting with sourcing high quality seeds internationally, as well as experimenting with
 introducing new MAP crops based on internationally sourced seeds and crops native to Egypt that
 are not yet grown commercially on a large scale.
- Waste prevention: As with much of the rest of Egyptian agriculture, there are significant problems with waste in the MAP value chain. In the case of MAPs, the problems exist both at grower and processor levels. Tackling these successfully would greatly improve net yields.
- Innovation: Along the length of the value chain, the MAPs industry has had difficulty in responding quickly to market changes and new trends. Given that there is a high level of competition internationally, especially with major players like China and India, the Egyptian sub-sector should aim to become more innovative, and fill gaps in markets that others are not addressing.
- Implementation of international product hygiene standards: There are gaps in hygiene practices, especially at the initial stages of the supply chain. For example a popular drying technique is sun drying by flattening the produce in the field and/or on the sides of roads, exposing fresh MAPs to microbiological contaminants such as bird excrement. Even when drying is done indoors, the produce is often laid on floors without protection. Even many of the more modern greenhouses with ventilation for drying are not up to international standards. The lack of good hygiene practices in handling products also impacts the quality of the product as well as potentially the safety of workers.
- Compliance with international regulations on organic agriculture: In order to meet the demand for organic MAPs, efforts should be addressed to further increase production compliant with organic farming standards, and to obtain corresponding certification.

Certification is a core capability gap for exports of essential oils, with weaknesses in the infrastructure for testing and compliance. Relevant types of certification include, among others, organic, fair trade, compliance with regulations impacting on pharmaceutical ingredients, and compliance of products using essential oils with the EU's Cosmetic Directive (Directive 2003/15/EC).

Deficiencies in processing also represent an important capability gap for essential oils, with inefficient and obsolete processing technologies being a particularly important issue.
6. Implications for types of skills needed

6.1 Introduction

This section identifies priority skills gaps for action based both on the priorities identified by employers, and on an analysis of the gaps in business capabilities of enterprises in the sector that it will be necessary to bridge for future exporting success. This is based on a combination of information from the survey of employers, analysis of skills needs based on the STED approach, and stakeholder consultations including stakeholder workshops.

6.2 Existing skills gaps identified by employers

Most employers surveyed say they have difficulty in filling vacancies in at least some occupations. Averaged across 11 occupations, 32 per cent of exporting employers said it was difficult to recruit a qualified person, and another 33 per cent said that it was not easy. For some occupations, over 50 per cent said it was difficult to recruit a qualified person. The leading problem areas, with over 40 per cent of employers saying that they have difficulty in recruiting, are quality assurance, engineers, laboratory technicians and safety and hygiene occupations.



Figure 39: Shares of exporting (E) and non-exporting (NE) enterprises surveyed that find it difficult to fill a vacancy with a qualified person for various occupational categories

Source: STED Survey, Egyptian Food Processing Sector, 2014.

There is significant dissatisfaction with the qualifications of fresh graduates when they start working. Averaged across 11 occupations, 25 per cent of exporting employers said they were not satisfied, and another 51 per cent indicated that qualifications were acceptable rather than satisfactory. For some core occupations, over 30 per cent of exporting employers said they were dissatisfied with the biggest issue being for technicians.

Figure 40: Shares of exporting (E) and non-exporting (NE) enterprises surveyed that say they are not satisfied with skills of fresh graduates



Source: STED Survey, Egyptian Food Processing Sector, 2014.

Across a wide range of areas of capability, a significant share of employers said that they would benefit from interventions to assist them in developing or recruiting skills. By far the most requested area for assistance was food safety and hygiene, followed by domestic regulatory compliance, domestic marketing and sales, managing international distribution channels, international marketing and packaging.

6.3 Skills gaps arising from business capability gaps

The key gaps in business capability that have been identified, between what businesses can do well now and what they will need to be able to do well in the future, are as follows:

- marketing particularly international marketing, but also domestic marketing and distribution, and managing international distribution channels;
- food safety and hygiene and quality including testing and certification for international markets, quality assurance and sourcing high quality inputs/raw materials;
- innovation including research and development and new product development;
- production both linked to quality and food safety and hygiene, and with a focus on production management and maintenance.

Skills gaps in marketing

Marketing was very widely identified by companies surveyed as a key area where they needed stronger capabilities, and this perspective was reinforced in workshops and in consultations with experts. This is not all about skills. To a significant extent it is about building and exploiting a marketing infrastructure both at business level and at the level of the sector. At the level of the business, this infrastructure includes elements such as for example sales offices, agreements with marketing intermediaries and systems for collecting and exploiting market information. At the level of the sector, it includes elements such as collaboration on attendance at trade fairs and joint promotional activities.

However, the skills component in effective marketing is substantial. It covers a range of occupational levels, from telephone sales and customer support to commercial director or export manager. It covers a wide range of activities, such as for example sales (transactional selling or relationship-based selling), after-sales support, sales management, commercial product management, advertising and promotion, strategic marketing, marketing inputs into product development, commercial management, and management of agents and other distribution channels.

The key requirements for skills improvement identified by this research are around the upper and middle areas of this spectrum of skill. As Egyptian food processing companies internationalize – and face increased international competition in their domestic market – they have to become more internationally competitive in marketing (and in the marketing contribution to innovation). The toughest gaps to bridge are at the higher skill levels. Egyptian universities produce sufficient graduates in disciplines relevant to marketing so that the availability of people to fill entry level roles is not a serious constraint. The challenge is to upgrade the marketing capabilities of the management teams of food processing companies, with an emphasis on building talent and upskilling existing managers and professionals. While some marketing roles may be best filled by hiring senior staff from Egypt's numerous trading companies, in some cases the skills available through this route will be too focused on transactional selling, and not sufficiently focused on the business development and relationship-based selling capacities required to develop sustainable exporting businesses. Pay expectations may also be prohibitively high for medium-sized enterprises.

Developing the marketing capabilities of businesses is already a high priority area for agencies that support the food processing sector's development including the Food Export Council and the IMC. The feedback from businesses is that they provide good and valued supports, including providing good training.

Discussions at stakeholder workshops indicated that the principal Egyptian food processing exporters are making good progress in developing their marketing capabilities, both through their own resources and because they receive comprehensive support – including training – from the development agencies. However, the next tier of companies interested in exporting have less resources of their own to put into international marketing – because of their smaller scale – and also receive less comprehensive support from the development agencies. As a consequence, they have greater difficulty in developing their marketing capabilities. Experience from other countries shows that initiatives to develop the marketing capacity of medium-sized companies, based on providing education and training courses in international marketing to cross-company groups, can be both effective and cost efficient, addressing scale disadvantages that companies face, and providing a relatively low-cost mechanism for development agencies to needed support to businesses that they cannot justify providing individually with comprehensive marketing supports.

Skills gaps in food safety, hygiene and quality

Food safety, hygiene and quality were very widely highlighted by businesses consulted as key gaps that will have to be bridged, both for future success in export markets and to underpin the safety, hygiene impacts and quality of foods sold in the domestic Egyptian market. Fundamentally, two types of change are needed: a major overhaul of the regulation of food safety and hygiene throughout food value chains in Egypt; and a substantial improvement of the management of food safety, hygiene and quality assurance practices by the participants in those value chains.

The research strongly points towards the need for a major overhaul of regulation of food safety and hygiene regulation throughout the sector and the value chain of which it forms a part. When this eventually happens, the reform will have to include an extensive training component to develop the skills required to work in compliance with good practice regulations among the millions of Egyptians employed in the value chain as a whole, and the hundreds of thousands employed specifically in food processing. Examples from some other countries point towards a need to train and certify everyone involved in handling and management of food products as part of this reform.

However, it would not be wise to wait for a major overhaul of regulation in this area before taking action to improve the management of food safety, hygiene and quality assurance practices by participants in food processing companies, and in the value chains of which they form a part. Getting food safety and hygiene right in exporting food processing companies and among their suppliers chains is necessary for secure market access and customer satisfaction. To achieve this within food

processing companies, it is necessary to implement appropriate standards (such as, for example, HACCP), to train production managers, supervisors and staff on quality control and assurance on managing and operating under these standards, and to train all staff involved in food handling and management in complying with the standards in the course of their work. Complementary to this, it is also important to implement strong systems for quality management, assurance, control and improvement, implying a need for high level skills in quality systems within the production management team, a significant tier of trained quality assurance staff and supervisor level staff who understand quality and scientific and technician staff for testing laboratories. Training for operative level staff is also necessary – and not just in quality systems. Operative level staff who have strong core and technical skills, and who are conscientious about compliance with documented working processes and standards, perform much better in delivering safe, healthy food products that meet required standards than do people in similar jobs with lower levels of skill. Core skills are skills in areas like communications, teamwork and problem-solving.

There is a corresponding need to improve the management of food safety, hygiene and quality through the agricultural supply chains in Egypt that exporting food processing companies use to source raw materials. Until there is a major overhaul of the regulation of food hygiene and safety, throughout agro-food value chains in Egypt, the best prospects for improving the quality of raw material supplies to food processing companies is to integrate better along the value chain, so that food processors can influence their suppliers and those further up the supply chain.

Those food processors that buy directly from farmers may be able to insist on compliance with appropriate standards, and make available advice and training to farmers to develop the skills and knowledge they need to comply. Those that buy through intermediaries may be able to influence these intermediaries to promote compliance and provide similar advice and training. This is an area where action by stakeholders or development partners may help. Internationally, it is a common strategy in value chain development initiatives to give organizations buying from farmers the tools they need to promote improved quality and higher productivity, and to prove the value of applying the tools through piloting.

Skills gaps in innovation

Innovation is highly skill dependent – both in products and in production processes. Product innovation may involve creating products that are new to markets, replicating products already on the market, making incremental changes to existing products, or replicating existing products through acquiring or licensing technologies and intellectual property from others.

In food processing, product innovation typically requires inputs from up to four strands of expertise: food science; food engineering; food business and marketing; and expertise in taste and mouth qualities. The main occupations are at higher professional level – scientists, engineers and marketers – and technician level. More fundamental innovations are more demanding in skills terms; an entirely new product is likely to require a more complete suite of skills, and at a higher level, than technology transfer of an existing product from an international partner.

Even large companies often look outside for some of these skills – to research institutes, universities or suppliers of product development services. Medium-sized companies are more likely to have to look outside.

Developing the innovation capabilities of businesses is a high priority area for agencies supporting the food processing sector's development, particularly the IMC. The feedback from businesses is that it provides good and valued supports. Medium-sized companies interested in innovation face challenges of scale broadly comparable to those that they face for marketing.

Skills gaps in production

Business capability gaps in food processing production are about productivity and production capabilities, and overlap into food safety, hygiene and quality. To a great extent, these factors are driven by technology and the design of operating processes, also by the adoption of modern forms of work organization, supported by forms of people management that seek to build commitment, collaboration and skills.

The skills gaps in production essentially relate to the same employees as those in food safety, hygiene and quality. The specific skills gaps also overlap. Core skills and attitude to work are important for food safety, hygiene and quality, but they are also fundamentally important to the operation of modern forms of work organization. Management and supervisory skills required also overlap to a great extent.

In addition to core skills, technical skills specific to each occupation are also essential in production, at all levels of skill, including operatives, machine operators, assemblers, production technicians, laboratory technicians, supervisors, production managers and production engineers and scientists.

The IMC is already supporting many companies in the sector in modernizing their approach to production management, with a particular focus on larger companies. This includes significant work on skills development. Similar approaches to improving capabilities in production are also relevant to the ability of medium-sized companies involved in exporting, or with export potential, to compete in international markets. Particular areas where skills development could make an important contribution to this are in modern people management and people development skills for production managers and human resource managers, in improving initial TVET-level education and training to develop core skills and up-to-date technical skills, and in training those already working in the sector in the core skills and food safety skills required to perform well in a modern food processing production environment. This is reflected in what employers had to say about the need for stronger engineer skills, technician skills, packaging skills and operative skills.

Issues around efficiency further up the value chain are also important, including agricultural productivity, and reduction in waste along the value chain. Again these have strong skills components. Again, they are to a great extent relevant to the same workers as for food safety, hygiene and quality.

Box 9: Implications of business capability gaps for skills required in the MAPs sector

Identifying business capability gaps is useful to understand what businesses can do to develop further in the future by identifying and anticipating the skills needed now and in the future by employees, in order to address and fill those gaps.

The implications of the business capability gaps for skills along the value chain have much in common between them, to the extent that it makes sense to consider them together.

- 1. There is a need to create the knowledge that will be applied at grower and processor level through collaboration between Egyptian researchers, the Ministry of Agriculture and its agencies, MAPs sector stakeholders and the IMC. This may require additional high level skills relevant to agricultural research, systems for compliance and MAPs processing.
- 2. There is a need to take measures to ensure that the knowledge is applied effectively by growers and processors, and to enable investment in required infrastructure and equipment. This will involve training and communication of information to growers and processors. As most are small enterprises, this should chiefly be achieved through some combination of extension services, intermediaries in the MAPs supply chain, vendors of agricultural inputs, and collective growing organizations. A key focus of the effort will be on developing master trainers and trainers to work within these organizations, so as to deliver continuing training and information to growers and processors.

- **3.** Key elements of the training could include:
 - choice of crops and seeds;
 - productive growing practices;
 - choice and effective operation of processing technologies;
 - quality and prevention of waste;
 - compliance with safety, hygiene and other standards relevant to market access;
 - compliance with organic and other relevant standards that raise the market value of products;
 - core and basic skills;
 - business and commercial skills; and
 - knowledge of the value chain and end markets, and how activities at each stage of the value chain impact on other stages and on commercial returns.
- **4.** This content should also be integrated into curricula at agricultural secondary schools in regions where there is significant activity in growing and processing MAPs.

6.4 Conclusion on skills gaps

The leading problem areas for recruitment, with over 40 per cent of food processing employers surveyed saying that they have difficulty in recruiting, are for quality assurance staff, engineers, laboratory technicians and safety and hygiene occupations. A substantial share of employers identify problems with the quality of fresh graduates, with the greatest share identifying problems with the quality of laboratory technician graduates, and with the quality of graduates available for quality assurance roles also being a particularly significant issue for exporting businesses.

The four main areas where gaps in business capabilities have been identified in the sector each encompass significant related skills gaps. These are in: marketing; food health, hygiene and quality; innovation; and production.

7. Proposed responses to future skills needs

The main proposed recommendations are as follows:

1) Strengthen synergies and coordination between different actors in the sector and in related sectors

A skills strategy for the food processing sector requires much closer collaboration between the different actors concerned: Ministries (Industry, Trade and Small Industries, Manpower and Migration, TVET, Agriculture), governmental agencies (Food Technology Centre, Industrial Training Centre, EFSIC, COAE, Egyptian International Center for the Agriculture (EICA), the Food Chamber, the Food Enterprise Training Partnership, the Food Export Council, workers' organizations, public and private training providers (technical schools and colleges, universities, (Société Générale de Surveillance)), and relevant civil society organizations (Shoura Foundation, Horticulture Export Improvement Association, Sekem Development Foundation, etc.). The STED process has contributed to forming a joint vision for the development of the sector, and has highlighted priority areas for action.

It is also apparent that the food processing sector will only strive if it closely coordinates with other sectors such as the agriculture sector and the engineering sector, to improve the quality of inputs and ensure appropriate adoption, adaptation, implementation and maintenance of technology for improved productivity and competitiveness of the sector.

2) Launch initiative to boost food safety skills across the sector

The Egyptian food processing sector requires a large scale national initiative to overcome the deficiencies in food safety and hygiene in many food processing businesses, and along food value chains, both for export and domestic markets. The initiative must include developing greater

coherence in the regulatory framework for the sector, backed up with a strong policy and business commitment to compliance, and effective adequately-resourced institutions to promote adoption of relevant standards and compliance with relevant regulations and standards. Large scale provision of training in food safety and hygiene for workers, managers and professionals in food processing, agriculture, transport and other parts of food value chains will be an essential part of this, but it will only be fully effective in the context of the wider initiative. Ultimately, all food processing workers involved in handling food should be trained and certified at a level appropriate to their job, and all businesses processing food should have the skills required to manage food safety and hygiene and comply with relevant standards.

The specialized training in food safety and hygiene already available from bodies including the EFSIC, TUV NORD Egypt, SGS⁽¹²⁾ Egypt, and the ETP-Food seems to be guided by international good practice. The problems seen in the area are primarily: that the overall framework for food safety and hygiene is weak; that the implementation of international level food safety and hygiene practices has limited reach in many food value chains; and that this limited reach of international level food safety and hygiene practices is reflected in high quality food safety and handling training reaching only parts of the food processing sector.

As an intermediate step towards the eventual goal of implementing good practices in food safety and handling throughout all food value chains in Egypt, it is proposed that an initiative would be undertaken to develop good practices along all stages of one exporting food value chain, from farm to the point of export (or sale to domestic distribution channels), based on collaboration between the main stakeholders at each point in the value chain, relevant ministries and regulatory agencies, and significant providers of training in food safety and hygiene.

3) Improve training provision for food sector technicians

There should be an initiative to resolve problems with the supply of food sector technicians identified by the employer survey for the benefit of the sector as a whole. While around 30 per cent of the labour force works in agriculture and food processing, there are only 130 technical agricultural secondary schools and two higher institutes in the entire country. The survey of employers did not only reveal a quantitative labour shortage in food sector technicians but also a skills gap in terms of relevance and quality of skills acquired.

The technical fields concerned include food laboratory technicians, food processing technicians and food QA specialists. These occupations are key to controlling food safety and quality, and to improving productivity. For each of them, around 50 per cent of exporting employers said they found it difficult to fill vacancies in the occupation, and 30 per cent or more said that they were not satisfied with the qualifications of fresh graduates available to enter the occupations.

Technical agricultural secondary schools have one specialization for laboratory technicians, but this specialization is unavailable within the dual system. This means that, so far, no company collaboration exists to train for this occupation. Food processing technicians are trained in technical and vocational schools for specific subsectors such as, animal production, bee keeping, dairy, pasta and bakery, fisheries and in agricultural mechanization/industry (with the last four also being offered as dual system courses). Advanced technical schools and universities offer a programme in food processing, which includes quality assurance aspects.

This indicates that for laboratory technicians and food processing technicians it is necessary to review course content with industry to improve and update courses for new entrants with a strong focus on

⁽¹²⁾ Société Générale de Surveillance (SGS) is the world's leading inspection, verification, testing and certification company. SGS is approved by Egypt's General Organization for Export and Import Control (GOEIC) and the Egyptian Accreditation Council (EGAC) as a third party inspecting company for this service.

the quality of qualifications, to increase the number of places available, and possibly to provide an inemployment or dual system quality apprenticeship route to enable employers to upskill and qualify suitable operatives to work as technicians. Training for teachers and in-company trainers on technical skills as well as teaching skills is also needed.

It is also necessary to establish more formal mechanisms to train quality assurance specialists for the food processing sector at technician level. This should ideally be approached both through establishing a dual system quality apprenticeship route for suitable food processing operatives, and through piloting and (subject to successful pilot results) establishing a new food processing quality assurance course specialization in technical agricultural secondary schools.

4) Develop the Enterprise Training Partnership into a sector skills council

The existing Enterprise Training Partnership should be developed into a proper Sector Skills Council (SSC) for the food sector to provide ongoing leadership on guiding the development of the skills the sector needs, to improve coordination among stakeholders on skills, and to collaborate with existing institutions on skills aspects of sector development. It should include a broad cross-section of stakeholder representation, including involvement from worker representatives, the range of relevant ministries (such as MoTVET, MoHE, MoMM, MoA, MoTI), agencies and sector organizations (such as the Export Council), and maintain significant employer representation. Institutional strengthening requires a permanent legal status, and a reliable funding base, both from public and private sources, which could, for example, be partly ensured through the payroll training levy. SSCs are a key component of the institutional arrangements underpinning sector competitiveness in an increasing number of countries.

5) Develop targeted training provision to support the MAPs sector

Training courses for the MAPs sector should be developed and piloted, aimed at key occupations along the value chain, aiming to improve quality, compliance and productivity, and reduce waste. Key occupations to target along the value chain upstream of processing companies include:

- growers/farmers: productivity, safety and hygiene compliance and reducing waste;
- managers and buyers at traders/intermediaries: safety and hygiene compliance and waste reduction throughout the value chain, including educating, influencing and promoting compliance by growers;
- transport and logistics workers: safety and hygiene compliance and waste reduction;
- buyers and others connected to the upstream value chain at MAPs processing companies: promoting productivity, safety and hygiene compliance and waste reduction along the upstream value chain.

Food safety and hygiene, proper control over use of pesticides, preventing contamination, quality assurance and documentation are critically important themes for skills in these occupations.

For MAPs processing companies, priorities are in development and piloting of specialist courses for employees of businesses in:

- technical skills (operator, technician and engineer) in areas that include drying, powdering, extraction of essential oils; and
- professional areas such as production management, marketing, product development and pharmaceutical regulatory compliance.

6) Implement a pilot Export Training Programme for companies

The pilot export training programme is intended to target food processing enterprises not yet targeted intensively by development agencies, but with potential for significant exports. They should be selected from subsectors with strong potential for export development.

The aim is to enable participants to actualize effective marketing for their company products by increasing current share of exports to the existing export markets or opening new export market. It implies: identifying products for export within the company; identifying, recruiting, and managing suitable distribution channels; pricing and negotiating contracts with agents, distribution channels and customers; leveraging export services provided by governmental and nongovernmental entities including freight services and other related service providers; best use of air, marine, and land transportation; compliance with, and making best use of current trade agreements; and relevance of standards, compliance and documentation in exporting.

The pilot programme is intended as a practical programme for a few selected companies leading to documented successes that can be brought to a wider population of companies later. Specific outputs envisaged include enterprise case studies and demonstrated success in increasing export market share, opening new export markets or raising margins on sales.

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